The Pennsylvania State University

The Graduate School

College of Agriculture Sciences

STATE, SOCIAL MOVEMENT AND PRODUCER PERSPECTIVES ON MULTIFUNCTIONAL AGRICULTURE IN THE GLOBAL FOOD REGIME

A Thesis in

Rural Sociology

by

Martin H. Lenihan

Submitted in Partial Fulfillment
of the Requirements
for the Degree of

Doctor of Philosophy

December 2006

The thesis of Martin H. Lenihan was reviewed and approved* by the following:

Kathryn J. Brasier
Assistant Professor of Rural Sociology
Thesis Adviser
Chair of Committee

Carolyn Sachs
Professor of Rural Sociology

Clare Hinrichs
Associate Professor of Rural Sociology

Richard C. Stedman,
Assistant Professor of Rural Sociology

James McCarthy
Associate Professor of Geography

Steve M. Smith
Head of the Department of
Agricultural Economics and Rural Sociology
Professor of Agricultural and Regional Economics

*Signatures are on file in the Graduate School.

ABSTRACT

Growing pressure for trade liberalization in agriculture emanating from World Trade Organization (WTO) negotiations has created a good deal of uncertainty about the future of the global agrifood regime. One expression of this uncertainty is the debate surrounding the use of the multifunctionality argument in agricultural trade negotiations. Accordingly, agriculture should be treated differently in global trade negotiations because of its unique contribution to society. This position is championed by the European Union (EU), among others, and received a mixed reaction from the United States. The scholarly debate on multifunctional agriculture has also been mixed. Some argue that the use of this concept in global trade negotiations represents a form of rearguard protectionism, while others optimistically claim that it points towards a post-productivist transition. Still others claim it serves to legitimate the liberalization process. This dissertation seeks to clarify the meaning of multifunctional agriculture as a policy concept, by focusing on the various discursive arenas where it is debated. The purpose of the study is to determine whether or not there is a hegemonic definition of the concept at the global level of governance, and how this definition is diffused to the state and local level of governance. In order to investigate this issue the public discourse on multifunctional agriculture that arose from the policy debates surrounding the Green Box subsidy category in the WTO negotiations, the Rural Development Regulation of the EU's Common Agricultural Policy and the US Farm Bill Conservation Security Program are analyzed. In depth case studies of the debate surrounding the implementation of agri-environmental programs in Ireland and Pennsylvania were also conducted. The relative hegemony of a particular interpretation of agriculture's multifunctional role was determined by the degree to which it resonated among the different socio-political actors (official, mainstream farmer, sustainable agriculture, and environmental) in a given policy arena, and with similar policy actors at different levels of governance. Based on this analysis it was concluded that the hegemonic interpretation of multifunctional agriculture at the macro-level of governance largely reflected or complemented the neoliberal agenda. However, these macro-level interpretations failed to resonate with official and social movement actors at other levels of governance, who were either ambivalent or hostile towards the liberalization project, and who tended to privilege discourses that emphasized hygienic, neo-mercantilist, and agro-ecological concerns. This suggests that the extent to which the debate on agriculture's multifunctional role reflects neoliberal, post-productivist, or protectionist concerns largely depends on the level of governance which the debate is taking place, as well as the geographical context of the debate.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Figures

ACKNOWLEDGEMENTS

Completing this study required not only the efforts of the author, but also the cooperation and support of a whole range of people. What is contained in this document is as much a testament to their contribution as it is to the author's. I would therefore like to take the opportunity to thank a number of people who were instrumental in this study. For those of you who I have not mentioned, rest assured, it is due to the limited amount of space I can devote to this task, and in no way downplays the important role you played.

Firstly, I would like to thank Kathy Brasier, whose guidance, support, and advice proved critical at each stage of this study, from its inception to submission. Without her support and patience, completing this task would have been much more difficult. The members of my graduate committee deserve special recognition: Carolyn Sachs for her enthusiasm, and encouragement, and for introducing me to the exciting world of the sociology of agriculture; Clare Hinrichs for her ongoing advice and guidance, as well as insights into qualitative inquiry and the craft of writing; Rich Stedman for his enthusiasm and keeping me grounded empirically, and James McCarthy for his critical and theoretical insights as well as his patience and encouragement.

Family and friends were also an ongoing source of support throughout my graduate career, and especially during the difficult months of preparing this dissertation. Special thanks to my parents Mary and Harry Lenihan, my brother Liam, as well as my sisters Carolyn O'Hara, and Anne Marie Shortall. I am also extremely grateful to my friends and colleagues from the Computer Lab in Armsby, especially Jason Bedford for his friendship and helping me adjust to life in the United States; William Sambisa, Latika Bharadwaj, and Fernando Carriazo for their continuous support and encouragement; and Jonathon Clark for his boundless theoretical knowledge and insights, and for introducing me to the Steelers and the great city of Pittsburgh. Further thanks go to Brian Bourke and Issaka Herman Traore, both of whom know the challenges of studying in a country other than the one you were born and raised in.

I would like to acknowledge the financial support of the following: The Rural Sociological Society – Dissertation Research Award, the Alumni Association of The Pennsylvania State University – Dissertation Award, Beverly Henshaw and the Kenneth Wilkinson Memorial Scholarship in Rural Sociology, Kathy Brasier who provided assistantship funding throughout my graduate career, PSU-AERS Department Chair Steve Smith; Deana Behring, Director, Office for

International Programs, The College of Agricultural Sciences and Bruce McPheron, Associate Dean for Research and Graduate Education.

Finally, I would like to thank the study participants, in both Ireland and Pennsylvania, who generously gave of their time. Without your cooperation and candor, many of the more critical insights of this study would be absent. It is my hope that what I have written accurately reflects your views and that the study findings, conclusions, and recommendations are of some use to you in your work.

CHAPTER 1: RESEARCH PROBLEM AND QUESTIONS

Currently, rural and agricultural policy in many industrialized countries is in a state of flux. Top-down, state-led approaches to supporting agriculture are under fire due to government budgetary constraints, environmental challenges, and global pressure for liberalization and deregulation (Potter 1998). These pressures are having a particularly strong impact on the agricultural policy regimes of the United States and the European Union (EU). The US "Farm Bill" and EU "Common Agricultural Policy" (CAP) have been subjected to a variety of reform packages since the emergence of the budgetary crisis and the environmental critique of agriculture in the mid 1980s. Both these regimes represent the largest systems of state supported agriculture in the world. Efforts to reform the CAP and the Farm Bill accelerated in anticipation of the World Trade Organization's (WTO) "Agreement on Agriculture" in 1995 (Potter 1998). This agreement provides a framework for the gradual reduction of trade distorting support provided by governments to agriculture. It has been argued that the CAP reforms initiated in1992 which culminated in the agenda 2000 reforms, along with the 1996 Federal Agricultural and Improvement Reform (FAIR) Act in the US, emerged in anticipation of the need to reduce trade-distorting measures (Skogstad 1998). These reforms sought to decouple income support provided to farmers and farm commodity prices.

The reform packages introduced differed significantly between the EU and the US. The EU sought to promote a system of direct payments to reward farmers for the public goods they provide to the wider society. This approach was known as the Multifunctional or European Model of Agriculture (Potter and Burney 2002). The US reform package sought to provide farmers with the freedom to respond to market signals (Skogstad 1998). However, the reform process is in a constant state of flux with many of the direct payment programs introduced by the EU being challenged at the WTO, while the US introduced a similar system of direct payments in the form of the "Conservation Security Program" as part of the 2002 Farm Security and Rural Investment Act (Dobbs and Pretty 2004). This means that the future shape and direction of these two globally important policy regimes is far from clear. A lot of the uncertainty and debate surrounding the future of these policy regimes hinges on the role of direct payments in supporting the multifunctional role of agriculture.

Multifunctional agriculture refers to the notion that agriculture has social, economic, and environmental consequences beyond the production of food and fiber commodities. These consequences include both amenities (such as the provision of landscapes and 'viewsheds', wildlife habitat, ecological services [such as carbon sequestration and water filtration], income and employment for rural residents, and food security) and dis-amenities (such as nonpoint source

water pollution and odor) (Bromley 2000; Buttel and Zepeda 2002; Devries 2000; Durand & Huylenbroeck 2003; Potter and Burney 2002; Rosset 1999). This policy concept has generated a significant amount of controversy in the WTO negotiations on agriculture. The EU, along with countries such as Norway, Switzerland, South Korea, and Japan, argue that direct payments for the multiple functions of agriculture are critical in order to address public concerns about how food is produced. However, food exporting nations such as Australia and Canada, as well as a number of developing countries, argue that these payments represent a disguised form of protectionism. The US position on this issue has been somewhat ambiguous, ranging from periodic opposition to thinly masked support for the concept (Losch 2004).

The emergence of the multifunctional agriculture debate within the global arena of agrifood policy raises serious questions among agrarian scholars about the potential direction of the global agrifood regime. Neo-Marxist scholars argue that the global agrifood regime is being reordered in accordance with the interests of transnational agribusiness (McMicheal 2003). The emergence of multifunctional agriculture discourses has been interpreted by some scholars as indicative of a post-productivist transformation, where the worst exigencies of the productive agriculture are reversed, rather than accelerated (Marsden 1998, Wilson 2001, Buttel 2003). Other scholars dismiss the multifunctional agriculture debate as a disguised form of protectionism (Swinbank 2001), or merely a hybrid version of neoliberalism (Peine and McMicheal 2005).

Because this concept is emerging during a time of crisis in the Fordist global food regime it is important to understand how different government, multilateral, agrarian and environmental organizations frame or interpret the concept of multifunctional agriculture, and the extent to which these interpretations are contradictory or complementary. Comparing these interpretations will indicate the existence of a hegemonic ideology on multifunctional agriculture which will in turn help shape the rules and disciplines that will constitute the emerging global food regime.

This research problem gives rise to the core research question addressed by this study, that is, **whether the discursive field of agricultural policy in the WTO, US and EU is dominated by a hegemonic interpretation of multifunctional agriculture, and if so, to what extent does this definition reflect post-productivist, neoliberal or protectionist interests?** Specific research questions that have to be addressed in order to answer this core question are as follows:

a. How is the concept of multifunctional agriculture interpreted and utilized by official and social movement actors in the negotiations and debates surrounding the definition of the World Trade Organization's (WTO) Green Box categories of subsidies?

b. How is the concept of multifunctional agriculture interpreted and utilized by official and social movement actors in the negotiations and debates surrounding the implementation of conservation and agri-environmental measures in the US Farm Bill, and the CAP reform process?

c. What are the complementarities and contradictions between official interpretations of multifunctional agriculture in the US and EU, and among different social movement actors (farmer organizations, environmental groups, and sustainable agriculture groups) in the US and EU?

d. How do the definitions and interpretations of the multiple functions of agriculture developed by key actors at the Global, Federal and EU levels of governance resonate with social movement actors and public officials at the national, (US) state and local levels?

In order to address these questions it was necessary to analyze the public discourse on multifunctional agriculture that arose from the policy debates surrounding the Green Box subsidy category in the WTO negotiations, the Rural Development Regulation of the EU's Common Agricultural Policy (CAP), and the United States Farm Bill Conservation Security Program (CSP). The relative hegemony of a particular interpretation of agriculture's multifunctional role was determined by the degree to which it resonated among the different socio-political actors (official, mainstream farmer, sustainable agriculture, and environmental) in a given policy arena, and with similar policy actors at different levels of governance. This approach to analyzing ideological hegemony draws on the sociological conception of ideology, and the notion of multiple competing ideologies representing the interests of different classes, groups or agents (Purvis and Hunt 1993). To this end thousands of pages of textual data arising from these policy debates were analyzed. Furthermore, a detailed examination of how these debates played out at other levels of governance, using Ireland and Pennsylvania as case studies, was undertaken. In both these contexts interviews were carried out with activists and officials at both the state and national level of governance, as well as at the local level of governance.

In the chapters that follow the policy context, literature, theory, and methodological framework which guided the conduct of this study are discussed. Then, the findings of the analysis conducted on the debates which took place on the WTO's Green Box, The EU's Rural Development Regulation, and the US Conservation Security Program are presented. This is followed by a detailed analysis of the agri-environmental policy debates that took place at the national or state level, as well as the local level, in the case study sites of Ireland and Pennsylvania. These findings are then discussed in detail in a chapter which compares and contrasts the different interpretations of agriculture's multifunctional role at different levels of

governance and in different geographical contexts. Finally, the main conclusions of the study are discussed, along with the theoretical, policy, and research implications of the study findings.

CHAPTER 2: POLICY BACKGROUND AND CONTEXT

In order to properly orient the reader towards this study's subject matter, it is necessary to provide some background information on the policy context of which the debates being analyzed are focused. The following section provides an overview of the three key policy arenas being examined – The Common agricultural Policy, United States Farm Bill, and The Agreement on Agriculture.

The European Union's Common Agricultural Policy

The European Common Agricultural Policy (CAP) was developed in response to food shortages experienced in Europe following the Second World War. There was also an interest in ensuring the continuation of a viable agricultural sector in Europe and in guaranteeing a continued cheap supply of food to European consumers. The original objectives for the CAP were established at the Stresa Conference in 1958, with the policy mechanisms adopted by the six founding member states in 1960. These mechanisms included subsidies and guaranteed prices for farmers. The purpose of these subsidy and price supports was to provide farmers with incentives to produce (CEC 2004). Another aspect of the CAP in the 1960s and 1970s was its emphasis on the modernization and restructuring of the agricultural sector. This involved providing financial assistance for farm investment, the expansion of holding size, and the adoption of new technologies and skills (Gray 2000).

Territorial aspects were introduced into the CAP in the 1970s in the form of the Less Favoured Areas program (1975). This program sought to maintain farmers in the marginal regions of Europe through direct (area based) payments to farmers, and aids for infrastructure development (Bonanno 1990). Marginal areas were defined as places experiencing natural handicaps (e.g. lack of water, poor climate, short cropping season etc), depopulation, or which were classified as mountainous. It was also during the 1970s that a number of directives were introduced which sought to regulate the impact of intensive agriculture on environmental concerns such as water quality, wildlife and bird habitat, pesticide use, and nitrate use. However, these directives were part of the general environmental policy of the European Union and thus outside the domain of the Common Agricultural Policy (Hanrahan & Zinn. 2005).

The exclusion of environmental objectives from the CAP reflected the policy's primary focus on production. This continued to be the case until 1985 when the first voluntary agri-environmental payment programs were introduced. However, these programs received only a small proportion of the funding available under the CAP, with over 90% of funds going to price supports and other production oriented subsidies. Furthermore, such programs were implemented

in a small number of northern EU States, and were largely resisted by the southern states, who wished to maintain a continued emphasis on production agriculture (Potter 1998). These northern states (such as the United Kingdom, the Netherlands, and Denmark) had begun to experience some of the negative environmental effects of intensive agricultural production including the destruction of wildlife habitat, declining bird populations due to pesticide use, and water pollution caused by animal waste and fertilizer run-off (Potter 1998).

Agri-environmental policy received a major boost as part of the CAP reform process initiated in 1992 which was overseen by the then EU Commissioner for Agriculture Raymond McSharry. This package of reforms sought to deal with the challenge of a permanent agricultural surplus that emerged in the 1980s. These surpluses led to a situation where the EU was a net exporter of agricultural commodities. The fact that the EU was subsidizing production for export was thought to be problematic, especially considering the potential for new rules and disciplines on domestic support for agriculture expected to emerge from the General Agreement on Tariff and Trade (now the World Trade Organization) (Hanrahan & Zinn 2005). It was further the case that the costs of the CAP had spiralled out of control accounting for over 50% of the European Commission's overall budget. Furthermore, the appearance of new candidate countries in Central and Eastern Europe following the collapse of the Soviet Union indicated that the current levels of expenditure could not be sustained in the future. Most of these countries had substantial agricultural sectors which were in dire need of reform and investment.

It was therefore agreed that price supports would be reduced and that farmers would increasingly be compensated through a system of direct payments. Agri-environmental objectives were integrated in two ways. Firstly, under commodity support programs farmers were expected to set cropping land aside or de-intensify livestock production. Secondly, a number of programs to accompany commodity payments were introduced which included afforestation, early retirement and agri-environmental programs. The agri-environmental axis focused on reducing chemical application, promoting organic production and extensification, reducing animal numbers, as well as maintaining the visual landscape and biodiversity (Hanrahan & Zinn. 2005).

The reforms put forward in 1992 were followed by the Community Initiative for Rural Development (LEADER), The Cork Declaration on Rural Development (1996) and The Buckwell Report on Agricultural Policy reform (1997). The culmination of these policy reports, statements, and initiatives were the Agenda 2000 reforms, which were agreed in 1999. These reforms combined previous Agri-environment regulations, the Less Favoured Area program, and Rural Development Measures in order to create a new Rural Development Regulation (Lowe et al 2002). In terms of Agri-environmental programs, the reforms projected a budget increase from

4% in 1997 to 10% of the CAP in 2006 (Juntti and Potter 2002). These policy reforms are flexible and can be interpreted and implemented in accordance with the different needs and contexts of member countries, many of which have pre-existing national arrangements for agri-environmental and rural development programming.

The Agenda 2000 reforms are said to be the policy expression of the European multifunctional model of agriculture. Accordingly, direct payments and agri-environmental policies serve to reduce agriculture's dis-amenities (through set aside and de-stocking requirements) while enhancing the sector's amenity value (through providing agri-environmental payments). It was expected that the Agenda 2000 version of the CAP, would run between 2000 and 2006. However, the CAP was subjected to further changes following the mid term review conducted in 2003. What follows is a brief description of the current policy instruments being used to pursue this model.

The Single Farm Payment

A major reform coming out of the mid term review in 2003 was the establishment of a single farm payment which was decoupled from agricultural production. This payment replaced the plethora of direct commodity payments which had existed previously. This payment is also subject to a range of cross compliance requirements relating to occupational safety, food safety, animal welfare, and environmental quality (CEC 2005). The cross compliance requirements for environmental quality include the existing mandatory directives on water quality, wildlife and bird habitat, pesticide use, and nitrate application, as well as requirements for the protection of soil quality, and the prevention of soil erosion (Hanrahan and Zinn 2005). Farmers do not receive additional compensation for conforming to these requirements but rather will be subject to deductions in their single farm payment if they fail to comply. The single farm payment constitutes a major component of what is known as "Pillar One" of the CAP (Market and Income Support).

The Rural Development Regulation

The reforms initiated in 2003 also involved a reduction in the amount of funding available under pillar one of the CAP, and an increase in the amount of funding available under "Pillar Two" (known as the Rural Development Pillar). Under this system farms which receive over Euro 5000 under the single farm payment will have those payments reduced by 3% in 2005, 4% in 2006, and 5% for each subsequent year. The expected savings (estimated at Euro 1.2billion) will be invested in agri-environmental programs, rural restructuring programs

(encouraging farm modernization), and non-farm rural economic development programs (Hanrahan and Zinn. 2005). Among these programs, the only program type which member states are obliged to implement is the agri-environmental axis which actually accounts for over 50% of expenditure under the rural development regulation. Country specific agri-environmental programs are expected to receive 50% match funding from the member state (declining to 25% in poor regions). One example of a country specific agri-environmental scheme is the Rural Environmental Protection Scheme implemented in Ireland.

The Rural Environmental Protection Scheme in Ireland

The Irish Government decided to pursue the EU agri-environmental axis through a program known as the Rural Environmental Protection Scheme. This program was introduced in 1994, on the foot of the 1992 CAP reforms, and is now entering its fourth iteration. The objectives of the scheme are as follows:

- Establish farming practices and production methods which reflect the increasing concern for conservation, landscape protection and wider environmental problems.
- Protect wildlife habitats and endangered species of flora and fauna
- Produce quality food in an extensive and environmentally friendly manner. (Department of Agriculture and Food. 2006).

The scheme currently has close to 50,000 participants and is made up of eleven different measures including grassland management, nutrient management, habitat protection, field boundary protection, watercourse protection, historic monument maintenance, chemical restrictions, visual appearance, sustainable tillage, environmental knowledge, and record keeping. The scheme adopts a whole farm approach and originally focused on protecting environmental goods such as water quality. However, there is currently an increased emphasis on incorporating aspects of environmental enhancement such as the creation of habitats. The scheme is implemented in the form of farm-scale plans which are drawn up with the assistance of private agri-environmental planners. These plans serve as the contract between the state and the producer responsible for the plan's implementation. The scheme is administered by a dedicated unit in the Department of Agriculture and Food. To date (1994 – 2005) Euro 1,650,000,000 has been expended on the scheme.

The United States Farm Bill

While the United States Department of Agriculture dates back to the late 19th century, the first federal farm bill wasn't introduced until 1933. This bill was known as the Agricultural

Adjustment Act. The motivation for federal intervention in the agricultural sector was the economic crisis which beset the farming sector in the United States following the First World War, which worsened significantly during the depression (Dimitri et al 2005). At this point agriculture still accounted for over one fifth of the nation's gross domestic product. Under this act the federal government paid farmers to reduce the amount of land under production in order to raise the value of commodities on the market. This was also the period of the dustbowl, a phenomenon which inspired the 1936 Soil Conservation and Domestic Allotment Act. This act provided financial incentives and technical assistance to encourage farmers to adopt soil conservation practices (Dimitri et al 2005). The act also established the US Soil Conservation Service (later the Natural Resource Conservation Service). It was also around this time that individual states were encouraged to establish Conservation Districts at the local level in order to coordinate private, public, and voluntary efforts for soil and water conservation. It was therefore during this period that the national infrastructure for supporting agri-environmental programming was established, and the voluntary incentive-based approach to supporting the adoption of conservation practices institutionalized.

Following World War Two, agricultural policy continued in more or less the same vein, despite technologically driven increases in productivity. This was the case until the 1965 Food and Agriculture Act. This act sought to reduce price supports, introduce new income support mechanisms, while maintaining supply controls. One novel supply control mechanism that was introduced temporarily (for two years) in 1956 was the establishment of a soil bank or conservation reserve, which took large amounts of land out of production. Agricultural policy was also broadened in scope during the 1970s with the introduction of a rural development title (Dimitri et al 2005). It was also during the 1970s that price supports were removed and replaced with a system of target prices and deficiency payments. These instruments were designed to increase producer reliance on global markets.

It wasn't until 1985 that agri-environmental programming found its way back onto the farm bill agenda, as part of the Farm Security Act. This act reinstated the notion of a conservation reserve or soil bank. This involved paying producers to take highly erodible land out of production. The act also involved cross compliance requirements for the receipt of particular commodity payments. These requirements focused on wetland and soil conservation, and were respectively labeled swamp-buster, and sodbuster. This act is considered by some to be the most progressive piece of agri-environmental legislation since the dust bowl, and was labeled by the World Watch Institute as one of the greatest US environmental policy achievements of the 20th

Century (Potter 1998). This label was ironic, considering that the act was as much a response to the fiscal crisis in agriculture, as it was to environmental challenges.

The next major change in the farm bill occurred in 1996, with the introduction of the Federal Agricultural Improvement and Reform Act (FAIR). This act was considered revolutionary as it replaced price support and supply controls with a system of direct payments based on historical production (Dimitri et al 2005). This act was given the subtitle of "Freedom to Farm" as it provided producers with almost complete flexibility in planting. It also ensured that US agricultural policy is minimally trade distorting and thus compatible with the World Trade Organization's Green Box subsidy category. Another innovative aspect of this act was the introduction of programs which sought to promote conservation objectives, not through retiring land from production, but by encouraging best management practices on working lands.

These working lands programs include the Environmental Quality Incentives Program (EQIP) which is primarily focused on environmental problems (such as waste management) associated with animal agriculture, The Wildlife Habitat Incentives Program (WHIP) which provides financial incentives to farmers who wish to restore wildlife habitat, and the Farm and Ranchland Protection Program (FRPP) which provides matching funds for farmland protection (Hanrahan and Zinn 2005). The 2002 Farm Security and Rural Investment Act continued to focus on planting flexibility and ensuring that support measures are compatible with the requirements of the World Trade Organization (Dimitri et al 2005). The act also introduced countercyclical payments which are based on historical production and are triggered when current prices fall below a certain target level. This represented a return to the deficiency payment system introduced in previous years. Another important feature of this act was the increased emphasis placed on conservation programming.

The 2002 Conservation Title

Under the 2002 Farm Bill it was estimated that conservation spending would increase by a dramatic 80%. All of the afore mentioned agri-environmental programs introduced under the FSA and FAIR acts were expected to receive funding increases. However, due to budgetary pressures resulting from events such as the Iraq War and Hurricane Katrina, most of these expenditure estimates have been reduced downwards (Hanrahan and Zinn 2005). These reductions also affected the two new working lands programs, the Grasslands Reserve Program and Conservation Security Program, established under the act. We will now turn our attention to the Conservation Security Program, which was considered one of the more innovative aspects of the Conservation title of the 2002 Farm Bill.

The Conservation Security Program

This program was initially introduced by Senator Tom Harkin, a democratic Senator from Iowa, who had observed similar stewardship programs in Europe. The program differs from previous initiatives such as EQIP, as it seeks to reward producers who wish to proactively conserve and enhance natural resources, as opposed to solving environmental problems (Hanrahan and Zinn 2005). As such, participants in the program are expected to have an historic record of conservation. The program provides financial incentives for these participants to build on this record in the future. It involves three types of payments, with the lowest payments being made to producers who address one resource concern on part of their operation. Participants in the first tier can receive up to $20,000 a year in annual payments. The highest payments go to those who simultaneously address an expanded list of concerns including air quality and the production of alternative sources of energy, on the entire operation. These participants can earn up to $45,000 in payments annually. The program was subjected to a significant cap on expenditure from the outset, and as a result has never attained the expected level of funding characteristic of a true entitlement program available to all types of agricultural operations. This funding cap meant the CSP was limited to a small number of watersheds each year (approximately 60) and that there were very strict eligibility requirements put in place. As a result only 15,000 contracts have been signed to date, while just over half a billion dollars in payments have been made.

The World Trade Organization's Agreement on Agriculture

A major factor driving the recent transformation of the Common Agricultural Policy and the United States Farm Bill was the introduction of agriculture as a topic for negotiation at the World Trade Organization (WTO). The introduction of agriculture as a topic for negotiation was co-terminus with the establishment of the WTO itself. Prior to the WTO, the mechanism for governing global trade relations was the Global Agreement on Tariffs and Trade (GATT). This agreement was put in place following the Second World War, as part of an effort to boost global trade liberalization and to correct protectionist measures put in place during the 1930s. While the GATT proved successful in encouraging global trade in a range of different sectors, the rules established under this agreement were mostly ineffective in dealing with aspects of the agricultural sector (such as import tariffs, as well as export and domestic subsidies) which functioned as barriers to trade in the sector.

Following the Uruguay round of GATT negotiations (1986 -1994), the World Trade Organization (WTO) was established. This mechanism was thought to be more relevant to the increased levels of global trade occurring since the 1980s, and the new types of economic exchanges which were taking place across the globe (in areas such as financial services and intellectual property etc.). Unlike the GATT the WTO is a permanent institution with its own secretariat. It also has a more efficient dispute resolution mechanism than was the case with the GATT. One of the main differences between the GATT and the WTO is that the WTO possesses independent jurisdiction similar to the United Nations, which means it has the power to enforce its rulings on member states (McMichael 2003). As such it is in a much stronger position to deal with agricultural trade than the GATT.

One of the first initiatives of the WTO was the establishment of the agreement on agriculture. This agreement seeks to place agriculture firmly within the rule based multilateral trading system. This agreement was drawn up in 1995, and identified the pillars for negotiating the reduction in agricultural subsidies and tariffs. These negotiations were scheduled to start in Seattle in 1999. However, this controversial meeting largely ended in failure due to the objections of developing countries over a range of issues, not least of which was trade in agriculture. As a result, the negotiations did not begin properly until 2001 at the ministerial meeting in Doha, Qatar. Because the concerns of developing countries proved to be a stumbling block in Seattle, it was decided that these concerns would serve as a focus for the Doha round. As such negotiations on agriculture are a central component of what is now known as the Doha Development Round of negotiations. What follows is a brief description of the negotiating pillars of the agreement on agriculture.

The Negotiating Pillars

The negotiation of the agreement on agriculture centers on three pillars. These include export subsidies, domestic support, and market access. Export subsidies refer to financial incentives or guarantees provided to farmers to export their goods. Such subsidies play an important role in depressing and distorting world market prices for agriculture. Under the agreement on agriculture it was agreed that developed countries would reduce expenditure on export subsidies by 36% by 2000, while developing countries would agree to reduce their export subsidies by 24%. Since the Doha round began there has been continuing pressure for the complete elimination of export subsidies. The Market Access pillar is focused on removing non-tariff barriers to trade in agricultural goods. Such barriers normally involve quota restrictions on the amount of agricultural goods that can be imported. Under the agreement on agriculture it was

understood that these non-tariff barriers would be quantified as tariffs, and would subsequently be reduced with a view to their eventual elimination. The final pillar is that of domestic support or subsidies. These subsidies are organized into a series of color boxes, which are based on the traffic light system. The following is a discussion of this system.

The Color Boxes

The color box system is made up of the red box, amber box, and Green Box. Similar to a traffic light system, the red box means a particular activity is forbidden. However, under the agreement on agriculture there is no red box. The amber box includes those domestic subsidies that distort international trade in agricultural goods, but which are accepted on the basis that they will be gradually reduced. These types of support include guaranteed prices, incentives which encourage increased production, and subsidized agricultural inputs. The Green Box includes interventions that are acceptable for the time being e.g. rural development schemes, agri-environmental programs, extension services, research and food security initiatives. This neat system broke down with the introduction of what are known as Blue Box measures by the European Union. These measures violate trade rules, but can continue on the basis that they lead to reductions in agricultural production. Schemes of this nature include the European Union's payments for setting cropland aside or de-intensifying livestock production, as well as the counter cyclical payments offered by the United States.

Conclusion

This section has not only served to orient the reader towards the policy context for the debate on multifunctionality, but also serves to introduce the primary units for analysis of this study. This is so, as within each policy arena (the CAP, Farm Bill, and Agreement on Agriculture), there are particular policy programs which are often presented as exemplars for promoting multifunctional agriculture. In the case of the EU the Rural Development Regulation in particular, along with the cross compliance requirements of the Single Farm Payment are based on the principles of multifunctional agriculture. The Rural Environmental Protection Scheme in Ireland is treated as a useful case study of how the agri-environmental axis of the Rural Development Regulation is put into practice, and how this relates to the cross compliance requirements of the single farm payment. In the United States, the Conservation Title of the Farm Bill is said to incorporate principles of practicing sustainable agriculture on working lands, which is reflective of European style stewardship programs typical of the Rural Development Regulation. The Conservation Security Program is said to be a good example of such a program.

At the global level, all of these programs, in both the EU and the US, come under the rubric of the Green Box. Therefore, the Green Box is the main unit of analysis at this level of governance.

CHAPTER 3: EMPIRICAL LITERATURE

The purpose of this chapter is to review the findings and conclusions of the empirical literature on multifunctional agriculture. This literature has variously addressed the social acceptability, materiality, and policy implications of multifunctional agriculture. Within the literature there is a distinction between studies which deal with multifunctional agriculture as a material process and set of agricultural practices, and those which focus on the policy regimes and programs to support these processes and practices at the global, national, and grassroots levels (Buttel 2006). There is also a distinct body of literature which addresses how these policy programs are perceived, resisted and reinterpreted by a variety of actors at the grassroots level.

While multiple positive and negative functions can be attributed to agricultural production, there are unique agro-ecosystems which play a critical role in environmental and biodiversity protection, but which are also threatened by the intensification of agricultural production. As a result a whole suite of agricultural policies and programs have developed in order to protect these sensitive systems. These policies have been interpreted differently in the United States versus the European Union, and have had mixed success at the grassroots level, being subject to re-interpretation and resistance by a range of different actors.

This review will begin with a consideration of material aspects of agriculture's multifunctional role, the practices and processes believed to underpin this role, and the factors believed to be threatening these practices and processes. This is followed by a consideration of how the policies and programs designed to protect these practices and processes have been discussed in the literature. Particular attention will be paid to the policy debate ongoing at the World Trade Organization, the differences between EU and US policies, and how these policies and programs have been received at the grassroots level. Finally the implications of the empirical literature for this study's research questions will be considered.

The Material Benefits of Agriculture

A core justification used by advocates of agriculture's multifunctional role is that it delivers specific material benefits that are desired by society. A review of the literature on societal expectations from agriculture reveal that overall there is a high level of public support for the occupation of farming and the protection of farmland, and that this support persists albeit at a decreased level when people are asked about a willingness to pay extra taxes to protect agriculture (Furuseth 1987, CSRA 2000, PCEE 1999, Duke et al 2002, Welle 2001). The basis of this support appears to be the multifunctional character of agriculture. Reasons for preserving farmland, or supporting government involvement in agriculture, cited by respondents, or

mentioned in legislative documents, include environmental concerns, maintaining open space, protecting local food supplies, cultural heritage, protecting water quality and protecting wildlife habitats (Furuseth 1987, Kline and Wichelns 1996, Fix et al 2001, Duke et al 2002, Hellerstein 2002, Hall et al. 2004).

Many analysts would argue that the societal expectations of agriculture discussed above can be delivered more efficiently by other land uses or under a system of reduced public support for agricultural production. In the case of food security, it can be argued that even if farmland and the number of farms are reduced, food production can continue to rise through technological innovation. Indeed, even though the number of farms and farmland decreased in the US during the 1980s, food production actually increased (Abler 2003). It is also not clear that agriculture provides a key to solving the problems of rural economic decline, especially when we consider the relatively small role the sector currently plays in providing employment in the rural economies of many OECD (Organization for Economic Cooperation and Development) countries (Abler 2003).

In terms of agriculture's environmental functions, many would argue that such benefits could be delivered by a number of different landscapes e.g. forestry, wilderness, and wetlands. For example, in New Zealand, a country which eliminated farm subsidies in the 1980s, marginal land that was under production reverted to forestry or wetlands once subsidies were removed, yielding what some would consider an environmental dividend (Abler 2003).

It has moreover been argued that the case for multifunctionality put forward by the EU, ignores the environmental damage wrought by agriculture through nutrient and pesticide run off into ground and surface water, and soil erosion as a result of overgrazing. Indeed, many of the policy instruments the EU originally sought to defend using this argument resulted in intensive agricultural systems that have had negative impacts on employment, food safety and the environment (Hermelin and Tavernier 2004).

However, while certain systems of agricultural production are undoubtedly harmful to the environment there are a range of highly localized systems which perform vital positive functions for the environment that are intrinsically linked to agricultural production practices. One environmental function thought to be interdependent with the commodity function of agriculture is that of floral and faunal diversity. This is especially the case in Europe where farming activity has dominated the landscape for thousands of years, replacing natural habitats with what are now termed secondary or semi natural habitats (Kleijn et al 2006, Bignal and McCracken 2000, Tilzey 2000). Agro-pastoralist systems are thought to play a particularly important, but little understood, role in maintaining floral and faunal diversity, especially in the upland regions of North-western

Europe (Germany's Black forest, the British Heath-land, and the Irish Burren) as well as the arid zones and pseudo steps characteristic of parts of Spain, Portugal, Italy, and Greece (Potter 1999, Gorman et al. 2001, Hoffman 2001, Bignal and McCracken 2000, Evans et al 2002). Another example is the importance of centuries old Mediterranean olive groves in providing habitats for hibernating birds (Hoffman 2001). Most of these systems would be disrupted by invasive species of plant and shrub if farming were abandoned (Potter & Goodwin 1998). Indeed, in the case of pastoral systems, it is believed that a delicate balance needs to be struck between under-grazing and overgrazing, with under-grazing prohibiting the emergence of species rich grasslands, while overgrazing prevents the establishment of woodland (assuming that a mixed ecosystem presents the optimal habitat) (Bignal and McCracken 2000).

Further studies have shown that farm landscape features (e.g. hedgerows) and even certain crops (e.g. Maize) provide important corridors that facilitate the movement of wildlife species between habitats (Baudry et al. 2003, Alteiri 2001). Even in highly commercialized zones of food production, agriculture can perform vital ecological functions. For instance in the Florida Everglades, sugar-cane production has co-evolved with the natural everglade system, and performs vital ecological functions such as maintaining water levels and managing invasive species (Hollander 2004).

Other advocates for the positive functions of agriculture include the proponents of the "working landscape" perspective. Proponents of this perspective (e.g. Daniels 2001) would argue that the integrity of farmed landscapes like that which exists in Lancaster County, Pennsylvania, is essential not only for the preservation of cultural heritage but also vital ecological services such as the prevention of flash flooding and sedimentation, groundwater recharge and the protection of water quality from contamination by domestic sources such as septic tanks. Most of the arguments in favor of agriculture's environmental importance are based on the fact that full ecological restoration of farmland to a pre-agricultural natural state is impossible (Convention on Biological Diversity 2002).

Thus, while we cannot say that the agricultural sector as a whole is a natural and undisputed good for ecosystems and environmental quality, there are certain forms of agricultural landscapes and certain agricultural practices which provide vital ecological functions and amenities (Abler 2003). Many of these systems are located on marginal lands and are practiced by small or medium scale family farmers as opposed to large scale intensive operators. We will now turn our attention to the types of farming practices considered conducive to the production of the multiple positive functions of agriculture.

Multifunctional Practices and Farming Systems

There are many different farming strategies which could potentially contribute to the multiple positive functions of agriculture, including conservation agriculture (minimize soil disturbance), organic agriculture (low input use), precision farming, and extensive farming (maintaining semi natural areas, buffers and hedgerows) (Hoffman 2001). Within these broad strategies there are specific practices and techniques which serve to enhance particular functions such as nutrient recycling, rotational grazing, predator friendly ranching (Badgley 2003), no-till cropping, and agro forestry for carbon sequestration, to name but a few (Dobbs and Pretty 2004).

According to certain scholars these strategies and techniques are actually increasing in popularity among farmers in advanced economies, partly as a response to the increasing cost of agricultural inputs and in order to conform to consumer demands for safer, higher quality, environmentally sensitive food (Bell 2004, van der Ploeg 2000, van der Ploeg and Renting 2004). Scholars such as Knickel, van der Ploeg, and Renting (2003) would go so far as to argue that these strategies and techniques, along with other farm level transformations, are symptomatic of the new "post-productivist" epoch in agriculture and have labeled farms that make such a transition "multifunctional".

According to van der Ploeg et al (2003) Multifunctional farming units can be conceptualized as a three sided triangle. One side of the triangle represents how the farm relates to the local society and environment it is embedded in. Another side represents the market for the farm products, while the third side represents how the farm organizes its internal resources. They argue that farm enterprises are developing broader relationships with their local socio-economic-environmental context by engaging in activities such as agri-tourism and agri-environmental stewardship schemes. Also, farm enterprises are deepening their relationships with their customers and markets through engaging in organic farming, on-farm processing and direct marketing.

Furthermore, farm enterprises are re-grounding their internal resources, by reducing costs and relying on more natural and labor intensive methods of pest and weed control, or utilizing human resources in innovative ways like securing part time labor off the farm (van der Ploeg and Renting 2004). A recent survey conducted in six EU member states by proponents of this perspective found that up to 50% of the farms surveyed engaged in at least one of these strategies (Knickel et al 2003). Research conducted in non European countries such as Australia (Wilson 2003, Holmes 2002, Argent 2002) and the United States (Bell 2004, Lyson & Guptill 2004) has also identified post-productivist tendencies in farmer practices.

Accelerating the Treadmill of Production

Despite the evidence of a post-productivist transition in farming strategies there is also a significant amount of empirical evidence that the treadmill of agricultural production is actually accelerating (Cochrane 2003). Certainly there is evidence of global concentration and specialization in commodity production and distribution continuing apace (Heffernan and Constance 1994, Friedland 1994, Gouveia 1994, McMicheal 2000, Roche et al. 1999). Also certain studies have shown how post-productivist processes such as dispersion, extensification and diversification are actually being reversed or slowing in progress in OECD countries (Evans et al 2002).

According to Evans et al (2002) the apparent diffusion of on-farm diversification, was a temporally specific phenomena of the early 1990s. Also, in some cases farms have become less diverse in production e.g. the abandonment of subsidiary beef enterprises by British farmers following the Bovine Spongiform Encephalopathy (BSE) crisis (Evans et al 2002). Furthermore the process of extensification and environmentalization is considered to be a byproduct of government funded agro-environmental programs which mostly focus on marginal lands and support farmers that may otherwise have retired (Evans et al 2002).

Also, while a post-productivist transition might be occurring in the farming sectors of developed countries, the global corporate food regime creates new problems in other parts of the food chain. For instance, it has been argued that the quality turn in consumer tastes led to an increase in demand for fresh fruit and vegetables sourced from the global South. Ironically this resulted in accelerated productivist tendencies within these countries (Barrett et al 1999). For example the demand for specialized fresh flowers, fruit, and vegetables from Kenya by British retail chains led to the displacement of smallholder producers by larger scale operations. These new operations offer “flexible” working arrangements to a largely female workforce, many of whom do not qualify for state social welfare or employment protection (Dolan 2004).

It was further observed that the development of a market for fresh fruit and vegetables in the US led to the displacement of the production of staple crops like corn and beans in Mexico, further undermining national food security (Friedland 1994). The negative effects of this system have also been noted in the US, especially in processing and packaging facilities, which, similar to their third world counterparts rely on non-union female and migrant workers and the downgrading of health and safety standards (Gouveia 1994).

Similar contradictory evidence has emerged on the alternative agri-food movement, which is said to be indicative of the post-productivist shift in the US. According to Goodman (2000), many organic agricultural operations are now driven by the productivist tendencies of

concentration (especially in retailing) and specialization. It is also argued that the "technicist" orientation of organic agriculture has led to the neglect of the wider social concerns of the sustainable agriculture movement (Goodman 2000, Allen 2004).

One possible scenario for the future direction of both the global and national agri-food systems was alluded to by Lyson and Guptill (2004), and Wilson (2001). They suggest that the post-productivist transition could be spatially unequal, with some locations experiencing extensification, diversification, dispersion etc, while others experience an accelerated version of productivism. In the US, this will mean that alternative systems of agricultural production and distribution will emerge on the East and West Coasts in proximity to urban markets. However, in the South, Mid West and Great Plains, processes related to the acceleration of the treadmill of production such as concentration, specialization and intensification will continue (Lyson and Guptill 2004). However, evidence presented by Thomas and Howell (2003), suggests that urban proximity is also indicative of specialized and intensive agricultural production, with farmers having to make the most of their factors of production due to high opportunity costs associated with keeping land in agriculture in peri-urban areas.

A number of scholars (Wilson 2001; Tilzey 2000, Potter and Tilzey 2005) conceptualized a spatial separation emerging in Europe, with some locations (e.g. mountainous marginal land) being characterized by post-productivist practices while others (low lying arable land) are characterized by market oriented (as opposed to state led) productivism (Wilson 2001). Finally, it is also possible to imagine a scenario where unsustainable agricultural practices are moved to the global South, much in the same manner as polluting industries search for the weakest environmental legislation. Barrett et al (1999) and Dolan (2004) have already presented evidence for this process, where changing consumer demands in the North towards quality niche products has led to the displacement of peasant agriculture and hazardous working conditions for farm workers in the Global South. The process of encouraging productivist tendencies in the global South could be accelerated by the ability of governments in the North Atlantic and East Asia to subsidize sustainable farm production.

So far we have considered the material basis for the concept of multifunctional agriculture. It can be concluded that the fulfillment of agriculture's multifunctional role is contingent on certain types of agricultural systems and specific agricultural practices. While these systems persist, they are likely to occur outside of commercial agricultural zones (such as the Mid-West in the US, and the Lowland Arable Regions in Europe) and to be contingent on continued government support. We will now turn our attention to how this official support for

agriculture's multifunctional role at the global, national, and sub-national levels of governance has been discussed in the literature.

The Global Debate on Multifunctional Agriculture

The policy debate surrounding multifunctional agriculture is taking place at a variety of spatial scales. However, the debate that has received the most attention is that which has taken place in the World Trade Organization surrounding the Doha Development round. This round has been dominated by agricultural trade negotiations, and is likely to play a crucial role in shaping the future of agricultural governance (Evans et al 2002). The advocacy of measures to protect the multifunctional role of agriculture within this forum has been variously interpreted as a challenge by the EU and others to the neoliberal agenda of negotiating parties such as the US, as a well as a disguised form of protectionism that serves both the US and EU.

The view that the multifunctional agriculture argument represents resistance to the US neoliberal project has been put forward by Buttel (2003, 2006) as well as Marsden and Sonnino (2005). For Buttel, the pursuit of multifunctionality by the EU and others is a radical reform which seeks to replace subsidies that encourage overproduction with ones that pay for ecosystem services and the social spin offs of agriculture (Buttel 2003). The multifunctional agriculture argument can be thought of as a challenge to the Anglo-Saxon model of neoliberalization. This challenge is believed to emanate from Italy and France, where a strong emphasis is placed on socially and ecologically embedded production systems. The argument has met with some degree of success due to the inclusion of non trade concerns in the text of the agreement on agriculture (Marsden and Sonnino 2005). This is thought to represent a foot in the door for multifunctional agriculture policies (Buttel 2006).

A more cynical view is offered by Peine and McMichael (2005) where multifunctional agriculture represents a means of locking in the trade privileges of the global north relative to the global south, while subsidizing corporate agriculture. This is so as the Green Box, the group of policies considered most appropriate to the delivery of multifunctional agriculture, is not necessarily characterized by environmental stewardship schemes, but rather direct payments on a per acre basis to commodity producers. Thus, claims to multifunctionality, are not necessarily representative of resistance to neoliberalism, but rather a creative redirecting of pre-existing agricultural support policies which actually serve to empower corporate agriculture rather than small scale "multifunctional" producers. Unlike the neo-classical economic analysis provided by Swinbank (2001) and others (Daugstad et al 2006), Peine and McMichael do not present such policy discourses as a rearguard action on the part of a beleaguered farming community, but

rather as a means of advancing the neoliberal interests of corporate agribusiness who benefit from cheaper commodity prices on the world market.

However, some scholars argue that the debate surrounding multifunctional agriculture at the WTO may all have been in vain. This is so, as the kind of policies which seek to support multifunctional agriculture – normally agri-environmental payments or direct payments with cross compliance requirements grouped in the Green Box may be subject to challenges by other WTO members. This is because such policies encourage keeping land in production which would otherwise not be, implying that government intervention is influencing land use, and therefore production decisions (Blandford 2006). This means that a ruling by the WTO dispute resolution system could jeopardize many of the reforms carried out in the name of multifunctional agriculture. A central element of the future debate on the multifunctional agriculture model will be the relative merits of agri-environmental and conservation programs in the US and EU, which are thought to typify positive public intervention for the express purpose of promoting the multifunctional role of agriculture. It is the respective agri-environmental policy regimes operating in the EU and US that we now turn our attention.

US and EU Policy Endeavors

Both the US and EU have invested significant resources in agri-environmental programs, and it appears that the level of investment in such programs has accelerated in response to the Uruguay round of negotiations and the progress being made during the Doha Development round. The real drive towards increasing investment in agri-environmental programs in the EU followed the 1992 reform of the Common Agricultural Policy which introduced agri-environmental schemes as mandatory components of national agricultural policy programs. Although the nature of these programs varies across the different countries of the EU, they have a number of characteristics in common. Firstly, as voluntary incentive-based schemes, these programs respect the private property rights of farmers, and exclude other members of society from deciding how agricultural land is used (Hanley et al 1999). As such they represent an alternative to the localized regulatory approaches experienced by other economic sectors (Buttel 2006).

Another crucial characteristic of the EU approach to agri-environmentalism is the focus on reducing the negative effects of intensification (Baylis et al 2005). This means there is an emphasis on organic farming and other sustainable agricultural practices, rather than specific environmental outcomes (Baylis et al 2005, Baylis et al 2003, Darnhofer 2005). As such the EU is treating agriculture as a complement rather than a substitute to the natural environment, with the major threat to the complementary agriculture-environment relationship being the

displacement of traditional extensive production systems with modern intensive systems (Baylis et al 2003).

A number of factors are believed to have played a key role in shaping EU agri-environmental policy. A very practical explanation for the emergence of this set of policies is offered by Buttel (2006), who stated that settlement patterns in Europe were such that the non-farm population directly experienced the environmental externalities associated with an intensifying agriculture. Other explanations focus on the social organization of policy making in the European Union, which provides multiple entrees for a diversity of political viewpoints (including environmental concerns) (Kleinman & Kinchy 2003). This policy making environment precipitated a range of directives in areas such as climate change, biodiversity, water quality etc, which were mainstreamed within the Common Agriculture policy in the form of agri-environmental programs (Downey and Purvis 2004). Furthermore, because social welfare concerns have always been a key component of decision making on agricultural policy in the EU (Kleinman & Kinchy 2003), there was an in-built preference towards voluntary incentive based approaches that kept costs to farmers down to a minimum, allowing them to stay on the land.

Other scholars (Guyomard et al 2000, Potter and Tilzey 2002, Potter and Tilzey 2005) argue that agri-environmental policy represented a reaction to pressures for liberalization emanating from the World Trade Organization, the 1996 US FAIR act which decoupled government support from production, and the budgetary implications of enlarging the European Union east to include former communist countries with sizeable agriculture sectors. Indeed, the liberalization agenda is enshrined in many EU directives and constitutional reforms (Potter and Tilzey 2002).

However, while it was acknowledged that such reforms were necessary there was concern that the traditional small scale agriculture prevalent in the uplands of North-Western and the plains of Southern Europe would be abandoned if EU support for agriculture was to be completely removed. This could create a crisis of confidence in the agri-food system in Europe, as the continuation of small scale upland agriculture across Europe serves to legitimate agricultural production as a whole. Agri-environmental programs thus represent a compromise that allows lowland arable farms to opt for intensification, while upland agriculture can continue to receive government support. Potter and Tilzey (2005) claim that a policy regime such as this represents a socially and ecologically embedded version of neoliberalism. Another major force for the emergence of agri-environmental policy may have been consumer concerns regarding the quality and safety of food and rural landscapes (Banks and Marsden 2000). The BSE crisis was believed to have played a critical role in this regard, by undermining public confidence in the

food production system and demands for alternatives which guaranteed both a cleaner, safer food production system and rural environment (Marsden 2006).

It has been suggested that agri-environmental programs have the potential to play a critical role in the future by helping to reconnect production systems with ecosystems, farmers with consumers, and rural land owners with urban residents (Marsden 2001). It is also thought that recent agricultural policy innovations, such as the cross compliance requirements of the single farm payment represent an effort to reorient agricultural policy away from an exclusive focus on agriculture, and towards an emphasis on rural development which addresses the broader needs of society (Marsden and Sonnino 2005). However, others argue that the EU is pursuing a bi-modal strategy of liberalization and rural development, which will in turn create two distinct rural spaces – spaces of production (arable lowland areas where farmers receive limited government support) and spaces of consumption (extensive upland regions where farmers receive agri-environmental and other payments) (Potter and Tilzey 2005).

While both the EU and US view agri-environmental policy as a win-win trade friendly option for securing farmer livelihoods and appeasing the environmental movement, the kind of policies promoted by the EU, where land is kept in production, have been viewed in pejorative terms in the US (at least in trade negotiations). This is so, even though the issues underpinning the concept (the environmental and rural development effects of farming) are as relevant in the US as they are in Europe (Freshwater 2001). There are a number of reasons for this. Firstly, contemporary natural ecosystems in Europe have co-evolved with human agriculture over centuries, whereas managed ecosystems in the US are believed to be a fairly new phenomenon, with some areas relatively untouched by human intervention. Also, while multifunctional agriculture presents a broad framework for policy intervention, the preference in the US has traditionally been towards targeted practices that manage specific resource problems and deliver specific environmental outcomes (Freshwater 2001, Baylis et al 2005). The kind of agri-environmental policy which did develop in the US is both voluntary and incentive based, but has tended to focus on restricting the amount of land being brought into production, retiring land from production, and reducing environmental externalities (particularly soil erosion), as opposed to changing practices on land already in production and reversing intensification.

Underpinning this uniquely US approach to agri-environmentalism is a diverse set of social, historical, political, institutional and economic factors. The voluntary approach to agri-environmentalism, as well as the emphasis on land retirement is said to be driven by the policy dominance of primary productive interests in the US who wish to minimize government regulation (Buttel 2006). Historically, such groups also had a vested interest in retiring land from

production (using compensation from the taxpayer), in order to stabilize prices (Paarlberg 1989, Montpetit 2002). These preferences were institutionalized during the New Deal era of the 1930s as a response to the crisis in agriculture at the time, and have been perpetuated through the group of bureaucratic agencies which constitute the USDA. The federal Environmental Protection Agency's role in agriculture has largely been restricted to the regulation of concentrated animal feeding operations and pesticide use, meaning the USDA agencies play a lead role in shaping the agriculture-environment relationship (Montpetit 2002).

Such agencies have been largely insensitive to the concerns of the environmental lobby that have instead focused their attention on promoting command and control approaches at the state level of governance (Montpetit 2002). Furthermore, the emphasis placed on reducing soil erosion and land retirement as opposed to dealing with the harmful effects of chemically intensive farming helps perpetuate the hegemony of powerful agri-business interests, by promoting a corporate friendly version of sustainable agriculture which maintains farmer dependence on purchased inputs while legitimizing the system in the eyes of primary producers and consumers (Hall 1998, Glenna 1999).

There is however indications that agri-environmental policy in the US is broadening beyond this agenda, and to some extent being Europeanized. Classen et al (2001) noted how the original emphasis on soil conservation and wetland preservation is being expanded to include water quality, wildlife, air quality and nutrient run-off concerns. Other concerns on the radar include genetically modified organisms, carbon sequestration and dealing with food contamination. It is felt that the need for US support to be Green Box compatible, especially considering the trade distorting potential of loan deficiency[1] and counter cyclical payments[2], will give further impetus to agri-environmentalism (Classen et al 2001).

Classen (2003) further noted how, under the 2002 Farm bill, European style working lands programs are becoming more important with new programs being introduced such as the Conservation Security Program, existing programs being expanded e.g. the Environmental Quality Incentives Program (EQIP) and the Wildlife Habitats Incentives Program (WHIP), while

[1] Loan deficiency payments are a type of non-recourse loan whereby, for wheat, feed grain, upland cotton, rice and oilseeds, a producer may agree to forgo loan eligibility and receive an output subsidy, the rate of payment of which is the amount by which the applicable county's loan rate exceeds the marketing loan repayment rate. (http://stats.oecd.org/glossary/detail.asp?ID=1544)

[2] The Farm Bill added counter-cyclical payments, which provide support counter to the cycle of market prices as part of a "safety net" in the event of low crop prices. Counter-cyclical payments for a commodity are only issued if the effective price for a commodity is below the target price for the commodity. The counter-cyclical payment rate is the amount by which the target price of each commodity exceeds its effective price. (http://www.fsa.usda.gov/pas/publications/facts/html/dcp03.htm)

land retirement programs are adopting a working lands approach e.g. experimenting with haying and grazing within the Conservation Reserve Program (CRP). Part of what has driven this new emphasis on working lands is the fact that most ecologically fragile land has been enrolled in land retirement schemes like CRP and the Conservation Reserve Enhancement Program (CREP), and it was thought necessary to extend conservation programming to lands that were not retired (Classen 2003).

Policy Implementation at the Grassroots

Despite the apparent win-win nature of agri-environmental policies in the EU and US, difficulties have been encountered when those policies have been implemented on the ground. Agri-environmental schemes have in some cases failed to enroll enough (or the right) participants, have had their prescriptions ignored or re-interpreted, or have failed to either enhance agriculture's positive effects or reduce its negative externalities. Attempts to understand the difficulties encountered in the promotion of agri-environmental practices have variously focused on farmer characteristics, scheme characteristics and the role of actor-networks.

The focus on farmers largely draws on the adoption-diffusion tradition of research which was particularly popular in the United States. The assumption underpinning the adoption-diffusion model was that the success of a new innovation in agriculture (e.g. technology, practice etc) was contingent on the farmer's ability to adopt it, which could in turn be predicted on the basis of certain social and psychological characteristics. According to this logic a set of characteristics for agri-environmental innovators can be identified (education, institutional contact, farm size, environmental values etc), and can be used to predict the likelihood of a given conservation practice being adopted by a particular farmer (Clearfield and Osgood 1986)

However, many scholars have argued that the adoption diffusion model is ill-suited to agri-environmental practices. This is so, as such practices have little obvious short term effects on farm profitability, and their most important effects are felt off the farm (Napier and Tucker 2001, Nowak and Cabot 2004). Furthermore, agri-environmental practices are selectively adopted by farmers and most often are not implemented in accordance with the technical guidelines issued by the government extension service, but rather adapted to suit the availability of labor, local weather conditions and the technologies available on site (Napier and Napier 2002, Nowak and Cabot 2004).

Others have argued that because the farming sector has been shaped to such a great extent by corporate involvement and government intervention it is no longer useful to look on the diffusion of any "innovation", including innovations in conservation agriculture, as voluntary

(Clearfield and Osgood 1986). An alternative approach is to focus on the role of government schemes designed to promote agri-environmentalism. According to some scholars agri-environmental schemes designed to promote the voluntary adoption of conservation practices represent a hybrid system of governance whereby the state exerts control over natural resource management at a distance using rationalities such as such as “self help”, “partnership” “voluntarism” etc, and technologies such as training, technical assistance, inspections, audits, and statistics (Higgins and Lockie 2002).

Hall (1998) develops this idea further in his discussion of no-till cropping. Accordingly, these practices did not represent a rational choice on the part of individual farmers but rather something that was aggressively promoted by the state, agribusiness and farmers organizations, and supported through systems of research and knowledge dissemination. This was done largely at the expense of organic production methods which would have reduced chemical dependence among farmers (contrary to agribusiness interests). Hall claimed no-till cropping represented one component of the state-agribusiness nexus’s agenda of restructuring agriculture towards a flexible system of production, and the promotion of this technique through the outreach efforts of agribusiness and the state represented attempts to discipline farmers into adopting such an approach to farm management (Hall 1998).

Other scholars focused more on the practical inadequacies of such schemes. One example of where this posed a problem in Europe was the “partial” versus “whole” farm approaches to agri-environmental programming. Partial farm schemes allow farmers to enroll individual fields in agri-environmental programs. In some cases farmers enroll a small portion of their farm in such schemes and farm the rest of their land intensively (Banks and Marsden 2000, Wilson and Hart 2001). Such an approach creates isolated conservation territories, while providing little benefit in terms of biodiversity (Klejin et al 2006)

These scheme deficiencies reflect the fact that ecological problems are not the only concern being addressed by schemes, as these need to be balanced with socio-economic, political, and administrative concerns (Kleijn et al 2006). They also reflect the lack of knowledge available among the actors responsible for the design of such programs. For the past 60 years agricultural research has focused on the problem of maximizing production on farms, while improving knowledge about the non-commodity functions of agriculture has largely been under-funded. As a result the scientific knowledge necessary to support farmers in making these transitions is often unavailable (Downey and Purvis 2004). Other difficulties associated with the implementation of agri-environmental schemes include the prohibitive costs associated with monitoring the effects

of such programs (Napier and Tucker 2001), and the challenge they pose to farmers cultural identity as commodity producers (Burton 2004).

So far the role of farmers and the state in promoting agri-environmental practices have been discussed. However, little attention has been paid to the role of other socio political actors. With the advent of transnational decision making structures such as the WTO that have to a large extent disempowered national governments, diverse systems of governance emerged at the subnational or local level involving both state and non state actors. This means that unlike in the past where the state was the main player in the agricultural arena, there are a range of non-state actors with an interest in influencing agricultural production (Higgins and Lawrence 2005). In terms of agri-environmental policy the type of actors thought to play a key role in putting policy objectives into practice include non-farm rural residents, natural resource managers, environmental activists, tourist developers, agri-business interests, community leaders, and street level bureaucrats (Wortmann 2005, Potter and Juntti 2002, Korsching et al 2001, Higgins and Lawrence 2005).

In order to govern the resource management practices of a diverse group of independent agents such as farmers, it is necessary for the State to enroll these different actors into a network that also includes technologies and the physical environment (Morris 2004, Kaljonen 2006). Some scholars see the construction of such networks as a collaborative effort between farmers and a range of other actors (Coughenour 2003, Potter and Juntti 2002) resulting in a hybrid form of expert and indigenous agri-environmental practice. However, other scholars (Morris 2004, Kaljonen 2006) see the construction of such actor networks as a state driven attempt to define farmer's role as financially motivated technicians who can be paid to produce public goods. Farmers however often see their role differently, believing the quantitative emphasis of agri-environmental schemes is incompatible with the diverse and unpredictable agro-ecosystems they are responsible for, and of which they have an in-depth knowledge. Thus, farmer's local knowledge and understanding of the resource base, as well as their self-identity as stewards of the land involves a reinterpretation and resistance of agri-environmental schemes (Morris 2004, Kaljonen 2006).

Multifunctional Agriculture as a contested policy concept

There are four different perspectives on multifunctional agriculture that can be garnered from the literature. First there is a market research perspective which focuses on societal expectations from agriculture. A review of this body of literature showed a largely positive attitude towards agriculture's multifunctional role among the populations surveyed and even a

willingness to pay for these services. Second there is a perspective which emphasizes the material aspects of multifunctional agriculture. This literature suggests that while agriculture has both positive and negative functions, certain production systems and practices play a vital role in protecting the natural environment. However, these systems are under threat from the acceleration of the treadmill of agricultural production due to technological innovations and changes in political economy. As a result, the only hope for the survival of such systems is government intervention which will have a spatially uneven impact.

This brings us to the third perspective on multifunctional agriculture, which considers the phenomenon as a globally contested policy concept that is interpreted differently in the United States and in the European Union. Fourthly, and finally there is a literature which discusses how this policy concept is put into practice at the grassroots level, and is resisted and re-interpreted by a range of different actors.

It is the perspectives which address multifunctional agriculture as a policy concept and practice which are most relevant to the research questions posed by this study. Ultimately, it is the interpretation of multifunctional agriculture as a policy concept and practice by multiple actors, at multiple levels of governance, which will determine the future shape of multifunctional agro-ecosystems in Europe, North America, and across the globe.

The literature on this topic indicates that multifunctional agriculture is a policy discourse which is contested by multiple actors at multiple levels of governance. At the global level of governance, it is unclear whether the policy discourse reflects protectionist interests, or a completely new and radical challenge to the neoliberal agenda. The use of the concept in Europe has been variously attributed to a socially embedded version of neoliberalism, a product of the EU's unique policy environment, a reflection of the diverse agro-ecosystems that constitute the EU, and an indication of the growing consumer concern over food safety. US style agri-environmental policies have been variously attributed to the power of the farming lobby, bureaucratic inertia, and the priorities of agribusiness. However, there has been very little attention paid to the interests underpinning the recent shift towards EU style policies, which use the term "working lands" rather than "multifunctional" (Classen 2003).

The literature on policy implementation indicates that the policy programs which are informed and legitimated by multifunctional agriculture discourse have had mixed success in promoting or protecting multifunctional agro-ecosystems. It appears that such programs encounter significant difficulties, resistance and reinterpretation at the grassroots. Such difficulties have been attributed to the failure of these programs to adapt to local environmental conditions and the grassroots knowledge of farmers, street level bureaucrats, and natural resource

managers. Some scholars claim this occurs because such programs are developed in the interest of centralized bureaucracies, agribusiness concerns, and consumers, rather than the welfare of the groups responsible for managing productive natural resources at the grassroots level.

Thus, the literature on multifunctional agriculture as a policy discourse offers a variety of viewpoints on the concept's importance, the interests served by its promotion, and its resonance with actors at the grassroots level. What is clear from the literature is that there is significant confusion regarding each of these different points. Part of the problem with the emergence of this concept is that it contradicts both Neo-Classical and Neo-Marxian interpretations of agrarian change, both of which predict an inevitable shift towards large scale industrialized agriculture. As a result, multifunctional agriculture is under-theorized, and its role in the global food order said to be emerging under the WTO remains unclear.

Furthermore, the literature on multifunctional agriculture as a policy discourse and practice, with the exception of the actor-network literature, focuses almost exclusively on traditional actors in the agricultural policy arena i.e. the state, agribusiness, and farmers. Little attention is paid to how this concept reflects the interests of new social movements such as the environmental or sustainable agriculture movements. Also, within the literature scant attention is paid to the connection between policy discourses on multifunctional agriculture at the macro-global level and the implementation of specific policy practices at the micro-local level. The disconnect between the analysis of macro and micro level interpretations of multifunctional agriculture policy, and the neglect of social movement perspectives on multifunctional represents a significant gap in the literature. This is so, as recent trends in agricultural and rural governance indicate the growing importance of the local and global levels of governance, as well as the increasingly important role of non-state actors such as the environmental and sustainable agriculture movement (Higgins and Lawrence 2005). This suggests that the potential for a given agricultural policy discourse to transform the global agri-food regime is contingent on the degree to which it resonates with a range of both traditional actors (state & commercial farm lobby) and non-traditional actors (environmental and sustainable agriculture movement) at multiple levels of governance. The following chapter discusses the contemporary global food regime in detail, along with the role of discourse in general, and the multifunctional agriculture policy discourse in particular in helping shape this regime.

CHAPTER 4: THEORIZING MULTIFUNCTIONALITY

The empirical literature on multifunctional agriculture as a policy discourse and practice is unclear regarding the role of the concept in the global food regime. Thus, a whole range of questions are left unanswered, including - what does the emergence of this issue mean for the power relations within the international food regime"? Does it represent a rearguard action on the part of protectionists? Is it a blueprint for a food regime liberated from the treadmill of production? Or does it merely legitimate the unequal neoliberalization of the agricultural sector across the globe?

Before addressing these issues directly, consideration will first be given to the evolution and recent transformation of the international food regime. Then, the role of discourse in the contemporary global food regime is discussed. This is followed by a consideration of how we can best understand the contested role of discourses on multifunctional agriculture within the global corporate food regime, using the related concepts of frames, master-frames, and ideology. Finally, the potential hegemonic interpretations of agriculture's multifunctional role are discussed along with their implications for the future of the global food regime.

Global Food Regimes in History

The global food regime perspective seeks to explain the transformation of national and global agri-food systems by focusing on the political economy of global food production. According to this perspective, the first stirrings of a truly global food production regime began in the mid 19th century when the British ruling class decided to remove the corn-laws protecting their domestic producers from North American imports. This act was taken ostensibly in order to ensure adequate food supplies for the burgeoning urban proletariat of the industrial revolution. However, it also represented the growing political power of the merchant class in Britain at the time (Lang 1999).

Through its control of merchant shipping, Britain dominated the global agri-food system until the aftermath of WWII (Friedman 1999). During this period domestic food production was reduced considerably. Instead, food and fiber were sourced from the breadbasket regions of North and South America, and British colonial possessions such as India. British hegemony over the global food regime was eroded due to the disruption of trade channels during WWI and WWII. It was during these wars that attention was paid to the development of a national agri-food system among the countries of the North Atlantic.

Thus, after the Second World War, Governments decided to focus on domestic food security, through government support for efficient agricultural production and the

institutionalization of welfare oriented food programs such as school meals and overseas food aid (Lang 1999, McMicheal 2003). This reflected the emergence of what McMicheal referred to as the "development state" in the years following the Second World War. The development state sought to maximize national well being through investment in strategic sectors such as manufacturing and agriculture (McMicheal 1996).

This left the global agrifood system in the hands of the only country with the capacity to control it – The United States. The model of production exported under this system was a government supported Fordist regime of productivism. The major elements of the productivist model include the intensive application of chemical and mechanical inputs, concentration of production in the hands of the most efficient farmers, and producer specialization in specific commodities (Evans et al 2002).

US Government intervention in domestic agriculture began in earnest during the depression era of the 1930s, when farmers were promised prices for their wheat that were higher than the market value (Friedmann 1999). This policy continued in the aftermath of the Second World War, producing considerable surpluses. Under Public Law 480 (1954) it was decided to dispose of these surpluses in the newly independent countries of the Third World by providing food for famine relief, selling it at discounted prices in local currency, or bartering it for strategic raw materials (McMicheal 2003).These programs represented close to one quarter of world wheat exports, which was enough to stabilize the prices of internationally traded food commodities. It also meant that many countries across the globe became dependent on the US "Food for Peace" program (Friedmann 1999).

The practice of government sponsored intensification, concentration, and specialization was also exported to Third World countries through the green revolution package of hybrid seeds, pesticides, fertilizer, and credit (Buttel 2001). This system was promoted by multilateral institutions like the World Bank and Bilateral institutions such as USAID. The revolution's focus on mono-cropping and credit dependence favored larger, commercially oriented farms and led to the displacement and simplification of indigenous agriculture (Friedmann 1999).

However, this system began to unravel during the early 1970s when the European Economic Community started competing with the US for overseas food markets. At this stage many Third World countries were on the verge of becoming self sufficient in food production, due in part to green revolution technology. In response to emerging competition the US engaged in a major grain deal with the USSR which led to a tripling of world food prices. The sale of the US grain stocks coincided with a global oil crisis that enriched Middle Eastern Regimes with

petro-dollars. These regimes were then in a position to lend significant sums of money to the countries of the Third World who were struggling to feed their populations (Friedmann 1999).

This excessive borrowing precipitated a debt crisis in the 1980s with Mexico defaulting on repayments in 1982. The coordination of programs to ensure the repayment of Third World debts led to the empowerment of international institutions such as the International Monetary Fund (IMF), World Bank, and Global Agreement on Tariffs on Trade (GATT later the WTO). The solution to the crisis advocated by the International Monetary Fund and the World Bank was that the Third World debt should be repaid through foreign export earnings and the downsizing of state social protection (including food security) programs. Thus, the agricultural sectors of the Third World were oriented away from domestic food production, towards production for the global market, while opening their own markets to foreign imports.

Another key institution in this process was the Global Agreement on Tariffs and Trade (GATT), which was charged with the task of reducing national restrictions on global trade. This was a mandate fully supported by emerging transnational corporations seeking freedom to locate production wherever they wished, along with the power to reshape consumption patterns. As a result of these restructuring efforts, a new global food regime is said to have emerged – The Global Corporate Food Regime (Friedmann 1999).

The Global Corporate Food Regime

Transnational agribusiness corporations are considered key players in the establishment of a global corporate food regime. Within the US, the first step towards the establishment of global agribusiness corporations was the concentration of agricultural production in the hands of a reduced number of efficient producers who became vertically integrated through a system of contracting with processors and input suppliers. There was a significant move towards national conglomerations of agribusiness corporations during the 1980s, an era characterized by reduced corporate regulation and the lax enforcement of anti-trust legislation under the Reagan administration. This resulted in the emergence of a small number of key agribusiness corporations such as ConAgra, Cargill, Arther Daniels Midlands and Philip Morris. These corporations are now pursuing strategies of global integration involving the establishment of a global agrifood complex, where inputs are sourced, and products are distributed and sold on a global market.

The global ambition of transnational corporate interests requires a new set of rules and regulations governing market relations, where restrictions on the movement of capital and commodities across the world are removed. As was mentioned earlier, the debt crisis provided the means for the removal of many restrictions to trade in the Third World, while the GATT sought

to formalize the reduction in trade barriers through an international agreement. This system of global regulation was enhanced with the establishment of the World Trade Organization (WTO) in 1995.

The elimination of both tariff and non-tariff barriers in agriculture, which is promoted under the WTO's agreement on agriculture, complements the ambition of transnational agribusiness of establishing a global agrifood complex. Indeed, under the WTO rules, transnational corporations are given the same status as nation states in dispute resolution. The WTO is also proving instrumental in dismantling programs designed to assist family farmers and household nutrition, which has been a long term ambition of global agribusiness interests (McMicheal 2000). Under this new global food regime the issue of national food security and local food sovereignty is subordinated to the idea of global food security, where breadbasket regions such as North America, specializing in the production of specific commodities, supply global demand (McMicheal 2000).

The Post-productivist Food Regime

An alternative vision for the global food regime has also been articulated. According to certain scholars the demise of the Fordist food regime represents the loss of agriculture's central position in society and the displacement of agricultural exceptionalism and fundamentalism with a wider array of interests in the agrifood system. These interests include new social movements organized around food safety and environmental quality concerns (Wilson 2001). The inclusion of these actors in a system previously dominated by the Iron Triangle of commodity interests (Congress, Commodity Organizations and USDA agencies in the US; Farmers Unions, Cooperatives, and Agricultural Ministries in Europe) represents the potential for democratizing the agrifood system. This transition also represents the growing sophistication of developed country consumers and their desire for food which meets high standards of quality and safety (Busch and Bain 2004).

This turn towards quality among consumers has affected the structure of modern production systems which have moved away from Fordist mass production towards flexible specialization (Piore and Sabel 1990). This involves a switch from production for mass markets towards production for niche markets, from state regulation to private voluntary standards and from inflexible giant corporations to integrated networks of small producers. The era of flexible specialization in agriculture has been labeled the post-productivist transition in Europe (Wilson 2001) and civic agriculture in the United States (Lyson and Guptill 2004). This transition is said to be characterized by a reversal of productivist processes in the agricultural sector. This means

farmers are extensifying rather than intensifying production, diversifying rather than specializing in the production of a single commodity, and that production is dispersed among a range of new entrants to farming rather than concentrated in the hands of a few producers.

Another key characteristic of the transition includes the re-localization of agrifood chains with the establishment of activities such as community supported agriculture, direct sales to consumers and farmers markets (Wilson 2001, Hinrichs 2003). Furthermore, the post-productivist transition is said to be characterized by environmentalization (Buttel 1995), where the price of chemical and mechanical inputs for agriculture increase, while farmers receive a premium for chemical free inputs. The process of environmentalization also involves the erosion of farmer private property rights through increased environmental regulation (Wilson 2001).

A number of scholars (Buttel 2006, Marsden and Sonnino 2005, Wilson 2001) have argued that the emergence of multifunctional agriculture as a policy discourse within various agri-policy arenas is indicative of a shift towards a post-productivist policy regime. The potential implications of different discourses on multifunctional agriculture attaining hegemony within the global food regime will be discussed below. However, consideration will be first given to the relationship between discursive practices and the global food regime, and the conceptual tools that can be used to understand these practices.

The Role of Discourse in the Global Food Regime

The central concern of this study is with the role of multifunctional agriculture as a discourse in the global food regime. According to Hajer (2005) a discourse is an ensemble of ideas, concepts, and categories, whereby meaning is given to phenomena that occur in the social and physical world. For example, the concept of multifunctional agriculture represents an attempt to assign cultural, ecological, political, and social significance to the phenomenon of agricultural production. At first glance it would appear that discourse would have little effect on the future of the global food regime. Food regime theorists such as McMichael (2003) and Friedman (1999) claim that the global food regime is inevitably moving in the direction of further enabling capital accumulation by agribusiness corporations and large scale intensive agriculture. This process is thought to be driven by internal contradictions within the Fordist Food regime (e.g. structural surpluses, budget deficits, environmental degradation), while discourse merely legitimates decisions and material relations that serve the interests of capital accumulation.

It is however the author’s contention that discourse does play a critical role, not only in legitimating the existing food regime, but also in the definition of the policies, rules, and regulations that will constitute the emerging food regime. This assertion is based on the notions of

class fractional dynamics (van der Pijl 1999, Tilzey 2004), the institutional void (Hajer 2003), and discursive opportunity structure (Noakes and Johnston 2005).

There has been a good degree of debate in the policy science literature on the role of discourse in policy making. Scholars such as Hall (1993), Sabatier (1998), and Skogstad (1998) argue that discourse occupies a central place in the policy formulation agenda. According to Skogstad (1998) the meanings assigned to an activity such as agriculture within a given culture form an interpretative schema for the actors directly involved in negotiating agricultural policy. These meanings structure and limit the debate surrounding the future direction of agricultural policy at both the global and domestic levels of governance. Some have criticized this understanding of the role of discourse in policy as giving too much power to the realm of culture and ideas, and ignoring the structural and material forces that underpin the emergence of such ideas in the first place (Potter and Tilzey 2005).

One way of understanding the role of discourse within the formulation of agricultural policy, which is sensitive to structural and material factors, is to view it as a means by which class fractional interests compete for hegemony in the global food regime. This conception draws on the notion of class fractions developed by van der Pijl (1999). This concept presents capital not as a monolithic class interest, but as a collection of class fractions whose competing interests have to be mediated by the state through comprehensive regimes of control. Class fractions in capital can be divided into those who support Keynesian concepts of control characteristic of the Fordist Food era, those who promote neoliberal regimes of market control, or a post-productivist regime characteristic of the contemporary era.

The transition from a Fordist regime of control to a neoliberal or post-productivist regime of control involves a rebalancing of interests within the capitalist class - between productive capital interests (farmers), money capital interests (transnational agribusiness), and retail capital interests (supermarket chains) (Tilzey 2004). The primary means of rebalancing these interests is through mediating the competing discourses of these interests. This is not to say that discourse is the only means of competing for hegemony within a given policy arena, but rather that it becomes critical in times when there is a transition from one regime of governance to another, as is the case in the transition from the Fordist Food Regime to the Global Corporate or Post-productivist Food Regime (Potter and Tilzey 2005).

According to Hajer (2003), a transition of this nature would involve undermining the classical modernist political institutions of the state (codified arrangements such as representative democracy, ministerial responsibility, expert led policy formulation) and the emergence of new political spaces (Hajer 2003). These new political spaces are considered to be relatively unstable

practices designed to address problems and issues that classical institutions are unable to deal with e.g. global trade, food scares, environmental risk, and new technological developments.

Such arrangements include dispersed patterns of decision making that are subject to influence by civil society actors, a rescaling of decision making down to the local level and up to the global level, and new forms of direct participation in decision making (Hajer 2003, Cheshire and Lawrence 2005). These unstable arrangements are said to create an institutional void where there are no clear rules about how policy measures are to be agreed upon. As a result, policy making becomes discursive, as it cannot be guided through the application of generally accepted rules, but is dependent on the outcome of discursive deliberation (Hajer 2003).

The emergence of such an institutional void opens up political and discursive opportunities for a range of non-traditional actors outside of the capital class, who find themselves in a privileged position in relation to the polity. The institutional void represents an opening up of the decision making system to new social movements, the destabilization of existing elite alliances, and the emergence of new allies (Noakes and Johnston 2005, McAdam 1996). These opportunities allow for the articulation of an alternative post-productivist vision of the global food regime by social movement actors.

Understanding the Role of Discourse in the Global Food Regime

While it is apparent that discursive practices can play a critical role in the transition from one regime of governance to another, exactly how this occurs is unclear. Part of the problem in understanding the role of discourse stems from its treatment in the literature as a relatively macro level concept that seeks to encapsulate all possible meanings assigned to a particular aspect of material or social reality. This stems from the Foucauldian perspective on discourse, with Foucault variously using discourse to refer to "epistemes" – the underlying conditions of what constitutes truth in a given historical period, or as an array of practices or disciplines that determine how large institutional systems (e.g. the legal system) function (Foucault 1973, Foucault 1978, Hajer 1995).

According to Hajer (1995), it is necessary to devise middle range concepts in order to understand the interaction between discourse and political practices in a given domain. To this end, he suggests the use of story lines. Story lines represent narratives on social reality that provide socio-political actors with symbolic references that point to a common understanding (Hajer 1995). Story-lines can be considered as largely synonymous with the concepts of mainstream and challenging frames discussed in the social movement literature, which are employed as middle range concepts for the purpose of this study.

Mainstream & Challenging Frames

The concept of frames and framing in contemporary sociological literature has its origins in the social psychological concept of cognitive frames elaborated by Irving Goffman. According to this definition, frames are interpretive schemas that make sense of, or simplify a situation or grievance for both the actor engaged in constructing the frame and for his or her audience (Snow and Benford 1992). Its original usage in social movement research focused on explaining how individuals connected and identified with social movements. This explanation emphasizes the role of social movement organizations in adjusting their frames so that they resonate with the cognitive frames of their constituents. Resource mobilization and political process theorists transformed the use of the concept in order to explain how social movement organizations framed issues or grievances with a view to influencing the political opportunity structure (Westby 2005).

Focusing on the political opportunity structure acknowledges the role of mainstream socio-political actors like the state, media, and political parties in the construction of conventional frames that are challenged by social movements. However, the social movement literature has paid little attention to the framing efforts of mainstream socio-political actors. Instead social movement scholars have focused mostly on collective action or challenging frames (Noakes 2005: 89). According to Noakes (2005) frames proffered by mainstream socio-political actors support existing versions of reality and serve to bolster relationships of domination. This means that mainstream frames act as a disincentive to collective mobilization. Challenging frames constructed by social movement organizations seek to undermine these mainstream frames, by redefining what was considered normal, but unfortunate, into an injustice (Snow and Benford 1992).

Challenging frames represent the efforts of social movement organizations to produce meaning and ideas relating to the injustice they are addressing, for their constituents, antagonists and observers (Snow and Benford 1992, Klandermans et al 2001). The construction of challenging frames serves a number of purposes, including diagnosis, prognosis, mobilization, and advocacy. Diagnostic frames identify the problem the movement wishes to address, the causes of the problem, as well as the social actors responsible for rectifying the problem (Snow and Benford 1992, 2000). Prognostic frames offer solutions to the problems identified, and mobilization or motivational frames seek to mobilize constituents to address a specific grievance (Fisher 1997). Challenging frames can also serve as a means by which movement organizations engaged in advocacy can capture government attention for the issues they are concerned with (Keck and Sikkink 1998). Whether or not a frame will be successful will depend on the degree to which it resonates with both constituents (for mobilization) and decision makers (for advocacy),

and this in turn depends on its empirical credibility and the degree to which it complements people's everyday experiences (Mooney and Hunt 1996).

Master-frames and Ideology

Frames, be they mainstream or challenging frames, are not constructed out of thin air, but are based on what Snow and Benford (1992) describe as Master-frames. Master-frames are made up of a repertoire of ideas, interpretations and ideologies which official or movement actors can draw on in order to construct mainstream or collective action frames (Mooney and Hunt 1996). Unlike organization specific frames, Master-frames are not the property of any one institutional or movement actor but operate on a multi-organizational and multi-movement level. A classic example is the human rights Master-frame which was used by an array of movements and movement organizations during the 60s and 70s including the Women's movement, the Civil Rights movement and the Anti-war movement. Master-frames encapsulate the stock of cultural resources which movement, media, government or political organizations can draw on in order to construct mainstream or challenging frames (Oliver and Johnston 2005).

One of the most important cultural resources for frame construction is ideology. Ideology is defined as "a system of meaning that couples assertions and theories about the nature of social life with values and norms relevant to promoting or resisting social change" (Oliver and Johnston 2005: 192). Movement, government, and media organizations tap into and exploit ideologies in order to construct mainstream or challenging frames (Westby 2005). In doing so they amplify or accent the norms and values associated with the ideology. However, ideologies are not synonymous with mainstream or challenging frames. While ideologies are considered to be historic, relatively stable and broadly focused on social change, frames are thought to be shallow, variable, and focused on a specific issue or arena of contention.

According to some scholars, the reliance on ideology in the process of frame construction inevitably limits the ability of movement organizations to challenge mainstream dominant frames. This is a pejorative view of ideology articulated by Neo-Marxist and Gramscian scholars who present ideology as a means of explaining and legitimating why one social group is dominant and the other is dominated (Chiapello and Fairclough 2002). This approach assumes the existence of a hegemonic ideology, which does not entirely ignore the interests of subordinate groups, but rather serves to mask exploitative social relations, which if revealed would damage the interests of a dominant elite (Scott 1990).

The concept of hegemonic ideology was originally articulated by Gramsci (1971) as an explanation of why subordinate classes, who are not subject to coercion, apparently consent to a

political-economic system that is contrary to their interests (Scott 1990). This definition of ideological hegemony focuses on how prevailing cultural norms which serve to discourage resistance to capitalist exploitation are presented as natural, inevitable, and morally superior using instruments such as religion, mass media, and public education. The existence of a hegemonic ideology implies that even challenging frames, which are supposed to contradict and undermine dominant mainstream frames, may actually serve to reinforce elite domination in very subtle ways. This is especially the case when movement organizations seek to influence decisions made by the dominant political order. For instance, Diani's (1996) study of the Northern League in Italy showed how the movement sought to align its collective action frames with the frames proffered by powerful actors within the formal political structure. Thus, movement organizations that on the surface may appear to be challenging the dominant political order are in fact legitimizing its existence by couching their challenges in the language and meanings of the dominant group.

According to the Neo-Marxist perspective, mainstream and challenging frames represent different manifestations of the hegemonic ideology of the dominant elite. Thus, frames and ideology function not as challenges to the existing order, but rather as a means of legitimating existing social relations. This perspective has been criticized on a number of fronts. Firstly, it ignores the variety of ways a hegemonic ideology arrives in different places, combining with local socio-cultural processes and being reinterpreted and mediated through the lived experience of local actors (Barnett 2005, Long 2001). Secondly, it neglects to consider the offstage dissent enacted by subordinate groups who, even under the most oppressive conditions, create and defend a social space where objections to the hegemonic ideology are voiced (Scott 1990).

Finally, most of the literature on hegemonic ideology focuses on quiescence, and pays little attention to ideologies of resistance. The discussion of ideology by scholars of this ilk implies that collective action to challenge hegemony is impossible. However, this is exactly what social movements do, and challenging frames are a vital tool in this work. Thus, the very existence and episodic success of social movements suggests that hegemonic frames can be challenged and resisted. Indeed, Gramsci's advocacy of a war of position, where proletarian class interests align with other marginal voices in order to create a hegemonic oppositional ideology, suggests that dominant ideologies can be overthrown and challenged (Gramsci 1971).

An alternative view of ideological hegemony is to consider it outside of the Neo-Marxist perspective, and view it rather as a goal which different class fractions and social movements are competing for, as opposed to the inevitable purview of a monolithic capital class interests. This view of ideology as a sphere or arena of struggle where a multiplicity of social actors compete for

hegemony is reflective of Purvis and Hunt's sociological conception of ideology (Purvis and Hunt 1993). Accordingly, ideologies and challenging frames are mobilized as resources by different groups within a given policy arena, with a view to having their definition of reality as articulated in a given frame accepted by other social actors as well as the actors responsible for defining the rules of the policy regime undergoing transition. This approach focuses less on linguistic components of how an ideological position is articulated as being morally superior, but rather on identifying whether or not ideological interpretations representing the objective interests of one social group, are repeated by other social groups, and more importantly, by state actors.

However, it is not sufficient to achieve hegemony only at the macro-official level of governance. Considering the increasingly important role of non-state actors, and the local level of governance, in order for an ideology to be hegemonic, it must be accepted by multiple actors (e.g. producers, environmentalists, bureaucrats) , at multiple levels of governance (global, trade-bloc, state & local). As such, hegemonic ideologies have to extend out from the political and economic command centres of the world to the spatial and social periphery (Peet 2002). It is also important to acknowledge the role of alternative or oppositional ideologies which can either be residual (based on previous social formations such as neo-mercantilism) or emergent (based on new meanings and values such as post-productivism) (Williams 1973). Thus, we can consider hegemony not as a zero sum game, where it either exists or it doesn't, but rather something that might be incomplete, nascent, or specific to a given context.

In the case of this study, it is possible to view the agricultural policy as a discursive field constituted by master-frames, ideologies, challenging and mainstream frames, put forward by multiple actors at different levels of governance. Some of the most important socio-political actors include state institutions, commercial farmer organizations, environmental groups, and sustainable agriculture groups. Each of these actors are competing for hegemony within the discursive field of agricultural policy, and aim to have their interpretation of agriculture's multifunctional role adopted by other actors in this discursive arena and that this interpretation would resonate with socio-political actors at other levels of governance. To this end, they draw on specific ideologies in order to construct mainstream or challenging frames that will serve to redefine this issue in terms that will reflect their objective interests, while also resonating with other actors. What follows is a discussion of the potential Master-frames and ideologies that different state institutions and movement organizations can draw on in order to construct mainstream or challenging frames.

Theorizing Multifunctional Agriculture in the Global Food Regime

As was stated earlier the literature is unclear about the significance of Multifunctional Agriculture as a policy discourse within the global food regime. This chapter section seeks to further explore discourses on multifunctional agriculture which have the potential to become hegemonic within the global food regime. To this end, attention is paid to the neoliberal, protectionist, and sustainability Master-frames, along with their constituent ideologies. This is followed by a presentation of an integrated framework for understanding these alternative visions of agriculture's multifunctional role in the global food regime.

The Neoliberal Master-frame

According to Neo-Marxist scholars such as McMichael (2004) the global food regime is currently dominated by the ideas, definitions and ideologies associated with neoliberalism. The original version of "roll back the state" neoliberalism refers to a set of ideas that gained popularity in public policy circles in the late 1970s and early 1980s. Key policy objectives stemming from this set of ideas include market liberalization, the privatization of state owned industries, regressive tax policies, and reductions in social spending (Peck 2004). This version of neoliberalism is also known as the "hard version" (Peck 2004: 393). The term was originally employed by social scientists to explain the political underpinnings of economic globalization where nation-states opened up their economies to transnational corporations or international financial institutions.

As it stands, it is this perspective which is said to underpin the operation of the World Trade Organization, where member states attempt to minimize government interference in global markets in order to ensure a level playing field for trade in goods and services (McMicheal 2003). Conventional wisdom holds that the dominance of neoliberal policies leads to undemocratic decision making processes and increased socio-spatial polorarization (Larner 2003). In the case of the WTO agricultural negotiations, neoliberal arguments are used to justify the reduction or complete removal of tariff barriers, price subsidies, and export subsidies for agricultural commodities across the globe. However, because developing countries had already significantly reduced government support for agriculture due to the implementation of structural adjustment policies in the 1980s, they are at a distinct disadvantage compared to developed countries that entered WTO negotiations with extremely high levels of support. This means that percentage reductions in developed country support for agriculture had a much smaller impact than is the case for developing countries.

In terms of the multifunctional agriculture debate, neoliberal advocates argue that the removal of government intervention from agriculture would result in a win-win situation for all the stakeholders involved in the food regime. Agricultural subsidies are said to encourage intensive production (Potter 1999). Therefore, removing subsidies would result in less environmentally damaging production systems. Some have argued that the multifunctional agriculture argument draws on roll-back the state ideology, as it suggests that the multiple functions of agriculture can best be protected if they are disaggregated from commodity production, allowing for the assignment of prices, private property rights, and eventual commodification (McCarthy 2005, Robertson 2000). A concrete example of such an initiative would be programs designed to support the sequestration of carbon on farmland through no-till cropping or agro-forestry, which could then be sold to carbon emitting industries (Bricklemeyer et al. 2002). If government support for agriculture's non-commodity functions were to be provided, it would be on a temporary basis in order to facilitate a transition to such a free-market system.

However, despite the dominance of the neoliberal master-frame in the 1980s, it is not clear that it has attained hegemony. Part of the problem with neoliberalism arose from the disastrous effect it had on the economies and societies of Sub-Saharan Africa and the former Soviet Union during the late 1980s and early 1990s under IMF and World Bank administered structural adjustment programs (Rodrik 2002). Ironically, most of the progress made towards the neoliberal policy ideal was in developing or post-communist societies, while progress towards this ideal was relatively slow in what were considered the neoliberal heartlands of the US and the UK (Peck 2004). A number of explanations have been put forward for the differential development of neoliberal policies across the globe. One explanation focuses on how peripheral societies were subject to the shock therapy of structural adjustment emanating from outside the national context, while neoliberal policies in the core were domestic in nature, and as a result combined with pre-existing institutions without completely displacing them. Thus, what results is a locally mediated hybrid version of neoliberalism, where the state continues to play an active role in social and economic policy (Peck 2004, Larner 2002).

An alternative label for this hybrid form of neoliberalism is "roll out the state" neoliberalism (McCarthy 2005, Ruming 2005). Whereas the neoliberal agenda of the 1980s envisioned a passive role for the state in the economy and society, the new version of neoliberalism advocates an active role for the state in constructing new institutions of governance. Examples of roll out the state neoliberal initiatives include market oriented public-private

partnerships, empowering local governments, an emphasis on technocratic (rather than ideological) solutions, and a search for best practice in governance (McCarthy 2005).

One recent expression for roll out the state neoliberalism, as it relates to the ecologically embedded version of the concept, is ecological modernization, or eco-modernization. According to this perspective, it is possible to move towards a system of sustainable agriculture through increasing the application of modern technology and science to the production process, and by adjusting current institutional arrangements (Gelatz 2004, Mol 1999). The focus is on achieving eco-efficiencies or the wise use of natural resources, where pollution is considered an inefficiency, the cost of which must be internalized or contained by the farm business (Gelatz 2004).

The eco-modernization perspective also adopts a positive approach to government regulation and prescribes institutional innovation, especially public-private-civil society partnerships, as the main mechanism for overcoming environmental problems (Gelatz 2004, Buttel 2000, Morris and Winter 2002). In the case of multifunctionality, advocates of an eco-modernization agenda would still largely disavow the use of protectionist measures and direct state intervention, and would instead advocate measures such as encouraging self-regulation among producers, outsourcing agri-environmental program management to consultants or civil society groups, and the collaborative management of natural resources by different stakeholders. Voluntary (as opposed to regulatory) incentive based approaches to encouraging agriculture's multifunctional role would also be encouraged (McCarthy 2005, Mol 1999, Buttel 2000). It has further been argued that the "turn to quality" in the marketing of agricultural produce, represents the ecological modernization of agriculture, where extensive and environmentally friendly production techniques can give producers a competitive edge in the marketplace (Morris and Winter 2002).

The Protectionist Master-frame

The protectionist master-frame privileges the national agri-food system over the global and presents agriculture as an exceptional activity which needs to be protected in the national interest. Key ideologies associated with protectionism include neo-mercantilism and agrarianism. Neo-Mercantilist ideology occupied a hegemonic position within the Fordist Food regime which governed the production and trade of agricultural commodities during the three decades which followed WWII. According to neo-mercantilist ideology the purpose of the state is one of underwriting and safeguarding the productive capacity and export potential of the farming sector

(Potter 2004). It was this perspective which justified interventionist initiatives like the US Farm Bill and the EU's Common Agricultural Policy.

In both the US and EU, such systems of intervention were further legitimated on the basis of a pastoral or agrarian ideal. In the US, this took the form of Jeffersonian agrarianism which positioned farming as morally superior to other occupations in the economy (Dixon and Hapke 2003). This was so, as farmers were believed to represent an independent yeomanry who are civically engaged and oriented towards the preservation of their families and communities (Allen 2004). It was this perspective which further bolstered arguments for government interference and the protection of agriculture as an exceptional economic activity.

A number of scholars have argued that multifunctional agriculture has served simply as a camouflage for continued protectionism in the global food regime (Swinbank 2001). Accordingly, the defenders of multifunctional agriculture can continue to pay producers ostensibly for the social and environmental services they provide, but in reality are helping to keep the global price of commodities artificially low, which disproportionately benefits northern based agri-business concerns (Peine and McMichael 2005). Thus, multifunctionality may be serving as a discursive shield for those groups who have an interest in continuing the current food regime, and perpetuating economic inequalities between the global north and south. In this regard, the concept of multifunctional agriculture could represent a reaction on the part of productive capital interests (McCarthy 2005).

Sustainability Master-frame

The struggle for hegemony within the discursive field of agricultural policy between neoliberalism and protectionism is further complicated by the emergence of the sustainability Master-frame. Sustainable development is defined in the Brundtand report (1987) as the ability to meet the needs of the present without damaging the ability of future generations to meet their own needs. This perspective developed in reaction to the no growth ideology put forward by the environmental movement in the 60s and 70s (Castro 2004). Its original formulation stressed how environmental degradation in the developing world was linked to economic underdevelopment and inequality. It was further argued that development and modernization were not the cause of environmental degradation, but potentially the solution (Brundtland 1987). What was critical was that these processes took into account the carrying capacity of the natural environment as both a source for resources and a sink for waste.

Sustainable development was originally conceptualized with the experience of developing countries in mind. However, following the 1992 Rio declaration on environment and

development, the idea diffused to policy debates in advanced capitalist economies. Following the diffusion of sustainability as a policy concept, many scholars and analysts claimed that its original meaning had been lost. It is now considered a rather nebulous idea being interpreted differently by corporate, government, and environmental, consumer and sustainable agriculture interests, with mainstream corporate and government interests interpreting the concept in eco-modernization terms.

The interpretation of sustainability offered by environmental and consumer interest groups draws on a “hygienic” or “regulatory” ideology where the emphasis is on controlling the excesses of the agri-food food complex, both in terms of food safety and environmental degradation, using scientific-bureaucratic regulation and surveillance. Thus the focus is on policing food systems and rural landscapes in order to make food safer and the natural environment cleaner (Marsden et al 2001, Marsden 2006). According to this perspective, farming is seen as a dirty, polluting activity which needs to be regulated in order to conform to the expectations of food consumers and exurbanites living in rural areas. This hygienic perspective has had a significant impact on agricultural policies and practices at both the level of the European Union and individual member states. (Marsden 2006).

The emergence of the multifunctional role of agriculture as a policy concept could thus be interpreted as creating a whole new set of activities and processes in the countryside which have to be regulated and controlled by the state using a variety of different actors, rationalities, and technologies (Higgins and Lockie 2002). This is so, as the concept involves breaking up the environmental and social effects of agricultural production into technical and bureaucratic packages that can be dealt with through a variety of different schemes, prescriptions and regulations (Marsden 2006).

An alternative interpretation of sustainability is the agro-ecological perspective. Unlike the other perspectives on sustainability, proponents of agro-ecology present sustainable development as a multidimensional process of social, ecological, and economic transformation (Gelatz 2004). It is further considered to be a process driven from the bottom up where grassroots movements strive toward local food sovereignty. It is said to represent an alternative path to agricultural development which is rooted in farmer knowledge systems and endogenous potential, expressed in collective forms of social action, involving systematic strategies that address multiple resource concerns as related factors, and being dependent on ecological and cultural diversity (Marsden 2006).

A central concept in agro-ecology is that of co-evolution, where agro-ecosystems are believed to be co-produced through continuous interaction between farmers and nature. This

evolution is believed to be both a social and natural process (Marsden et al 2001, Altieri 2001, Norgaard 1981). If we were to accept that the multifunctional agriculture debate represented an expression of agro-ecological ideology, then its emergence in the discursive field of the global food regime could be interpreted as a form of resistance to mainstream ideologies, especially those inherent in the neoliberal master frame (Hollander 2004). This alternative vision further represents an attempt to re-embed the production of food in local social and environmental relationships.

Towards an Integrated Framework

The contemporary food regime is undergoing a process of transition and its future direction is far from clear. Part of the confusion regarding the future direction of the food regime is due to the emergence of the debate on multifunctional agriculture within the discursive field of agricultural policy. Scholars have variously argued that this debate signifies a post-productivist transition (Buttel 2006, Marsden and Sonnino 2005, Wilson 2001), a rearguard action by protectionist interests (Swinbank 2001), an attempt to engineer uneven neoliberalization that privileges Northern Capital interests (Peine and McMichael 2005), and an attempt to soften the worst excesses of neoliberalism (Potter and Tilzey 2005). It is this author's contention that the best way to understand the significance of this policy concept is through analyzing the discursive field of agriculture which is constituted by socio-political actors competing for discursive hegemony through constructing mainstream or challenging frames based on protectionist, neoliberal and sustainability master-frames.

This rather complex picture of the discursive field of contemporary agricultural policy is summarized in the concept map presented on page 49. The concept map shows the various nested components of the discursive field of agricultural policy including master-frames, their constituent ideologies, and examples of mainstream or challenging frames that may be constructed using those ideologies. There are a few important points to note about this conceptualization of the discursive field of agriculture policy. First of all, this is very much the author's interpretation of the Master-frames and ideologies which exist in this discursive field. Further more, the frame components described are merely illustrative, and are by no means definitive versions of the kind of frames that would be constructed based on the ideological resources available. Therefore, there are undoubtedly other perspectives that have been excluded for the sake of parsimony.

Secondly, it is clear that the master-frames and ideologies are not mutually exclusive, but rather serve as ideal typifications of how a state institution or social movement organization

might interpret the issue of multifunctional agriculture. For example, it is possible to view the eco-modernization perspective as reflecting both principles of neoliberalism and sustainability. To this end it is important to consider the notion of hybrid ideologies, a term often associated with incomplete neoliberalization, where neoliberal discourses and practices combine with pre-existing ideologies and frames.

It is also clear that these are categories that will be imposed by the investigator on the texts produced by the state institutions and movement organizations to be studied. In doing so, it is not the investigator's intention to limit or misinterpret the meanings offered by the writers of this material, but rather to provide an interpretation that will link the issues they raise to the broader policy and theoretical debates.

The relative dominance or otherwise of these Master-frames and ideologies within the discursive field of agricultural policy will indicate which interpretation of multifunctional agriculture, if any, occupies a hegemonic position within the global food regime. If a preponderance of evidence indicates that frames based on the Neoliberal master-frame and ideologies dominate, this will suggest that the concept of multifunctional agriculture functions as a tool for uneven liberalization, or for softening its worst excesses. If the evidence points towards frames based on the protectionist master-frame and ideologies, this will suggest that the concept functions as mechanism for maintaining the status quo inherent in the Fordist food regime. Finally, evidence pointing towards frames based on the sustainability master-frame and ideology will indicate a shift towards a post-productivist food regime.

Figure 1: Concept Map of the Discursive Field of Agricultural Policy

Discursive Field of Agricultural Policy

	Protectionist Master-frame		*Neoliberal Master-frame*		*Sustainability Master-frame*	
Typical Frame Elements	*Agrarian Ideology*	*Neo-Mercantilist Ideology*	*Roll back the state Ideology*	*Roll out the state (Eco-modernization) Ideology*	*Hygienic-Bureaucratic Ideology*	*Agro-ecological Ideology*
Issues	Cultural identity, Landscape and Heritage Associated With Family Scale Farms	Food Insecurity and Farm Incomes	Global Economic Growth & Food In-security	Rights of Future Generations to Economic Growth and Natural Resources	Pollution, Food Safety, Food Quality, Landscape Quality	Food Sovereignty, Peasant Livelihoods, Ecological Diversity
Threat	Urbanization, Globalization	Cheap Imports, Globalization	Protectionist Policies	Production Inefficiencies, Inefficient Governance	Regulatory Loopholes	Globalization, Intensification
Actor	Ministries of Agriculture – Farm Lobby Alliance	Ministries of Agriculture, Cooperatives, Farm Lobby Alliance	Transnational Corporation – WTO Alliance	State, Private Sector, Civil Society Alliance	Consumers, Experts, Bureaucratic Alliance	Peasant, Environmentalist, Social Justice Alliance
Solution	Subsidies and Right To Farm Laws	Subsidies and Tariff Protection	Removal of Subsidies and Tariffs	Voluntary Agreements, Best-Practice, Audits	Regulation and Policing of Farming	Grassroots Efforts To Create Local Food Systems

CHAPTER 5: METHODOLOGICAL FRAMEWORK

This chapter describes the study's methodological framework. First, the methodological approach employed is discussed. This is followed by a description of the criteria for the selection of cases, the characteristics of these cases and the rationale for the choice of different cases included in the study. Subsequently, the data collection procedures and techniques are described, along with the criteria for identifying what counts as evidence for the study. The coding and data analysis procedures are then described. Finally standards of quality and verification are discussed along with the limitations of the study.

Methodological Approach

The methodological approach adopted by this study is that of a multi-sited ethnography. Traditional ethnographic studies focused on describing the culture of a given social group by examining group artifacts, conducting participant observation and in-depth interviews, and providing thick descriptions of specific phenomena (Agar 1980. Creswell 1998, Geertz 1973). According to Agar (1980) the raison d'etre for ethnographic research is to add to a theory of culture by identifying what appears to be the unique behavior of a given cultural or social group and explaining why this behavior exists.

Traditionally, such studies were conducted on what were assumed to be relatively isolated social groups, with clear boundaries. However, this focus on local socio-cultural systems becomes problematic in an era where space and time is compressed due to processes such as economic globalization, transnational migration, and multilateral political and economic governance. These processes dis-embed social relations from localities. Social relations now operate in a world where space and time matter less and less, and social phenomena such as knowledge and symbols circulate globally (Gille and O'Rian 2002). Multi-sited or global ethnography emerged as a response to these changing conditions.

Unlike traditional ethnographic studies, multi-sited ethnographies move out from single site locations to multiple sites of investigation (Marcus 1995). The focus of multi-sited ethnographic research is on the global circulation of people, objects, and discourses which are mediated through transnational and trans-local relationships such as migratory networks, transnational social movements, transnational corporations, global media networks, and multilateral governance institutions (Marcus 1995, Gille and O'Rian 2002).

This study is focused on how the discourse of multifunctional agriculture is circulated and reinterpreted among transnational social movements and the global policy community associated with agricultural liberalization. One mechanism for understanding the circulation of

these discourses is through the analysis of texts produced by the organizational actors that constitute these global networks (Lewis et al 2003). However, an exclusive focus on textual material produced by global level actors ignores how local socio-political actors engage in, and reinterpret this discourse (Gille and O'Rian 2002). Thus, it is suggested that the analysis of the global discourse on multifunctional agriculture needs to be grounded in the reality of grassroots activists and street level bureaucrats, where the practical effects of a given policy discourse can be traced (Lewis et al 2003).

This study involves an analysis of global level discourses on multifunctional agriculture and how these are applied, resisted and re-interpreted at the national and subnational level. Thus, the investigation of the circulation of the multifunctional agriculture concept among transnational policy communities will utilize discourse analysis. However, this analysis will be grounded through in-depth case studies of how these macro-level discourses play out at the national, sub-national and local level. The following is a description of the cases which will serve as the objects of analysis for this study at both the macro-global level, as well as the national and sub-national level.

Case Selection

A purposive sampling procedure was employed for the selection of the cases for this study. This means that the investigator sought to identify cases which conformed to predetermined criteria. The cases for this study included particular policy programs and the official and movement actors which constitute the discursive arena of these programs. The policy programs selected for this study includes specific agri-environmental policy categories and programs developed at the International, Federal / EU and National / State level of governance. While it is true that multi-functional agriculture policy does not refer exclusively to agri-environmental payment schemes, such programs are treated as exemplars of the multifunctional agriculture model for a number of reasons.

Firstly, most agri-environmental schemes involve direct payments for the provision of benefits delivered by agriculture to society. Thus, they are directly targeted at the maintenance and enhancement of the positive environmental functions of agriculture. Other policies which are defended using the multifunctional agriculture argument involve regulations or payments that maintain farmers on the land, but do not directly target the positive functions of agriculture. Secondly, at the WTO negotiations, it is agri-environmental schemes which are considered exemplars of policies that protect the multiple functions of agriculture while not distorting trade in agricultural commodities.

Furthermore, in both Europe and the US, agri-environmental schemes far outweigh the other major categories of multifunctional policy (e.g. territorial development and food safety initiatives), in terms of funding allocations. Also, discussions of multifunctional agriculture in the academic literature focus almost exclusively on agri-environmental policies (Potter and Burney 2002, Wilson 2001, Dobbs and Pretty 2004). Thus, while multifunctional agriculture policies are by no means exclusively agri-environmental policies, they were chosen as a focus for this study due to their financial significance, the significance accorded these measures in WTO negotiations, and the attention they receive in the literature.

The study examines the debates surrounding the elaboration of these policies and the reaction to them over a given period of time (1999 – 2005). Thus, the study makes comparisons between agri-environmental policy debates taking place in the WTO, US and the EU, and at national, sub-national, and local levels. Considering that the focus of the study is on how these policy programs were discussed in public discourse, it is also important to identify which socio-political actors are included in the analysis. At each level of analysis the focus will be on the lead government or intergovernmental institution, a conventional farmer organization, a sustainable farmer organization and an environmental organization.

State agricultural institutions and mainstream farmer organizations were selected because traditionally, agricultural policy was negotiated between these interests. However it has been argued that international regulatory bodies, sustainable agriculture interests and environmental groups have increased their say in agricultural policy development (Allen 2004). Thus organizations representing these interests have also been included in the study sample. What follows is a description of the policy programs and socio-political actors selected as cases for this study and the rationale for their selection.

The Green Box Category of Supports

The case that has been selected at the international level is the Green Box category of supports within the WTO Agreement on Agriculture. This category of government support includes direct payments to producers, agri-environmental payments, rural development programs, research and extension supports, and food storage mechanisms. Such programs are included in the Green Box because they cause minimal distortion to international trade (largely because they do not encourage additional production). As a result they can continue to receive unlimited financial support. This Green Box category of interventions was chosen because the negotiations surrounding their classification determines which multifunctional agricultural policies the US and EU can pursue. If an intervention is deemed ineligible for inclusion in the

Green Box, then it will ultimately have to be either reduced or placed in the Blue Box category of supports. Key socio-political actors whose contributions to the public discourse on the Green Box were analyzed include:

a. *WTO Secretariat & Agricultural Committee*: The WTO inherited the project of liberalizing global trade from the Global Agreement on Tariffs and Trade when it was established in 1995. The secretariat and agricultural committee for this organization was selected for study because many scholars feel that the WTO, as an organization, has adopted a neoliberal agenda which privileges corporations and the interests of wealthier nations (McMicheal 2003). Also, as the organization responsible for bringing trading parties together, how the WTO frames issues such as multifunctional agriculture, agri-environmental policies and the use of the Green Box is crucial to our understanding of the discursive limits to the discussions which ensue.

b. *The United States Trade Representative (USTR):* This organization was selected as it is the federal office responsible for negotiating multilateral trade agreements on behalf of the United States. As such, it is this office which is responsible for negotiating the Agreement on Agriculture (AOA) and the Green Box category of supports.

c. *The European Union Trade Delegation (EUTD)*: Because the EU has a common trade policy, the European Commission negotiates trade agreements and represents European interests on behalf of the Union's 25 Member States at the WTO. Thus, it is the Trade Delegation of the European Commission which is responsible for negotiating the AOA and the Green Box on behalf of all EU member states. This was why it was selected for inclusion within the sample of organizations to be studied at this level of analysis.

d. *Via Campesina* was founded in 1992 during a congress of Nicaraguan farmer's organizations. What resulted was an international coalition of farmer organizations that advocates for the protection of local agri-food systems together with human & collective rights. Today it is one of the largest transnational organizations opposed to globalization, especially in the form of the global free trade in agricultural commodities. It is due to its engagement with issues dealt with by the WTO that Via Campesina was chosen as an organization considered representative of sustainable agricultural interests, as opposed to organizations such as the International Federation of Organic Agriculture Movements who are more focused on the diffusion and mainstreaming of organic practices and techniques.

e. *The International Federation of Agricultural Producers (IFAP)* was chosen to represent commercial agricultural interests. Established in 1946, IFAP is made up of commercial farming interests around the world. It serves as a coordinating body for the advocacy efforts of producers organizations devoted to meeting global food consumption demands.

f. The International Centre for Trade and Sustainable Development (ICTSD) was selected to represent environmental interests. The unique characteristic of this organizations is that it was established in 1996 by a consortium of environmental (e.g. International Union for the Conservation of Nature), organizations to act as a source of advice on the links between trade and the environment. Thus, ICTSD plays a key role in framing the contribution of environmental organizations to the debates surrounding the agreement on agriculture.

At this level of analysis there is a clear discrepancy in the relative power of the different socio-political actors in the outcome of the negotiations. Clearly, the WTO secretariat occupies a strategic position in setting the tone for the debate, deciding on which issues get included or excluded, while only the US Trade Representative and EU Trade Delegation have direct access to the negotiating table. The other actors have to be content with influencing these respective trade blocs through lobbying politicians and negotiators as well as conducting organized protests. To this end, IFAP is possibly in the strongest position representing a wide network of well-resourced farmer organizations, many of whom have a long tradition of privileged access to member states. Via Campesina is a relatively new organization, which is normally considered as a protest movement and thus excluded from conventional political arrangements at both the national and global level. The ICTSD's serves as a network organization which brings together a number of global environmental organizations in dialogue on the related issues of trade and sustainable development, and thus a relative newcomer to the debate on agriculture.

The Conservation Security Program (US)

The Conservation Security Program (CSP) was authorized under the 2002 Farm Security and Rural Investment Act. Unlike earlier conservation programs which encouraged land retirement, the CSP rewards farmers for practicing land stewardship on working farmland. The program operates in all 50 states and provides financial and technical assistance to farmers who wish to maintain or increase conservation activities such as soil and water conservation, habitat preservation, improving air quality, and engaging in environmentally responsible energy production. The program is currently limited to farmers in selected watersheds across the country. Important organizations involved in negotiating this measure whose contributions will be analyzed for the purpose of this study include:

a. *USDA-Natural Resource Conservation Service (NRCS)* was selected as the key state institution responsible for the implementation of the program. As such the agency is responsible for enrolling farmers in the program and monitoring their compliance.

b. *The American Farm Bureau Federation (AFBF)* was selected as the organization that best represented commercial farming interests. The Farm Bureau has a long history of lobbying and advocacy on behalf of commercial farmers across the country and is one of the largest and most powerful farmer organizations in the country.

c. *The National Campaign for Sustainable Agriculture (NCSA) was* chosen to represent the interests of sustainable producers. Created in 1994, this non-profit organization seeks to coordinate unified action among sustainable agriculture organizations across the country. Therefore, this organization represents the voice of the sustainable agriculture movement at the federal level.

d. *The Environment Defense Fund (EDF) was* chosen to represent the environmental movement. This organization was chosen due to its unique contribution surrounding the role of agriculture in environmental conservation. Currently, Environmental Defense is seeking to coordinate farmer, environmental and sustainable producer groups in order to lobby congress to increase funding for conservation measures in the 2007 Farm Bill.

Among these groups the NRCS has the most influence over the Conservation Security Program. This is so, because, even though this program is proposed by Congress, it is the NRCS which will determine how the program will be implemented, and which program components will be emphasized or neglected. The Farm Bureau is the organization with the longest history in political advocacy and the largest dues paying constituency. This means it has significant financial resources at its disposal, as well as long standing relationships with the Congressional committees on agriculture and the agencies of the USDA. By comparison, the Environmental Defense Fund and the National Campaign on Sustainable Agriculture are newcomers to the agricultural policy arena, though it is likely that EDF is better placed in terms of financial resources and political access than the NCSA.

The CAP Rural Development Regulation

The integration of agri-environmental concerns into the EU Common Agricultural Policy (CAP) has been ongoing since the mid 1980s and is still continuing. However, major progress was made between 1992 and 1999 in preparation for the Agenda 2000 CAP reforms and the negotiations surrounding the Agreement on Agriculture. These changes involved the introduction of a second pillar of the CAP relating to rural development, alongside the first pillar of market competitiveness. One component of rural development pillar of the CAP is designed to enhance and improve the existing agri-environmental regulations. The agri-environmental axis is the only compulsory component of the Rural Development Pillar. This means each country has to

implement some kind of agri-environmental program and to provide match funding for their implementation. Key organizations involved in the negotiation of these measures:

a. *The European Commission Directorate General for Agriculture* (ECDGAG) is the office of the Commission responsible for the design and implementation of the EU's CAP. Traditionally the Directorate General for Agriculture has worked closely with the EU Council of Agricultural Ministers and the farmer organizations in elaborating policy. However, recently, considerations surrounding global commitments to free trade and domestic commitments to sustainable production have meant a wider range of actors have been included in this policy community.

b. *Committee of Professional Agricultural Organizations* in the EU (COPA) was selected as a representative of commercial farming interests. This organization brings together all of the major national agricultural organizations in the EU for the purposes of lobbying the ECDGAG on Agriculture.

c. *The European Farmers Coordination (EFC) was* selected to represent sustainable agriculture interests across the EU member states. Established in 1986, the EFC brings together 11 different farming groups from different member states. It was chosen due to its opposition to antibiotics in livestock feedstuff, the use of the Bovine Somatotropin (BST) growth hormone and genetically modified organisms. Thus, the European Farmers Coordination represents an important voice for sustainable producers in Europe.

d. *The European Office of the World Wildlife Federation (WWF-EPO)* was chosen due to its active involvement in the reform of the Common Agricultural Policy and the elaboration of Rural Development Regulation. WWF was one of the first organizations in Europe to get involved in agri-environmental issues (Potter and Goodwin 1998).

Similar to the situation in the US, the Directorate General for Agriculture is the actor with the most power over the design of the Rural Development Regulation. The implementation of the regulation is the responsibility of the agricultural ministries and departments in the member states. Historically, COPA and its constituent organizations have excerpted significant influence over the Common Agricultural Policy as a whole, and continue to be the most organized and well-resourced non-state actor in this policy arena. WWF also functions as a significant actor in this arena, though agriculture is not its only focus. Finally, the European Farmer's Coordination, similar to Via Campesina could be considered to be outside the domain of conventional politics, though it is very active in protest politics.

Agri-environmentalism in Pennsylvania

It was decided to focus on the implementation of agri-environmental programming in Pennsylvania for a number of reasons. Firstly, the investigator is familiar with the context due to his work as a graduate assistant for in the Department of Agricultural Economics and Rural Sociology at Penn State. However, there are other important reasons to focus on multifunctional agriculture and agri-environmentalism in Pennsylvania. Pennsylvania is one of the most important agricultural states in the north-east. It was also one of the first state's to enact nutrient management laws for farming as well as phosphorous indexing, and was the first state to introduce an Environmental Protection Agency permit system for large-scale factory farm operations. Furthermore, Pennsylvania is considered a national leader in terms of farmland preservation and in the implementation of federal conservation programs (PDA 2004). This means the debate on the implementation of the Conservation Security Program (CSP) in Pennsylvania is part of a much wider debate on agri-environmental initiatives in the state. It is therefore necessary to consider the debate on agri-environmentalism in Pennsylvania in its entirety, rather than focusing exclusively on the implementation of the Conservation Security Program.

The organizations in Pennsylvania whose contributions to the debate on the CSP, and Agri-environmentalism in general, served as a focus for the study included:

a. *The USDA-NRCS* has offices both at the State and County level.

b. *The State Conservation Commission (SCC)* which is a bridging organization between the Pennsylvania Department of Agriculture, and the state Department of the Environmental Protection. This organization is responsible for implementing a range of statewide agri-environmental initiatives.

c. *The Pennsylvania Farm Bureau (PFB)* is the State's largest farming organization and has close to 35,000 members. It has been in existence for over 26 years and is affiliated with 54 county Bureaus across the state as well as the Nationwide American Farm Bureau Federation. This organization is heavily involved in the State legislative process in Pennsylvania and is a staunch defender of the rights of farmers.

d. *Citizens for Pennsylvania's Future* (Penn Future) is one of Pennsylvania's most prominent environmental organizations. Its focus is on the enforcement of environmental laws and advocacy for the transformation of public policy, public opinion and the marketplace in order to restore and protect the environment and safeguard public health. Programmatic areas of Penn Future which are relevant to agriculture include its efforts to regulate factory farming and to protect watersheds from urban sprawl and pollution. Even though most of its advocacy work

focuses on industrial hog production, Penn Future was chosen for inclusion in this study after reviewing the advocacy work of the other major environmental organizations in the state. The investigator found that Penn Future was the most active environmental group in the arena of agricultural policy.

e. *The Pennsylvania Association for Sustainable Agriculture* (PASA) is a grassroots organization which supports farmers interested in sustainable agriculture practices in the Commonwealth. The association was founded in 1992 by a group of producers, extension agents, environmentalists and university faculty who were frustrated at the lack of institutional support for farmers in Pennsylvania who wanted to know more about sustainable farming techniques.

Among the state level actors, the NRCS is in the most powerful position in relation to the Conservation Security Program, while the State Conservation Commission is the key agency responsible for the co-ordination of a range of other agri-environmental initiatives. The Farm Bureau is another socio-political actor with a significant amount of political power and potential influence over the operation of agri-environmental initiatives at the state level. Penn Future, while relatively well resourced, is focused mostly on industrial hog production, thus limiting its potential influence over other agri-environmental concerns. PASA has a small but dedicated staff, and does engage in advocacy work at the state and local levels of governance. However, as an organization it has a shorter history and fewer resources than the other actors being studied.

In order to understand the debate surrounding the implementation of the agri-environmental programs at the grassroots level, the Raystown Watershed, most of which is in the County of Bedford, has been chosen as a study site. This area was chosen as a pioneer watershed for the CSP in 2004, and has also been the target of a range of different agri-environmental programs such as EQIP, the Chesapeake Bay Program, the Nutrient Management Act, and the Growing Greener Watershed Management Grants. Parts of the watershed are thought to be particularly sensitive to the excessive application of nitrates and phosphates, as well as soil erosion. These problems are thought to contribute to the degradation of water quality in the Chesapeake Bay. Organizational actors consulted at the grassroots levels included representatives of the Farm Bureau, PASA, and the NRCS. Because Penn Future was not active at the grassroots level representatives of the Allegheny Nature Conservancy and a local independent environmentalist were consulted instead. I also had the opportunity to consult with members of the Resource Conservation and Development Council, as well as the Soil and Water Conservation District.

The Rural Environmental Protection Scheme in Ireland

The Rural Environmental Protection Scheme (REPS) is the main agri-environmental measure being implemented in Ireland, and is jointly financed by the Irish Department of Agriculture and Food, and the European Commission General Directorate for Agriculture under the EU Rural Development Regulation. Ireland was chosen as a study site due to the investigator's familiarity with the societal, environmental and policy context, and because the Government of Ireland has been enormously successful in implementing the agri-environmental axis of the rural development regulation, with over 30% of Irish farmers enrolled in REPS. Ireland is said to have one of the highest participation rates in agri-environmental programs in Europe (Knickel et al 2003). The organizations in Ireland which served as a focus for this study include:

a. *The Irish Department for Agriculture and Food (DAF).* This organization was chosen due to its key role in implementing and monitoring REPS. The author also examined documentary material and interviewed representatives from the research and extension arm of this Department, known as Teagasc (meaning instruction/extension in Gaelic), which plays a critical role in advising and training farmers involved in REPS.

b. *The Irish Farmers Association (IFA)* was selected to represent commercial farmers in Ireland. It is by far the largest farmer organization in the country and has been active for years in lobbying the Irish Government, European Commission, and even the WTO, on agricultural policy reform

c. *The Irish Organic Farmers and Growers Association (IOFGA)* was selected to represent sustainable producers. While sustainability is certainly not limited to organic production, IOFGA is the only organization with a national presence which deals with issues relevant to sustainable producers.

d. *An Taisce* is the National Trust for Ireland and was selected to represent environmental and conservation interests. Meaning storehouse, or treasury, in Gaelic, An Taisce is one of the oldest and most influential environmental groups in the country. Its importance is evident from its status as a prescribed body under the planning act, meaning local authorities are obliged to consult with An Taisce on a range of planning and development issues.

Among these actors, the Department of Agriculture and Food has the greatest amount of resources and the greatest level of influence over the design and implementation of REPS. The principle of subsidiarity operated by the EU means the department has significant discretion in the design of programs funded under the CAP. Teagasc serves mainly in an advisory capacity, and thus functions merely to inform rather than steer the policy design and implementation

process. However, it also competes with private sector agri-environmental planners in the preparation of farm-scale plans, and has a major share of this market. An Taisce pays significant attention to agricultural issues, but has nowhere near the human or financial resources of the Irish Farmers Association, which is by far the most powerful non-state actor in this policy arena. IOFGA suffers from significant resource constraints, and although active in advocacy work, it is severely constrained in its ability to contribute to public discourse on REPS.

In order to study the implementation of REPS at the Grassroots level, the County of Clare in the West of Ireland has been chosen as a study site. The rationale for choosing this county is the presence of a unique Karst region on the coast, which functions as an important viewshed and cultural landscape, and a vital habitat for indigenous flora and fauna. The integrity of this landscape, known as the Burren, is believed to be dependent on the grazing practices of local farmers, many of whom are enrolled in REPS (Gorman et al. 2001). Socio-political actors consulted in Co Clare included representatives of Teagasc, the IFA, IOFGA, and Clare County Council (Local Government). Because An Taisce did not have a presence at the grassroots level, the environmental organizations consulted included the Burren Life Project (a consortium of state and non-state actors for the preservation of conservation friendly farming in the Burren) and the Clare Environmental Alliance (a consortium of local environmental organizations).

Rationale for Comparisons

The central comparisons to be made in this study are between different levels of analysis and between different geographical contexts. Making comparisons between the discursive contributions of different socio-political actors to the policy debate on multifunctional agriculture at different levels of governance is critical to understanding how the macro-level discourses on this issue resonate with, or are contested by actors at the grassroots level. The degree of resonance or contestation of macro-level interpretations within policy debates taking place at other scalar levels will serve as one indicator of the relative hegemony of these interpretations. Furthermore, it is important to consider grassroots debates on agri-environmentalism in the context of the macro-level debates taking place at the federal or global level. These macro-level debates are crucial for understanding the discursive opportunity structure in which debates at other levels of governance take place.

A further test of the relative hegemony of macro level interpretations of multifunctional agriculture involves making comparisons between debates taking place in different geopolitical contexts. Spatial comparisons made include comparing the EU to the US, Pennsylvania to Ireland, and the Raystown watershed in Pennsylvania to the Burren Karst region in Ireland.

It was decided to compare the EU to the US because they represent the largest agricultural trading blocks in the world which also operate centrally defined agricultural policies – The CAP and The Farm Bill. Both these agricultural policy regimes are under tremendous pressure for reform internationally and domestically. The rationale for comparing Ireland with Pennsylvania is based on the following:

a. The investigator's familiarity with these contexts
b. Both the Irish Government and the Pennsylvania State Legislature have proved particularly innovative in the design and implementation of agri-environmental programs.
c. Both Ireland and Pennsylvania have large amounts of land enrolled in agri-environmental or conservation schemes relative to the EU (for Ireland) or the US (for Pennsylvania).
d. The structure of agriculture in Ireland and Pennsylvania is quite similar. Both Ireland and Pennsylvania possess similar agricultural landscapes, with average farm size being relatively small or medium scale in both contexts (Ireland – 80 acres, Pennsylvania – 133).
e. Another similarity between the two contexts is the importance of livestock and dairy production over crop production.

Both the Raystown Watershed and the Burren region were chosen for comparison due to their unique natural attributes and the importance of agriculture in maintaining the cultural landscape, water quality and unique habitats intrinsic to these systems. Both agro-ecosystems are also largely located within defined municipal districts i.e. Bedford County Pennsylvania, and Clare County Ireland.

The following figures (2), map out the relationships between the various primary and secondary units of analysis. Then, in figure 3, the relationships between the different levels of analysis which will serve as a major basis for comparison are presented.

Figure 2: Primary (in bold) and Secondary Units of Analysis

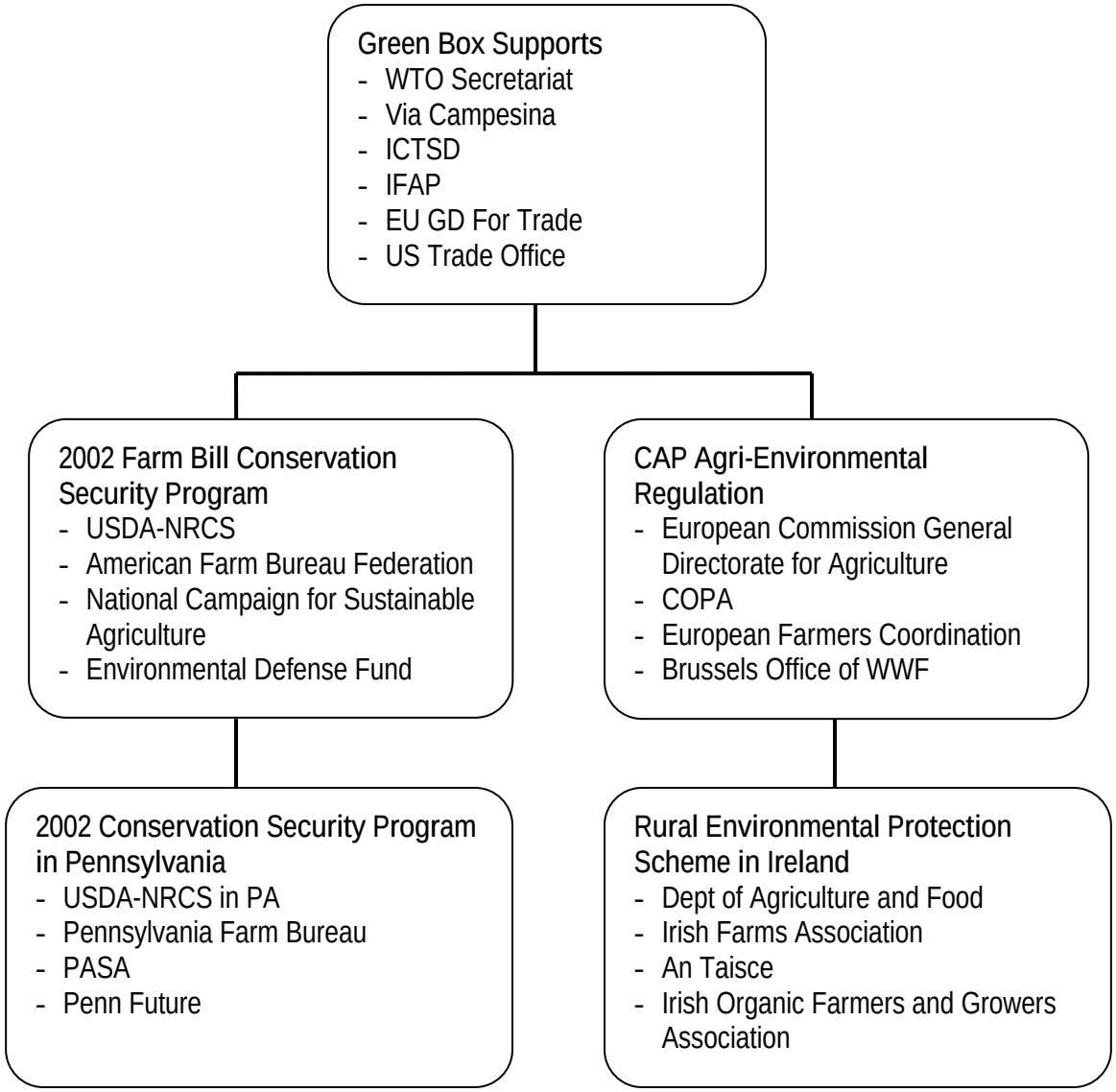
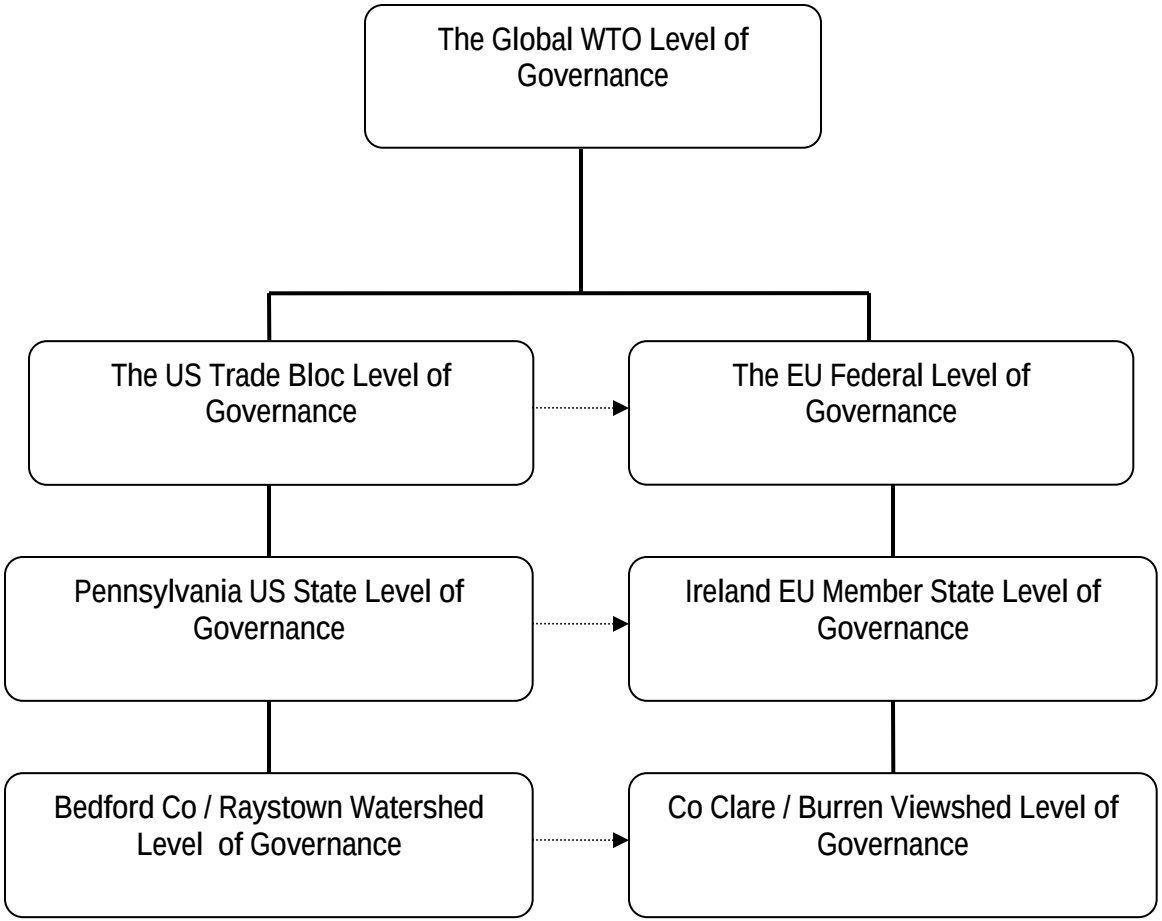


Figure 3: Levels of Governance and Analysis



Data Collection Procedures & Techniques

In order to increase the credibility of the study findings, two different types of data collection were used – document research and in-depth interviews. The selection of documents and key informants for this study largely depended on snowball or chain-referral sampling procedures. For the key informant interviews initial contact made with key individuals (either by phone, mail or email) functioned as a means for identifying future key informants for interview (Lofland and Lofland 1995). Initial entry into these organizations was through institutional contacts in Pennsylvania and Ireland that the author had established through previous work experience and research. For the document research, the search initially focused on key policy documents. The concepts and references contained within these documents were then used to search for additional material.

a. Document Research / Textual Analysis. Primary sources of data for the project were written texts and narratives produced by the movement organizations being studied as well as official documents produced by the WTO, the agencies of the European Commission, the US Federal Government, the Pennsylvania Legislature, and the Government of Ireland. The following table summarizes the number of documents and pages reviewed for the purpose of this study:

Table 1: Number of Documents Reviewed by Organization

Organization	*Number of Documents*	*Number of Pages*
World Trade Organization	15	242
EU Trade Delegation	62	159
US Trade Representative	30	187
ICTSD	14	152
IFAP	12	136
Via Campesina	17	84
EC DG for Agriculture	68	420
European Farmers Coordination	29	87
COPA	33	131
WWF – Brussels Office	20	216
Department of Agriculture and Food	20	759
Teagasc	12	124
Irish Farmers Association	27	76
Irish Organic Farmer's and Growers Association	8	24
An Taisce	10	46
The NRCS	38	474
Sustainable Ag Coalition	40	177
Environmental Defence	15	94
The American Farm Bureau	48	115
The NRCS, DEP, & SCC (Pennsylvania)	24	229
The Pennsylvania Farm Bureau	21	69
Penn Future	16	173
PASA	12	13
Bedford County	2	45
The Burren	25	96
Table	*618*	*4328*

From the above table it can be seen that a total of 618 documents were reviewed for the purposes of this study which came to a combined 4328 pages. It is also worth noting that the organizational actors which produced the greatest number of documents on the issue being studied were state actors. The kinds of documents reviewed for the purpose of this study varied enormously and included press releases, speech transcripts, policy position papers, discussion papers, policy backgrounders, official reports, and strategy documents. These documents were sourced through a number of mechanisms with many being downloaded electronically from the organizations websites or online electronic databases such as LEXUS-NEXIS, Government Publications Office Access, and EUR-LEX. Other documents were secured directly from the organizations being studied following in-depth interviews. These documents are listed in appendix 1.

b. In-depth Interviews. Textual data analyzed was supplemented with information garnered from actors representing government and social movement organizations at the national (Ireland), sub-national (Pennsylvania) and local levels of governance. The following table summarizes information on the number of interviews conducted with different socio-political actors in Ireland and Pennsylvania:

Table 2: Number of Interviews Conducted by Organization and Location

Organization	*Interview Location*				
	Pennsylvania	Bedford	Ireland	Burren	Total
NRCS	2	1			3
Penn Future	1				1
PDA	1				1
PASA	1	1			2
Farm Bureau	2	2			2
DAF			1		1
IFA			2	1	3
Teagasc			2	1	3
Heritage Council			1	1	2
IOFGA			1	1	2
An Taisce			1		1
Local Gov Officials		3		1	4
Grassroots Environmentalists		1		1	3
Total	7	8	8	7	30

A total of 30 interviews were conducted – 15 in Ireland, and 15 in Pennsylvania. Local Government officials interviewed in Ireland included the representative of the Biodiversity Action Group which came under the Heritage section of Clare County Council. In the case of the Bedford County, this category refers to the Soil and Water Conservation District. Grassroots environmentalists in the Burren refer to representatives of the Burren Life Project and the Clare Environmental Alliance, while in Bedford County this referred to the Allegheny Nature Conservancy. On average interviews lasted 57 minutes, with the shortest interview being completed in 40 minutes, while the longest interview took 120 minutes to complete. The interviews were recorded using a digital recording device and transcribed using realplayer media software. The average interview transcript was 8 pages single spaced in length, producing a total of 230 pages to be analyzed.

These informants played a key role in filling the gaps in the written material collected regarding the challenging and mainstream frames of the organizations being studied, and in grounding the macro level discourse on multifunctional agriculture in the discursive practices of grassroots activists and street level bureaucrats. It was decided not to pursue interviews with representatives of macro-level of organizations for a number of reasons. Firstly, there is a wealth of publicly available documentary evidence which can be analyzed for these organizations. Secondly, getting access to representative from organizations such as the USTR, WTO and the EU General Directorate for Agriculture is likely to prove extremely difficult. Finally, the logistics of conducting such research implies the expenditure of significant amounts of time and money on international travel.

The schedule of questions drawn up in advance served as a semi-structured guide to the interview. The schedule (found in appendix 2), functioned as a list of topics that the investigator wished to cover during the interview with any given respondent. These topics included:

a. background information on the organization and the respondents role within it,
b. their views on the different social and environmental benefits or costs of agricultural production
c. the threats facing agriculture's continued existence,
d. the actors responsible for enhancing the sectors benefits and reducing its costs,
e. recommendations regarding the types of policy programs that might be pursued to this end.

These questions functioned as a framework rather than a blueprint for each interview. The investigator tailored the questions asked depending on the organizational actor being interviewed, as well as the geopolitical context. However, a conscious attempt was made to ensure that similar themes were addressed in each interview in order to enable comparisons between responses.

Evidence & Proof

Qualitative research is often criticized as being overly subjective and relevant only to the individual cases being studied. It is therefore important to outline what constitutes evidence for the findings or conclusions a given qualitative study. The author must demonstrate to their audience how they arrived at a specific interpretation of the phenomena being studied. In the case of this research project, key questions \include how challenging and mainstream frames are recognized? What constitutes evidence of a frame's existence? How will ideological orientations and master-frames be identified? And, how will the relative hegemony of a given ideological orientation be recognized?

Establishing evidence of a frames existence is a problem well recognized in the literature on this subject. For instance, Snow and Benford (2000) go to great lengths to describe the collective action frames offered by particular movements but fail to address how these frames are identified (Fisher 1997). They also highlight how frames are extremely variable and subject to reassessment, making them all the more difficult to identify (Snow et al 1986). Furthermore, while Snow and Benford distinguished between truthful frames and what they labeled misframings, they gave little indication of how a researcher might delineate between the two (Snow et al 1986, Fisher 1997). Thus, the mechanics of studying movement frames are far from clear.

Some analysts rely on quantitative methods of content analysis, counting the number of times a theme, or words signifying a theme, have been mentioned (Johnston 2002). An alternative approach is to rely completely on the investigator's interpretation and deconstruction of the texts being analyzed, with the quality of a finding dependent on the coherence and logic of the argument made by the investigator. Alternatively, researchers might engage in the process of micro-discourse analysis which emphasizes the linguistic analysis of words and phrases which are believed to signify frames (Fisher 1997, Johnston 2002)

For the purposes of this study, the investigator will conduct a macro-discourse analysis which seeks to distill the essence of both movement and institutional frames present in the individual texts representing the raw data of the study. This will involve identifying

a. The issue being framed i.e. the benefits and costs of agriculture for society identified as important by the organization.
b. The factors threatening agriculture's beneficial role and enabling its destructive role
c. The actors responsible for enhancing agriculture's beneficial role, reducing its costs, and dealing with underlying threats.
d. The solutions and policy prescriptions that have to be pursued to protect and enhance agriculture's beneficial role.

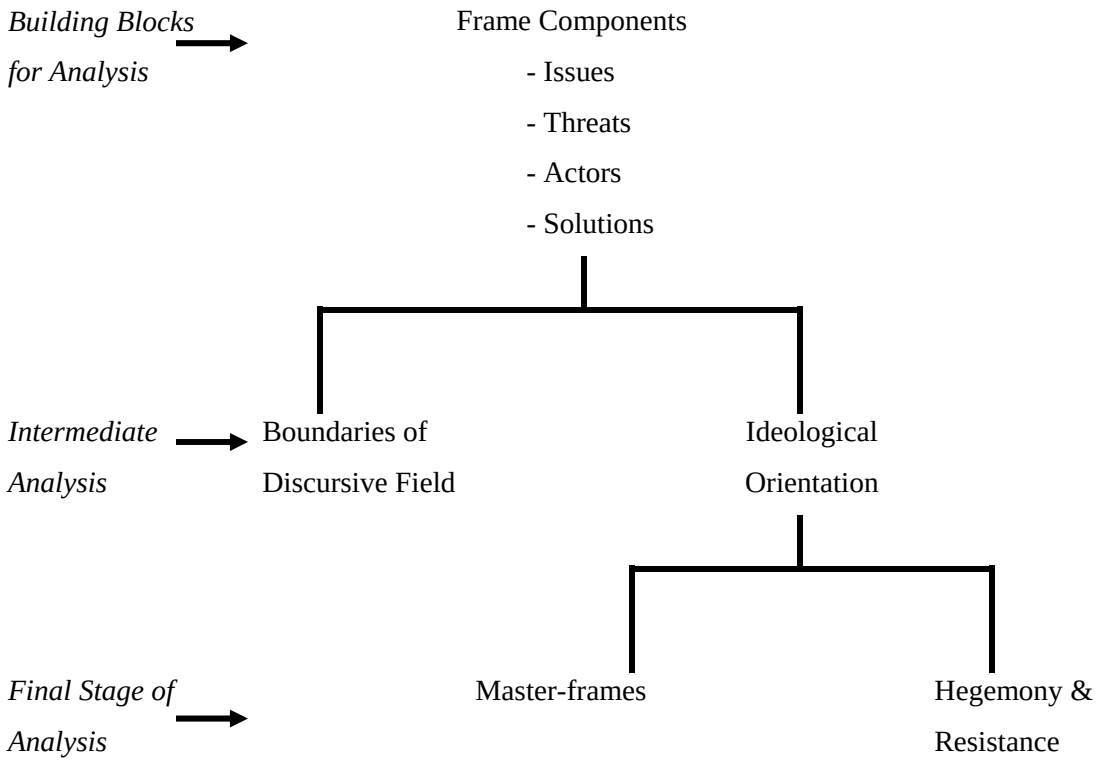
This strategy of systematically identifying these various frame components in a given text is adopted from the approach used by Ryan (1991) in her study of media framing and grassroots organizing. Ryan argued that challenging frames can be broken down into a number of components including the core issue (agriculture's costs and benefits), the historical roots of the issue (factors threatening positive functions or enabling negative functions), the actors responsible, and potential solutions. These frame elements identified by Ryan bring together components of what Snow and Benford (2000) referred to as diagnostic (the problematization of an issue) and prognostic framing (the identification of solutions). It is these elements which were used to elaborate the concept map presented in figure 4 which sketches the investigator's understanding of the main components of the ideologies and mainstream/challenging frames that constitute the discursive field of agricultural policy.

Taking this approach has certain advantages over quantitative content analysis and micro-discourse analysis. Quantitative content analysis misses a great deal of contextual information, while micro discourse analysis severely limits the scope of the study to a single movement over a short period of time (Johnston 2002, Fisher 1997). The frame components identified above served as organizing concepts during the coding and analysis of textual material and interview transcripts. They also informed the design of the question schedule for the in-depth interviews.

This means that when the investigator was reviewing the raw data, it was with a view to identifying these components.

All of the data collected was sorted into one or other of these categories. Organizing the data in this way created the foundation for any further analysis conducted including the identification of the discursive field, identifying ideological orientations and master-frames, and identifying ideological hegemony and resistance. This means that the frame components serve as building blocks, enabling a thick description of how a given organization interprets agriculture's multifunctional role within a specific policy arena. The relationship between this initial stage in the analytical process and the subsequent analytical tasks is presented in the following figure:

Figure 4: Stages in the Analytical Process



Having identified and described the frame components for a set of organizations in a given policy arena, e.g. the CAP Rural Development Regulation, the first step taken was the identification of the discursive boundaries of the debate. Mainstream or challenging frames effectively function to establish the sides or boundaries of a particular argument, focusing attention on particular issues, threats, actors, and solutions, while excluding alternative interpretations. Thus, a mainstream or challenging frame functions much like a picture frame,

helping us focus on the image being framed rather than the other material on the wall. Summarizing the core frame elements identified for each organization in a given policy arena helps identify the discursive boundaries of the debate on multifunctional agriculture within that arena. It also helps outline the contours of the discursive field of that particular policy arena. This approach to identifying the discursive boundaries of the debate on multifunctional agriculture was used for each of the policy arenas investigated.

The next analytical step involved using the frame components described for each organization to identify their ideological orientation. It is the investigator's contention that the configuration of certain frame components will suggest a particular ideological orientation (agrarian, neo-mercantilist, neoliberal, eco-modernization, agro-ecological, and hygienic). For example, if a given organization articulates the production of safe and quality food as a primary issue of concern, the intensification of agriculture resulting from liberalization as a primary threat, consumers and regulatory agencies as the main actors responsible, and increased policing of the food system as the solution, then it could be said that the organization has adopted a hygienic orientation.

The evidence suggesting the relative importance of different issues, threats, actors, or solutions will be based on their repeated discussion between different texts and interview transcripts. Thus, the more documents a particular articulation of a frame component is discussed in, the more important it is thought to be. For a particular theme to be considered important, ideally it should be discussed in more than one (preferably several) texts.

However, it is important not to rely exclusively on this approach as evidence for a particular ideological orientation. This is so, as a particular themes may be a crucial part of a given organization's policy position but only publicly presented at critical times in the policy development process (e.g. prior to a particularly important meeting, the elaboration of a particular bill). It may therefore be the case that the issues most important to the organization are discussed in a limited number of strategic documents. Furthermore, merely enumerating the repetition of a theme fails to capture the logic behind the organizations articulation of a particular theme.

It is thus important to consider themes discussed in documents central to the organization's policy agenda such as submissions, position papers, and policy or negotiating proposals, as well as press releases and speeches made at strategically important moments. It is further important to capture the most coherent articulations of the organizations frame. An attempt was made to account for both approaches in presenting the data. Thus, when discussing a particular frame element presented by an organizational actor, attention is first paid to the repetition of particular themes. This is normally followed by a narrative describing these themes

in detail, which draws on the strategic documents of the organization, as well as the most eloquent quotes articulating the importance and logic behind the use of a particular theme. When discussing the case studies of Ireland and Pennsylvania, especially the local case studies of the Burren and Bedford County, a stronger emphasis is placed on providing a narrative description of frames than on summarizing the repetition of themes. This approach is employed as the number of documents available for each organizational actor becomes sparse at these levels of governance.

Having identified the ideological orientations of the different actors it is then possible to identify the particular master-frames drawn on by the different organizations active in the policy arena being analyzed and to discuss the relative hegemony of a particular ideological orientation. The presence of particular ideological orientations will serve to indicate which master-frames have been used as resources by the organizations studied. Thus, if one organization adopts a hygienic orientation, and another organization an agro-ecological orientation, then one can say that a sustainability master-frame has been used within that policy arena.

The first step in classifying a particular ideology as hegemonic in a given policy arena is to identify the ideological orientation of the official mainstream actor (e.g. WTO secretariat, the Irish Department of Agriculture and Food, US Department of Agriculture etc.). According to Hajer (1995), a given discourse can be considered hegemonic if it is institutionalized in the form of concrete policies and institutional arrangements. While the manner in which an official actor frames agriculture's multifunctional role may not necessarily reflect concrete institutional arrangements (it may reflect the organization's aspirations rather than actuality), it certainly serves as an indicator of the potential for the institutionalization of a given ideological orientation. However, it is this investigator's contention that identifying the ideological orientation of official actors is a necessary but not sufficient condition for the identification of the hegemonic ideology.

There are a number of reasons why this is the case. Firstly, decision making in the agri-food regime has traditionally been a matter for a consortium of political, bureaucratic, and productive interests. Secondly, a number of scholars are arguing that decision making in the contemporary agri-food regime is being contested by a range of non-traditional actors representing the interests of new social movements (Higgins and Lawrence 2005). While one would expect the traditional actors such as members of the commercial farm lobby to occupy a similar position to that of the official actor, non-traditional social movement actors would normally be expected to occupy a challenging position. Thus, an ideological orientation can be considered truly hegemonic if it is a position taken not only by the official actor, but also socio-

political actors representing the environmental and alternative agriculture movements. When groups representing both these movements engage in similar ideological work to the official institutional actor, then that ideology can be considered hegemonic. If it is the case that the ideological orientation is adopted by only one of these actors (either the environmental or alternative agriculture group), then it could be considered what Potter and Tilzey (2005) termed sub-hegemonic. Finally, if the official ideological orientation is only adopted by a mainstream farmer organization, then it can be considered partially hegemonic.

Within any discursive arena, attempts to dominate the discursive practices through ideological hegemony will be resisted, even by actors who use some of the language and concepts of the hegemonic or sub-hegemonic ideology. Thus, while attempting to identify hegemonic ideologies, an attempt was also made to identify the arguments put forward by organizational actors which contradicted those ideologies, and the ideological orientation which these arguments reflect. These ideologies were believed to represent resistance to the hegemonic ideology.

Analyzing the discursive field in this manner also provides insight into the nature of discursive opportunities, and the class fractional dynamics. For example, if it is a case that a particular ideology is sub-hegemonic or partially hegemonic, then this presents discursive opportunities for movement organizations to mobilize oppositional frame in order to contest the dominant interpretation. Furthermore, identifying ideologies of resistance serves to highlight the different class or movement factions within a given policy arena.

Coding and Data Analysis

Version six of the Nudist qualitative data analysis software program was used for the purpose of coding and analyzing both the document and interview data collated for the purpose of this study. Both types of data were treated as individual texts during the analysis and subjected to similar procedures. A separate Nudist file was created for each organizational actor. The first step in the process was a close reading of the texts reviewed in order to get a sense of the data in its totality. Following this close reading an initial memo was prepared for each text which summarized the themes identified under the category headings representing typical frame components – issues, threats, actors, solutions. An attempt was also made to identify whether or not the configuration of the frame components identified in the initial memo were indicative of a particular ideological orientation.

The next step in the analysis involved using these broad categories to code sections of the texts, organizing the data into blocks representing the different frame components. The text units coded were individual paragraphs. These blocks of data were then subjected to open coding,

where the investigator sought to discover themes endogenous to the data. These codes were then organized under a set of broad categories. For example, an analysis of the data for the "issues" block may produce endogenous codes such as water pollution, and habitat destruction which are then sorted under the "environmental costs" category.

Having followed these coding procedures, reports were produced for each individual code. These reports presented the text units that were coded along with a count of how many individual documents contained a particular code. Thus, the reports combined with the initial memos provided the raw material for the elaboration of organizational memos. These memos represented an attempt to explore regularities and patterns emerging in the data and to construct a narrative that described how a particular organization framed agriculture's multifunctional role in a particular policy arena. Regularities and patterns were explored by examining the repetition of codes between different documents, while the narrative was constructed on the basis of the textual data itself, with particular attention being paid to text units from the most strategic documents, and those units which articulated the organizations position in the most eloquent terms.

Having produced integrative memos for each organization, these documents were then coded in order to identify the ideological orientation of the organization. Accordingly, the organizational memo was subjected to close reading and the themes which emerged as the most important (discussed in the greatest number of documents, appearing in strategic documents) were coded for each frame component. These themes were then summarized and discussed in an ideological memo, and were verified through referring back to the discussion of the ideological orientation of individual texts in the initial memos. A subsequent close reading of the ideological memos for each organizational actor in a given policy was used to classify their ideological orientations as hegemonic, sub-hegemonic or as resistance. These memos also served to elaborate a table summarizing the details of the discursive field for the policy arena being studied. This table provided summary details on themes coded for the frame components of each organizational actor.

Standards of Quality and Verification

A major concern for any qualitative inquiry is the degree to which it accurately reflects the meanings of the actors being studied. It is therefore important to consider mechanisms to verify the study findings and conclusions. According to Creswell (1998), a range of verification mechanisms are at the disposal of the qualitative investigator including triangulation, peer review, negative case analysis, articulating researcher bias, member checking, thick description, and

external audits. The mechanisms used in this study include triangulation, articulation of bias, member checking and thick description.

One of the most important mechanisms for verifying the findings was the use of triangulation. Here, the investigator used multiple sources of data and methods. In the case of document research, the type of documentary evidence used ranged from short press releases to elaborate policy position statements and reports. The use of these different sources provided corroborating evidence for the study findings. When conducting research on the Rural Environmental Protection Scheme in Ireland, and Agri-environmentalism in Pennsylvania it was also possible to triangulate documentary evidence with data from the interviews conducted with key informants representing organizations engaged in the policy debate surrounding these programs.

The interview process also allowed the investigator to use member checking as a verification technique. In member checks the investigator solicits the informant's views on the data in order to ensure that it accurately reflects their position. For this study, the investigator emailed the full transcript of the interview to participants. Of all the transcripts sent out, four participants responded, stating that they were satisfied with the content of the transcript. For those who didn't respond it was assumed that the transcript was an accurate reflection of the meaning they tried to convey during the interview.

Throughout the study the investigator attempts to provide as detailed a description as possible of the data and the context it was collected in. Thus, when raw data is presented in the findings chapters in the form of quotes from the documents or interview transcripts, an attempt was made to provide sufficient information on the geographical and policy context of the research setting. This allows the reader to judge the transferability of these findings to other settings which might share these characteristics (Creswell 1998). The final mechanism employed for ensuring the credibility of the study is the articulation of researcher bias. Articulating the assumptions and biases of the researcher and how they potentially affected the study gives the reader some insight into the subjective lens the investigator applied to the data. This issue is dealt with in the following section on study limitations.

Limitations

Any research endeavor can only ever present a partial interpretation of the social event or processes being studied. Inevitably, factors which were either unforeseen by the investigator, or were merely beyond their control, inhibits their ability to paint a completely accurate picture of a given social phenomenon. For this study, the investigator identified a number of limitation

including the relevance of the documents reviewed, the knowledge of the key informants interviewed of the details of particular policy programs, the difficulties in matching data to pre-conceived conceptual categories, and his own biases.

In some cases it was difficult to secure documents that directly addressed the policy arena being investigated. This was particularly challenging for the case of the Conservation Security Program. While the NRCS (the agency responsible for its implementation), and the National Campaign for Sustainable Agriculture produced a significant amount of material, this was not the case for other organizations. The Farm Bureau paid only a limited amount of attention to the program in its advocacy efforts while the Environmental Defense Fund mostly focused on generic conservation incentive programs. For both those organizations the search was broadened beyond the specific policy program to include material that referred to conservation and agri-environmental interests in general. A similar problem was encountered in Pennsylvania where the material produced by different socio-political actors discussed agriculture in general terms rather than in terms of the Conservation Security Program. It was hoped that the interview process would overcome this barrier allowing the investigator to elicit a more nuanced position on conservation programming than that expressed in their written material. However, the interview process in Pennsylvania also proved problematic due to the gaps in participant knowledge on the Conservation Security Program.

While key informants representing the Pennsylvania Farm Bureau, the Pennsylvania Association for Sustainable Agriculture, and the Natural Resource Conservation Service had a good understanding of the strengths and weaknesses of the conservation security program, this was not the case for other key informants. For example, interviews with environmentalists at the state and grassroots level had to focus on discussing conservation programming in generic terms rather than the Conservation Security Program in particular. Eliciting viewpoints on this program at the grassroots level was problematic even when interviewing farmers involved in local conservation structures, and again the questions were tailored to focus more on generic conservation programming. This was surprising considering that the site for conducting the local interviews was chosen because it was a pioneer watershed for the program. However, as the research progressed it became evident that the program had experienced serious funding shortfalls and was promoted in a very targeted fashion. This problem did not occur in Ireland where participation in REPS was at record high levels and funding available for the same program steadily increasing.

The analytical approach adopted by the investigator involved laying out an elaborate theoretical and conceptual framework which shaped the data collection and analytical process.

While this simplifies the research process for the investigator it also runs the risk of forcing data into conceptual categories which may not accurately reflect its meaning. There is also the risk that the investigator selects the data units which are more amenable to the theoretical framework specified at the beginning of the dissertation. The investigator was fully aware of these risks throughout the research process and to this end employed the theoretical framework and conceptual categories as organizing concepts which had to be revised and re-adjusted as the research process unfolded. Thus, there was no real attempt to fit the data to the theory and conceptual categories, but rather to adjust and amend these tools in the light of the data analysis, and as a result construct an alternative theoretical framework to that which was elaborated on the basis of the literature.

The final limitation is a concern for any researcher engaged in qualitative inquiry i.e. how the investigator's biases and values might influence the study results. For the investigator involved in this study, a number of biases and assumptions played a role at each stage of the research process. These biases and assumptions emerged from the professional and academic experience of the author.

The author of this study spent the last ten years of his life either studying or working to address the problems facing rural communities and rural people in a variety of different settings. Working in this field led to the realization that many of the constraints facing marginal communities were not simply issues of natural resources or human capabilities, but the policy choices made in remote centers of power like Brussels and Washington, D.C. However, these policy choices do not go uncontested, but are resisted and reinterpreted by a variety of actors both at the national and local levels of governance.

These experiences helped shape the author's perspective on studying social and environmental problems in a number of ways. Firstly, it is assumed that public policy regimes can be improved in the interests of the wider public good and that that policy making does not function exclusively in the interests of capital, political, or bureaucratic elites. It is the investigator's belief that temporally specific opportunities do arise where existing policy regimes can be altered for the purpose of progress along multiple dimensions. Secondly, the investigator believes that social and economic progress is possible and that improvements in our knowledge and understanding of the world are critical in order for this progress to occur. Finally, the investigator has a continuing concern for the welfare and well being of rural residents who are ultimately responsible for the production of most of the world's food and the protection of its renewable natural resources. This concern is tied to a belief that the most marginal members of

this group (resource poor farmers, agricultural laborers, fisher-folk, rural women, nomadic groups etc) are normally excluded from decision making which affects the future of their livelihoods.

CHAPTER 6: THE GREEN BOX & NON TRADE CONCERNS IN THE WTO

This chapter explores how multifunctional agriculture was framed by the World Trade Organization (WTO), The EU Trade Delegation (EUTD), The US Trade Representative (USTR), the International Federation of Agricultural Producers (IFAP), The International Center for Trade and Sustainable Development (ICTSD), and Via Campesina, in the debates surrounding non-trade concerns and the Green Box policy category. The discussion presented in this chapter is based on the analysis of a wide range of documents produced by these different organizations including policy statements and proposals, press releases, position papers, speech transcripts, reports, policy background papers, newsletter articles, legal texts and agreements, and expert testimony to legislative bodies. The following table provides summary information on the documents reviewed.

Table 3: Number of documents and pages reviewed dealing with the Green Box

Organization	*Number of Documents*	*Number of Pages*
WTO	15	242
USTR	30	187
EUTD	62	159
IFAP	12	136
ICTSD	14	152
Via Campesina	17	25
Total	*150*	*901*

Overall, 150 different documents were reviewed coming to a total of 901 pages. From this material an attempt was made to ascertain how each organization framed the debate surrounding the multiple functions of agriculture and the Green Box supports.

Mainstream and Challenging Frames

What follows is a discussion of the different frame components identified including the multiple functions of agriculture said to be important, threats to these functions, policy actors affected by, or affecting these functions, and solutions to protect or enhance these functions and address the threats posed to them.

The World Trade Organization (WTO)

While the overall objective of the WTO is the establishment of a market oriented trading system for agriculture, the concept of multifunctional agriculture (expressed as non-trade concerns) was enshrined in the opening paragraph of the original Agreement on Agriculture

drafted at the end of Uruguay round of negotiations in 1995. It was expected that reform efforts would have "*regard to non-trade concerns, including food security and the need to protect the environment"* (WTO. 1995. Legal Text 1). It is notable that at this early stage non-trade concerns mentioned were limited to environmental protection and food security.

Environmental protection, while acknowledged as a non-trade concern worthy of special treatment within the agreement and mentioned repeatedly among the texts reviewed (40% of texts reviewed), was discussed differently in other forums. For example, in a speech given by Michael Moore, the former director of the WTO, environmental protection was thought to be best served by reducing incentives for increasing agricultural production (WTO.2001. Speech 2), whereas the legal texts reviewed indicated an interest in using government intervention to protect the environment. There was also little clarity on how food security (discussed in 66% of texts) should be treated, with some documents questioning whether or not domestic production was necessary in order "*to ensure food security"* (WTO.2004. Background Paper 1).

One of the alternatives suggested for achieving food security included "*importing (food), together with exporting in order to finance (food) imports"* (WTO.2004. Background Paper 1). This indicated a preference for the attainment of global food security, where national self sufficiency in food production would be downplayed in favor of the importation of food from breadbasket regions. However the importance of other routes to food security, including protecting vulnerable domestic markets was also acknowledged.

Rural development was repeatedly cited as a concern (in 60% of texts), even though it was not discussed in the Agreement on Agriculture. Discussion of this issue focused almost exclusively on the unique needs of developing countries, and it was thus thought to be more relevant to "special and differential treatment"[3] rather than non-trade concerns. Other unique developing country needs which required "special and differential treatment" included poverty alleviation, national economic development, as well as livelihood and food security. Grouping these concerns under the heading of special and differential treatment represented an attempt to separate the non-trade concerns of industrialized countries from the demands for special and differential treatment which are *"after all the preserve of the developing countries"* (WTO. 2000. Speech 1).

Overall it was believed that agriculture's contribution to society was ill served by the bureaucratic intervention that characterized agricultural policy in both the global north and south.

[3] Special and differential treatment means that developing countries are allowed to reduce tariffs and non tariff barriers over long periods of time, and at lower levels than is the case for developed countries.

> *"Agricultural exporting countries, both developing and developed, will be immeasurably better off when export prices are determined by fairer conditions of market competition, rather than indirectly by bureaucrats"* (WTO. 2001. Speech 2).

Such intervention was believed to result in environmentally damaging subsidy programs and the predatory trade relations that exist between developed and developing countries. However, there was also an understanding that functions such as food security suffer due to *"market failings"* (WTO.2004. Background Paper), necessitating publicly funded programs as correctives.

The main players in the WTO policy arena included national governments, trading blocks such as the EU, and groups of countries such as the Cairns Group, the Friends of Multifunctionality, and the Group of 20 developing countries. Farmers were also frequently mentioned (in 40% of the documents) as the beneficiaries of trade reform, but rarely as a group that are driving the agenda. There was virtually no consideration of the role of non-state actors such as consumers, environmental or social justice movements, alternative agriculture interests, or corporate interests. Instead, a major emphasis was placed on the importance of the WTO itself as the actor with ultimate responsibility for constructing a rule based multilateral trade regime. According to its former director (Michael Moore), the WTO is the only possible forum for dealing with concerns surrounding agricultural trade. This is so as regional or bilateral trade agreements:

> *"Very often they leave agriculture out as 'too hard'. And in any case they can't provide a consistent framework of enforceable rules and disciplines on subsidies or access across the board. Only the WTO system can do this."* (WTO. 2001. Speech 1).

This implies that a level of international coercion has to be in place for progress to be made in this policy arena. It also suggests that no other forum will sufficiently address this concern.

The main policy mechanisms for addressing the non-trade concerns of developed countries, which were discussed by the WTO, included both the green and Blue Box categories of support. The Green Box was articulated in the original agreement on agriculture as the ideal non-trade distorting mechanism for dealing with such concerns. Some of the most controversial programs that are covered by the Green Box include agri-environmental payments, regional assistance and other direct payments (WTO.1995. Legal Text 1).

Agri-environmental programs, often thought to represent the ideal Green Box policy, are actually subject to strict limitations

> *"Eligibility for such payments shall be determined as part of a clearly-defined government environmental or conservation program and....The amount of payment shall be limited to the extra costs or loss of income involved in complying"* (WTO 1995. Legal Text 1)

What this suggests is that governments cannot provide real incentives for the provision of environmental benefits, but can only compensate producers for the costs incurred or production forgone as a result of implementing such measures.

Direct payments to producers also proved controversial. In order to qualify for inclusion in the Green Box, policy programs must be government (as opposed to consumer) funded, must not involve price support, and no production should be required in order to benefit from such programs (WTO. 1995. Legal Text 1). It is permissible that these payments be based on income or production levels over a given base period of time. As such, these payments could be considered as transitional mechanisms, allowing for producers previously dependent on price intervention to make the transition into a market oriented system.

Another mechanism that was used to promote non-trade concerns was the Blue Box policy category. Policy programs in this category were characterized in the agreement on agriculture as *"production limiting programs"*. Such programs still offer payments based on the yield or livestock heads and are valued at *"85% or less of the base level of production"*. These programs were originally advocated as a means of reforming agricultural policy programs while simultaneously addressing non-trade concerns (WTO. 2005. Report 1).

Many of the objections to both the Green and Blue Box policy categories emanated from the developing country members of the WTO. A number of these countries wished to redefine the criteria for the Green Box in order to ensure this category is more sensitive to the concerns of developing countries. However, instead of opening up the Green Box to *"developing country friendly"* mechanisms for dealing with non-trade concerns the preference expressed within the Agreement on Agriculture, and statements by the WTO secretariat, was that developing country concerns be dealt with separately under the heading of *"special and differential treatment"*.

In practice this will mean that developing countries will be subject to different rules across the three pillars of negotiation – market access, export subsidies, and domestic support. The greatest interest would appear to be in the area of market access, over which developing countries can exert the most control. It is permissible that developing countries can have longer implementation periods and lower levels of reduction for tariffs. This is especially the case for certain products that are considered vital for the domestic food security needs (e.g. Rice in South East Asia and Maize in Southern Africa) of developing countries.

The United States Trade Representative (USTR)

Although no explicit mention was made of "multifunctional agriculture" by the USTR, a number of non-commodity functions of agriculture were identified in the texts reviewed for this

organization including economic growth, poverty reduction, rural development, environmental protection and food security. The two issues that were mentioned most frequently included agriculture's potential contribution to both national and global economic growth and its possible contribution to the fight against poverty at a global level. Economic growth was discussed in many of the documents reviewed (54%), while poverty was discussed in close to half (46% of texts) of the documents. The other non-commodity functions (environment, food security, and rural development) received sporadic mention. However, this does not mean that these issues were considered unimportant:

> *"While the United States is committed to working through the WTO to eliminate trade-distorting measures, the United States is likewise committed to and supports policies that address non-trade concerns, including food security, resource conservation, rural development, and environmental protection*" (USTD. 2000. Proposal 1)

The fact that this position was taken in the US comprehensive proposal put forward at the beginning of the negotiations suggests it was an important part of the negotiating platform. What follows is a detailed consideration of how these issues were addressed in the documents reviewed.

One of the most frequently discussed issues was agriculture's potential contribution to economic growth and development both at a national and global level. The centrality of agriculture to the US national economic interest can be seen from Ambassador Portman's paraphrasing of Benjemin Franklin:

> *"First was war, which he likened to "robbery." Second was commerce, which he said often involves "cheating." And third was agriculture, which he said, and I'll quote, was "continual miracle" and "the only honest way for a nation to grow rich." … if he were alive today… I think he would see very clearly … that America's future prosperity is very much linked to agriculture..."* (USTR.2006. Speech 7)

Such rhetoric invokes the yeoman imagery of the farmer so popular in earlier justifications for the special treatment of agriculture. However, in discussing the important role agriculture plays in domestic economic well-being, the USTR was more concerned with this potential being realized through developing export markets rather than growing domestic demand. It was noted that agriculture was one of the few sectors of the US economy that had a net export surplus which was $2 billion in 2005. The significance of agricultural exports to the national economy can be seen from the following quote:

> *"Today we export $62.4 billion a year in agriculture products, and for some crops exports exceed 50 percent of our total production…Trade should be a nonpartisan issue" (*USTR. 2006. Speech 7)

There may however be some tension between the emphasis placed on agriculture's potential contribution to the national economy and its importance for global economic growth. Among the documents reviewed, of all the mentions made of economic growth, over one third referred specifically to *"global economic growth"* (USTR. 2005. Op-Ed Piece 1). This may have been because the growth potential for American goods was contingent on developing countries using the sector as a driver of economic development. This suggests a mutuality of concern between the US and the Developing Countries negotiating their interests at the World Trade Organization. For the US this mutuality was expressed by stressing agriculture's potential contribution to global poverty reduction.

Poverty reduction was continuously invoked as a justification for the USTR's pro-liberalization agenda (53.3% of texts). The liberalization of agriculture was presented as being particularly important to the world's poorer countries where *"70 percent of the poor in developing countries live in rural areas and agriculture is the largest employer"* (USTR. 2006. Speech 7). In order to emphasize the potential contribution of a liberalized agriculture to poverty reduction the US Trade representatives made continuous reference to a World Bank study, which suggested that eliminating trade barriers could "*lift 300 to 500 million people out of poverty over the next 15 years"* (USTR. 2005. Testimony 2)"

This study was mentioned in one third of the documents reviewed for the USTR. However, the US representatives were not insensitive to the *"vulnerability of poor subsistence farmers"* regarding trade liberalization (USTR. 2004. Fact Sheet 1). Thus, it was accepted that developing countries would be considered for special and differential treatment with regards to tariff reductions. However, it wasn't only subsistence farmers in the third world that deserved special consideration. Some of the negotiating documents presented by the USTR at the beginning of agriculture negotiations showed a willingness to balance the liberalization agenda with the need to protect US farmers from risks associated with market conditions using "*farm safety-net and risk management tools to help their farmers and ranchers adjust to new market conditions" (*Proposal 1). Domestic rural development was also mentioned as a key concern that needed to be addressed. However, the USTR focused on rural development as a community issue rather than a farmer retention issue, and stressed the need for programs which invested in infrastructure and technical assistance (USTR. 2001. Proposal 1).

The environmental functions of agriculture received scant attention in the USTR material reviewed. Where the subject was discussed it was considered in the context of the environmental benefits of biotechnology (through reduced pesticide use). However, in their note on domestic reform (2000), the USTR did stress the importance of *"Using targeted policies, members should*

be able to help farmers and ranchers adopt environmentally-sound production practices that conserve and protect natural resources. (USTR. 2001. Proposal 1)"

While food security concerns appeared to receive little attention in most of the texts reviewed it was mentioned in the comprehensive negotiating proposal submitted at the start of the Doha round as a key challenge that negotiations had to address in the long term. However, the emphasis was not on domestic food security but rather on the need for the "*world's farmers and ranchers to feed an expanding population on a shrinking resource base"* (USTR. 2000. Proposal 2). Thus, the optimal approach to food security is the pursuit of global food security. This involves "*improving access to food and freeing the flow of trade in agricultural goods and products"* (USTR. 2000. Statement 1).

Agriculture's ability to make a positive contribution to the priority concerns of national and global economic growth, global food security, and poverty reduction was believed to be threatened primarily by government intervention. Significant attention was paid to this issue in the USTR's 2000 comprehensive negotiating proposal. This document was coming on the foot of the 1996 Farm Bill, where favorable market prices encouraged the removal of government restrictions in the US on what farmers produce, and how they sell their produce.

Another aspect of government intervention considered problematic was the use of what were termed *"unscientific regulatory restrictions"* (USTR. 2000. Proposal 2). Such restrictions were considered a barrier to technological innovation in agriculture which is crucial to the sector fulfilling its role in meeting *"growing food and fiber needs"*. This issue was raised as a direct attack on Europe's resistance to the importation of food fabricated from genetically modified organisms, and the intention of the US to use the WTO as a mechanism to combat the initial ban on such products. Such regulation was also considered contrary to sustainability concerns, as biotechnology was framed as an environmentally friendly alternative to using pesticides and herbicides. Overall, it was felt that government intervention in agriculture was a negative for the environment:

> *"Distorting subsidies frequently lead to environmentally destructive practices, threatening as well farmers' and ranchers' ability to develop efficiently and in a sustainable manner"* (USTR. 2000. Proposal 1)

This quote reinforces the US position that the best means of realizing the full potential of agriculture in terms of its non-commodity contribution to society is by removing government intervention which actually encouraged intensification and overproduction.

The range of actors mentioned as being important in ensuring that agriculture's potential is maximized include farmers and ranchers, consumers, processors and retailers, and civil society.

Farmers and ranchers were considered by far the most important stakeholder in the negotiations and were mentioned in 40% of the documents reviewed. It appears that the negotiators were acting more on their behalf than on the behalf of any other socio-economic group. A major objective of the negotiations appears to be one of getting the best deal possible for American farmers and ranchers:

> *"In making these commitments, however, we must be certain that we receive the benefit of the bargain by securing real gains and market opportunities for our farmers and ranchers into the future."* (USTR. 2006. Speech 4).

The trade liberalization agenda promoted by the USTR was believed to complement the interests of US farmers and ranchers who were believed to be the *"driving force"* behind this agenda.

It was assumed that consumers would automatically benefit from increased trade liberalization. Immediate benefits would include cheaper food, and a greater choice of products from around the world.

> *"Consumers will benefit from wider choice, access to new products with new benefits, and more competitive prices."* (USTR. 2000. Proposal 2)

However, the consumers referred to are not exclusively US consumers, but also consumers across the globe who will represent a growing market for US produce. Overall, it appears that consumers are mentioned as an afterthought by the USTR, and are often discussed as if their interests were perfectly in line with those of producers, processors, and retailers. Similar to consumers, corporate interests did not appear to be a central concern for negotiators. When the concerns of retailers and processors were mentioned, it was again considered as being joined to the concerns of farmers and ranchers. However, despite the lack of attention paid to the concerns of this group in the narratives produced by the USTR, support from corporate interests was invoked in a fact sheet produced following the Hong Kong Negotiations (USTR. 2005. Fact Sheet 4).

The concerns of civil society groups and NGOs were barely mentioned throughout the array of documents reviewed. The only time the voice of this group was invoked in any significant way was when the USTR was trying to legitimate the position it took at the Hong Kong Meeting, by issuing a fact sheet which included statements supporting the USTR position from groups such as World Vision, Africare, Catholic Relief Services, the Humane Society International etc… (USTR. 2005. Fact Sheet 5).

The policy agenda of the USTR spans the three pillars of agricultural trade negotiations – market access, export subsidies, and domestic supports. Among these options, Market Access was by far the most frequently mentioned being referenced in almost 70% of the documents reviewed. The apparent dominance of market access as a policy solution represents something of a

contradiction of the USTR's repeatedly stated goal of a balanced package which would address market access and export subsidies in tandem with trade distorting domestic support (USTR. 2000. Proposal 2). This was the position laid out in the comprehensive negotiating proposal put forward in 2000 at the start of the negations.

Similar to market access, the issue of export subsidies was believed to represent a potential bridge between the USTR and developing country negotiating positions, especially African countries (USTR. 2002. Op-Ed 3). The stated intention of the USTR was to eliminate all such supports within a five year period. It is interesting to note that domestic support issues received relatively little attention compared with the other two pillars. Of the domestic support measures that were addressed in the texts by far the most attention was given to the amber box supports which include trade distorting subsidies i.e. subsidies linked to the price of a product. From the outset the US proposal sought to *"release producers from restrictive government policies that prescribe what and how much to produce, freeing farmers to follow their judgment and the natural carrying capacity of their land"* (USTR. 2000. Proposal 2)

Because of this commitment, one would expect a significant amount of attention to be paid to the Green Box by the USTR in their statements to the media or in testimony to congress. Instead the Green Box receives only scant attention. In one statement, Ambassador Allen provided an interesting description of the Green Box, stating that it is not based on *"current price or current production….it is all based on history"*. This reflects the US position on the Green Box, which is not viewed as a mechanism for maximizing the multiple functions of agriculture, but rather as a means of guaranteeing continued payments to producers based on historic payments received. Throughout the documents reviewed, little explicit mention was made to using the Green Box for agri-environmental programs. This was despite the fact that it appeared to be a component of the initial proposal submitted by the USTR in 2000 which suggested that non-trade concerns such as environmental protection and natural resource management could be dealt with by well targeted government programs. Regarding the Blue Box, which contains policy instruments still linked to price, but requiring a decrease in production (e.g. through set aside, de-stocking requirements, milk quotas etc), the use of this mechanism by the EU was resisted at the outset by the USTR. However this initial resistance to the Blue Box seems to have been fudged overtime, where it is now viewed as a useful mechanism to transform trade distorting subsidies, so they eventually become compatible with the conditions of the Green Box.

The European Union Trade Delegation (EUTD)

A major component of the European Union's approach to agricultural trade negotiations has been its advocacy of the multifunctional role of agriculture, which comes under the heading of non-trade concerns in official documents submitted to the WTO. The importance of this concern is such that the EU has tried to push it as a fourth pillar of the negotiating process alongside market access, export subsidies, and domestic support. It was also a recurring theme in the documents produced by the EUTD which focused on the Green Box categories of support, being mentioned in almost one third (32%) of the documents reviewed. According to the EUTD's comprehensive negotiating proposal (2000), the crucial components of agriculture's multifunctional role include *"the protection of the environment and the sustained vitality of rural communities, food safety and other consumer concerns including animal welfare."* (EUTD. Proposal 1. 2000)

However, in other documents, mention was made of the role agriculture plays in poverty alleviation, protecting cultural diversity and heritage, food security, and social cohesion. These functions are thought to be integral to the agricultural production process rather than externalities which occur by chance. Because these functions are believed to be *"valued by society in their own right"* (EUTD 1999 - Info-paper 3) the EU claims they have to be maintained and protected using public policy to ensure broader societal support for the agricultural liberalization agenda. This is so, as European citizens are likely to resist liberalization if it is thought that the non-commodity services provided by the sector to society were to be undermined. Thus, according to the EU negotiators, the protection of these functions does not equal protectionism per se, but are rather a means of pursuing a socially acceptable version of liberalization.

As was stated above, the "multifunctional' argument was a critical piece of the EU negotiating platform. Indeed, it was believed to occupy such a central position that the Commission's chief agricultural negotiator (also the Agriculture Commissioner) stated:

> *"… we are not prepared to accept that the outcome of these negotiations jeopardizes or undermines our policy, which supports the multifunctional role of European agriculture"*. (EUTD 1999, Press Release 1)

This suggests that the multifunctional argument is a make or break issue for the EU, and that any agreement that fails to address these concerns will not be supported by the EUTD. This has been evident throughout the process, with the EU succeeding in getting non-trade concerns recognized in the 1995 agreement, while pushing for its inclusion at the Cancun meeting in 2003.

While a range of different amenities were mentioned as being joined with agricultural production, the types of functions the EUTD discuss in their proposals can be grouped under four

broad categories – the provision of food, environmental protection, rural development, and animal welfare. The manner in which food was produced and supplied to the general public was an important non-trade concern expressed by the EUTD. Of course an emphasis on food provision is reminiscent of the fundamental commodity function of agriculture, of which there is little dispute. However, the EUTD is less concerned with ensuring an optimal supply of commodities than they are in ensuring that such commodities are safe for consumption, and of a relatively high quality. Because these concerns relate more to the attributes rather than the quantity of food, they can be interpreted as non-trade concerns.

The issue of food quality was mentioned in 40% of the documents reviewed, and related largely to guaranteeing the protection of high quality products produced in Europe. However, it was also felt that this concern was equally applicable to regionally specific quality produce from countries such as India (Basmati rice) or the USA (Idaho potatoes). A related concern was that of food safety which was mentioned in close to 45% of the documents reviewed. This issue was thought to be particularly pertinent to trade negotiations on agriculture because:

> *"There is public concern that WTO could be used to force onto the markets products about whose Safety there are legitimate concerns* (EUTD 2000: Proposal 1)"

The inclusion of this issue may have been partially motivated by the ongoing controversy surrounding the moratorium and subsequent labeling requirements imposed by the EU for food-stuffs fabricated with genetically modified organisms. This suggests that concerns over food safety are primarily directed at US commodities produced using biotechnology. As with the concern for food quality and geographical indications, the negotiators also advocated food safety concerns as an issue not only relevant to the EU, but *"which all members should have an interest in seeing addressed"* and which is often already been covered by domestic legislation (EUTD 2001: Press release 5).

This represents an attempt to allay fears that the EU is advocating a new non-trade barrier for produce from developing countries, but rather seeking to enshrine in the global rules of trade, concerns which have already been legislated for domestically in many countries. It may also reflect the fact that the primary target for this concern is not the safety of food produced in underdeveloped countries, which make up the majority of WTO members, but rather the countries involved in the mass production of food such as the United States.

Issues relating to the positive and negative impact of agriculture on the environment were a key non-trade concern articulated in commission documents. Concerns related to environmental protection were addressed in 43% of the documents reviewed. While it was acknowledged that the polluter pays principles should be applied to producers who violate *"good agricultural*

practice" by engaging in activities such as pollution, it was also felt that *"…in cases where society demands more from the farmer than what can be considered good agricultural practice, for instance the preservation of certain landscape features or actions to enhance biodiversity, the farmer is providing a public good or service, which does not sufficiently come about without policy intervention.* (EUTD.1999. Info-paper 1)"

One specific concern thought to be particularly sensitive to agriculture was that of biodiversity. This issue was mentioned in several (13%) of the documents reviewed. Agriculture effects biodiversity, as it is the biggest land use in Europe and has co-evolved with nature over centuries to produce a range of semi-natural habitats (EUTD 1999. Info—paper 1). Thus, the very ecological stability of rural areas of Europe is thought to be dependent on both past and present agricultural activities. Other key environmental services delivered by agriculture include the preservation of culturally important and visually attractive landscapes as well as preventing disasters such as flooding and landslides *(*EUTD. 1999. Discussion Paper 2*).*

The non-commodity function of agriculture which received the most attention in the documents reviewed was the role it played in maintaining rural community vitality and viability. This function was mentioned in over half (51%) of the documents reviewed. Overall it was felt that agriculture needed to be supported as a means of preventing rural de-population due to the crucial role it plays in supporting the livelihoods of people living in rural areas. While it was acknowledged that the direct contribution of the sector to employment was relatively minor, it's importance in supporting a range of *"ancillary businesses, and environmental services" (*EUTD. 2000. Discussion Paper 2*)* was stressed. This speaks to the multiplier effect of agriculture in rural communities, where on-farm employment may be low, but the businesses established to service agriculture are significant employers. Also, while agriculture plays a decreasingly important socio-economic role in rural areas adjacent to major metropolises, in peripheral areas *"…the quality of provision of essential services, such as health care …, will depend on the level of economic activity and size of local population. These factors may be dependent on the relative prosperity of the farm sector*" (EUTD.2000. Discussion Paper 1). This suggests that agriculture plays a key role in preventing the overall depopulation of these areas, as it acts as the economic activity which anchors other sectors, and helps maintain the service infrastructure that protects the social fabric of many rural communities.

Another oft cited non-trade concern is that of animal welfare. This was mentioned in close to half the documents reviewed. Negotiators acknowledged that this was a complex issue *"…which is at the crossroads of economic, ethical, animal health, public health, food production*

and legal issues" (EUTD. 2000. Proposal 3). The material writers went to great lengths to point out that this emphasis did not represent an attempt to exclude livestock produce from countries which didn't have the same enforcement capacity as the EU. In fact the primary target for animal welfare concerns related to the use of intensive confinement operations, which were strictly regulated in Europe, though often not a feature of livestock production in underdeveloped countries (EUTD. 2000. Proposal 3).

In some cases multifunctional agriculture was used to include some of the concerns being expressed by developing countries. This may have been done to intentionally fudge the difference between "special and differential treatment" and "non-trade concerns" which the WTO went to such lengths to specify in the original agreement on agriculture. Similar to the argument made regarding the rural development role of agriculture in Europe, it was claimed that "*Any sudden and profound changes which impacted on the farm sector could have severe consequences in terms of social and political stability in economically developing countries*" (EUTD. 2000. Discussion Paper 1). Thus, an argument that appeared to be uniquely European is presented as having universal appeal, and to potentially be in the interests of countries that are said to have suffered under the protectionist regime once operated by the EU. Specific non-trade concerns thought to be particularly relevant to developing countries included poverty alleviation and food security. The role of agriculture in alleviating poverty was mentioned in 17% of the documents reviewed, while food security was mentioned in just over one third of the documents (34%).

The major factors which were thought to pose a threat to the social and environmental functions of agriculture include technological developments and economic pressures for optimization. The adoption of new technological developments referred to "*The application of new inputs, machinery, seed varieties, bloodlines, as well as improved efficiencies in processing, storage and handling facilities for commodity products"* (EUTD.2000. Discussion Paper 2). While, on their own, there is nothing wrong with these technologies, when combined with market pressures for the optimization of yield, farmers may be tempted to use them irresponsibly resulting in the destruction of landscape features and habitats (using machinery to enlarge field-size), as well as pollution events (from excessive use of chemical inputs) (EUTD.2000. Discussion Paper 2). The kind of agriculture that is said to result from the optimization-technology driven model of agriculture is thought to concentrate production in the hands of a few producers, lead to specialized monocultures, intensify the use of non-organic inputs, and marginalize traditional systems of production, which in turn may result in land abandonment (EUTD.2000. Discussion Paper 2).

Such a system of optimization is said to be the result of extreme policy environments. On one extreme is the policy approach advocated by the Cairns group of agricultural exporting nations who would like to see complete market liberalization. Market signals are likely to drive farmers towards the optimization-technology model, unless public policy intervenes to provide incentives for farmers to maintain the public goods component of their activity. However, the other extreme policy position is that which the Commission negotiators refer to as *"Stone age protectionism"*. Such approaches are tantamount to state sponsored optimization. Ironically the country which is subject to the highest level of criticism in this regard is the United States, mainly because

> *"The average EU farmer gets less than half what the average US farmer receives in trade-distorting subsidies"* (EUTD. 2005. Fact Sheet 2)

The EU claims it is promoting a system that strikes a balance between the extremes of all out liberalization, and *"stone age protectionism"*, by implementing policies that compensate farmers for losses incurred as a result of their efforts to protect landscapes, create habitats, or maintain jobs.

Key policy actors in the arena of non-trade concerns which were identified in the documents reviewed included farmers, consumers/citizens/taxpayers, and civil society groups. Naturally, considering farmers' pivotal role in producing the public goods said to characterize multifunctional agriculture, it was this group that received the most attention in the documents reviewed. Farmers were mentioned as a group responsible for producing non-commodity functions and as potential beneficiaries of the policy reforms being promoted by the negotiators at the WTO negotiations, in close to half (48%) of the documents reviewed. The centrality of farmer concerns to the negotiating position of the EU can be seen from the following quote:

> *"We cannot afford to let our commitments to the Doha Development Agenda, become an empty promise, either to the developing countries, or to the respective farmers we have come here to represent."* (EUTD. 2003. Speech 1)

This statement suggests that the negotiators consider farmers to be a core constituency in the negotiating process, implying that the negotiating team views their role as almost exclusively representing farmers. However, this is not the whole story, as a review of the documents produced by the commission on the subject of the Green Box and non-trade concerns suggests that consumers were also considered a key group being represented. Consumers were mentioned as key beneficiaries from the promotion of non-trade concerns during negotiations in close to 30% of the documents reviewed. According to one communication:

> *"The overall objective of creating an export oriented agricultural trade system should be balanced against the non-trade concerns considered so important by consumers.*

> *Progress cannot be made in liberalization without public support, and public support is impossible without addressing non-trade concerns."* (EUTD. 2003. Communication 1)

This justification for enshrining non-trade concerns and multifunctional agriculture in the WTO agreements was made repeatedly in the documents reviewed, and the term consumer, appeared to be used interchangeably with the public, society, taxpayers, and citizens.

Another set of actors presented as playing a key role in driving the EU position on non-trade concerns was "*civil society*". The argument that civil society was driving the EU emphasis on non-trade concerns may have resulted from the experience at Seattle, where civil society groups representing social justice, environmental, and labor interests effectively shut down the first ministerial meeting of the millennium round of WTO negotiations:

> *"I am convinced that agriculture cannot be treated as other sectors. In addition, we need to avoid a situation similar to that which led to the failure of the Seattle and Ministerial, which was in part due to the negative reaction of civil society, which is very worried about the effects of unchecked trade liberalization* (EUTD. 2001. Press Release 6).

Similar arguments on how civil society is helping to drive the multifunctional agriculture agenda was made in several (17%) of the documents reviewed for the purposes of this study. However, it is not clear from the review whether the EU was aligning itself with civil society groups following their expression of strength at Seattle as a means of further justifying their position, or whether the agenda was genuinely driven by the concerns expressed by these groups.

Within the documents reviewed a significant amount of attention was paid to the policy choices that had to be made by the EU in order to reform the Common Agricultural Policy in line with the WTO agenda. To this end all four pillars of the agricultural trade negotiations were discussed including Market Access, Export Subsidies and Domestic Support. Market access received a significant amount of attention as an issue, being mentioned in most of the documents reviewed (68%). Most of the discussion surrounding market access was focused not on gaining access to overseas markets for European produce, but rather allowing produce (especially from developing countries) market entry. The primary reform in this regard was tariff reduction. Export subsidies were another important item for reform. Ultimately the EU has claimed it will completely eliminate all export subsidies by an agreed date, as long as other countries agree to do the same (EUTD. 2005. Fact-sheet 8).

Thus, the EU is promising significant reform under the Market Access and Export Subsidy pillars. But what of the domestic support pillar, which is believed to be most relevant to non-trade concerns? According to the fact sheets produced by the commission during the 2005 Hong Kong ministerial meeting, the commission has already come a long way in transforming trade distorting domestic supports characteristic of the amber box into non-trade distorting

supports that can be classed as Green Box payments. It is now the case that 90% of EU farm support has been transformed from trade distorting price supports into non-trade distorting direct payments (EUTD. 2005. Fact-sheet 8). The Blue Box category of supports, which involve continued price support accompanied by limits on production, has proved to be a key instrument of reform in this regard. This category of support presented the opportunity to ease the transition from price supports that encouraged increased production (Amber Box), to price supports that mandated reduced production (Blue Box), to direct payments that insist on cross compliance with food safety, environmental quality, and animal welfare requirements (Green Box). However, there is some concern regarding the continuation of the Blue Box, which the EU wants to retain as an instrument of reform:

> "*On the other hand, disciplines in a new Blue Box should be introduced to prevent, in effect, highly trade-distorting measures being sheltered in the new Blue Box"* (EUTD. 2005. Info-pack 6)

This concern is directed at the United States, who was originally critical of the EU's use of the Blue Box. However, the US recently introduced counter-cyclical payments, which compensate farmers for the difference between the target price set for a given commodity and the actual price. The US has attempted to have these payments classed as Blue Box payments, much to the consternation of EU negotiators who claim they are trade distorting.

One category of support that the commission negotiators are adamant will not change is the Green Box. This category of support was mentioned in close to one third of the documents reviewed (34%). According to the EU a clear commitment is needed that *"non-trade distorting Green Box subsidies remain free of restrictions" (*EUTD. 2004. Press Release 10). The EU has invested considerable effort in reforming its domestic support policies in order to ensure that they are Green Box compatible. Measures taken include the introduction of single farm payments which were decoupled from production, where cutting:

> *"…the link between production and subsidies, and support given in this way does not distort trade. The move to single farm payments strengthens the position of the EU since …they will no longer be classified as Blue Box, but as Green Box"* (EUTD.2005.FAQ 1)

Another important feature of single farm payments is the insistence that farmers adhere to cross compliance requirements in order to be eligible. These requirements include compliance with good agricultural practice in environmental stewardship, animal welfare, and food safety. In addition to transforming the system of payments to producers the EU has also increased investment in what has been termed the second pillar of the CAP i.e. Rural Development.

> *"…from 2007 onwards, we will be able to shift an additional 1.2 billion Euros per year from market support to Rural Development. This will enable us to extend the scope of our rural development measures* (EUTD.2003.Speech 1).

This investment in rural development covers a whole array of supports, some of which, such as agri-environmental payments, seek to compensate farmers for going beyond good agricultural practice in the provision of environmental goods.

Aside from the three pillars, the EU has also attempted to introduce other policy mechanisms into the WTO negotiating process which address non trade concerns such as food safety, food quality and animal welfare. The use of regulations on labeling was recommended as a mechanism which would prove particularly effective in ensuring food quality and respect for geographical indications. In this regard, the EU is "*to ensure that producers and consumers can be protected from misleading labeling"* in which high quality food from particular regions are confused with imitation products (EUTD. 2000. Statement 2).

International Federation of Agricultural Producers

Among the documents reviewed, the IFAP material writers repeatedly specified the exceptional nature of agriculture as an activity (discussed in 50% of documents). In doing so, emphasis was placed on diverse "*climatic, topographical and ecological conditions"* (IFAP 2000: Statement 2) which help shape agricultural production. Emphasizing the unique conditions of agriculture represented an attempt by IFAP to separate agriculture from other economic sectors being dealt with as part of the WTO negotiations. According to IFAP the major difference between agriculture and other sectors was that "*animals and plants cannot be treated the same as industrial components"* as these are uniquely vulnerable to adverse climatic conditions, pest attacks, and disease. It also shows the interest in presenting the sector as vulnerable to factors beyond the control of the individual actors involved, and beyond the control of governments.

This vulnerability will invariably affect the incomes which farmers receive in any given year, and stabilizing incomes was one of the primary concerns mentioned in the documents reviewed (discussed in 66% of documents). Considering that the organization is constituted by farm lobby groups from across the globe, the fact that income instability in the farming sector was a major source of concern is no surprise. However, despite IFAP's focus on income stability throughout the texts reviewed, the main arguments invoked regarding the importance of agriculture as a sector almost mirrored those produced by the European Union. For a start similar language was used, with IFAP repeatedly invoking agriculture's multifunctional role (discussed in 42% documents).

> *"Agriculture has a multifunctional role in many countries, providing not only agricultural commodities and … but also environmental and conservation services"* (IFAP. 2002. Statement 3)

The use of this term may reflect the prevalence of relatively well resourced European Farmer organization among the membership of IFAP. However, it is acknowledged in a number of IFAP documents that this is a contentious term which is not universally accepted by members of the Federation. This suggests there is some internal conflict within IFAP between developed country organizations that support multifunctional agriculture and developing country organizations that may be more suspicious of the motives underpinning such an argument. In order to deal with this potential conflict the IFAP writers specified that such functions had to be jointly produced, non tradable, and contribute to public welfare (IFAP.2000. Statement 2).

However, despite these qualifications, the similarities with the EU multifunctional agriculture argument persist. For example, the functions which are emphasized almost mirror those advocated by the European Union i.e. food provision, environmental protection, and rural development. The food provision function specified includes both food security and food quality concerns. The food security concerns discussed (in 92% of documents) were global in nature:

> *"We are living in a world where the human population is growing strongly. Demand for food will double over the next 25 years. This challenge of achieving food for all must be a key part of our vision for agriculture in the next century"* (IFAP. 2000. Speech 2)

This emphasis on food security largely reflects the interests of the developing world. Nevertheless, repeated reference was also made to the importance of addressing consumer concerns regarding food safety (mentioned in 25% of documents), an issue central to European arguments surrounding food provision.

Natural resource and environmental protection concerns mentioned included addressing problems of deforestation, erosion, and the loss of genetic diversity. The EU style argument that farming can enhance the natural environment was also made. Services provided by farming that were thought to enhance the natural environment include hedges for wildlife, small wooded areas, and attractive landscapes. Concerns related to rural development focused on retaining rural population in order to ensure rural community vitality. Problems mentioned which were associated with this issue included safeguarding rural culture and heritage, and dealing with the problem of urbanization (IFAP. 2000. Speech 2).

Among the documents reviewed, a significant amount of attention was also paid to the non-trade concerns specific to developing countries:

> *"In many developing countries, the farm sector is not only the most populous sector in society, it is also crucial to economic performance, export earnings, social cohesion and local food security."* (IFAP. 2000. Speech 2).

The unique concerns of developing countries were discussed in most (66%) of the IFAP documents reviewed for this study. Indeed, prior to the initiation of the Doha Development Round IFAP produced a 45 page policy document which dealt exclusively with the issue of rural poverty and focused mainly on the challenges facing resource poor farmers in adjusting to greater market orientation and liberalization (IFAP. 1998. Report 1).

Price instability and concentration in the food sector were discussed as the major threats to both the stability of farmer's incomes and agriculture's multifunctional role. Both of these threats were linked directly with the liberalization process promoted by the WTO. In the case of price instability (discussed in 42% of documents), the removal of government price supports can expose farmers to price fluctuations on the global commodity markets, meaning *"under certain conditions, the world price can be below the costs of production of even the most competitive producers* (IFAP.2000.Statement 2).

It is not that IFAP are opposed to liberalization per se, but rather that they are concerned about the possibility of prices falling significantly below production costs, which will invariably affect the incomes and viability of many farmers across the globe. These price fluctuations are attributed in part to the uncompetitive nature of global commodity chains (discussed in 41% of documents) which are said to be dominated by a small number of agri-business interests:

> *"A few large firms now dominate both the distribution side and the input side of the agri-food chain. There is genuine concern in the farming community that world markets are not functioning competitively."* (IFAP. 2000. Speech)

This suggests that the market liberalization process is not playing out on a level playing field, and that farmers are uniquely disadvantaged vis-à-vis the powerful position of agribusiness corporations which control the food chain. The process of concentration was presented as not only affecting the upstream and downstream elements of the agri-food chain, but also the very nature of farming itself, leading to larger more intensive farming operations which are contrary to the multifunctional role of agriculture.

> *"Governments cannot say, for example, that they want to preserve small-scale agriculture, hedges for wildlife, an attractive landscape, small wooded areas, etc. without providing both the policy framework and the necessary funds to support it. Liberalized market forces will give exactly the opposite result - larger, more-intensive farms, employing less people."* (IFAP. 2000. Speech 2)

This suggests that IFAP associates agriculture's multifunctional role with small and medium scale agricultural operations. The above quote also makes a direct connection between liberalization, intensification and the deterioration of agriculture's multifunctional role.

IFAP identified a number of different policy actors who were believed to occupy varying positions of power within the Global Food Regime. Transnational organizations were believed to occupy an increasingly important role within the global food regime, displacing previously powerful actors such as the nation-state and domestic farm lobbies:

> *"In the past, it has been enough for farmers to work with national governments. Today, many of the important decisions affecting farmers are taken at the global level, in bodies such as the World Trade Organization (WTO), the OECD, or in the boardrooms of transnational companies".* (IFAP. 2000. Speech 2).

It is interesting to note that the WTO and OECD (discussed in 91% of documents), was mentioned alongside transnational companies (discussed in 25% of documents). This suggests that the IFAP writers associate transnational governance institutions with global corporate interests. It further indicates IFAP's belief that the national sphere of political action is becoming less and less relevant, and that lobbying efforts should be increasingly focused on institutions such as the WTO:

> *"Farmers' organizations in IFAP must be fully involved and consulted from the outset of any trade negotiations, not only on specific issues but on the overall focus and direction. For this … and IFAP must have direct access (i.e. not through governments) to the WTO so that the views of farmers can be made known."* (IFAP. 2002. Statement 2).

This does not mean that the focus should be exclusively on the WTO level of governance. Indeed there continue to be real policy issues which affect agricultural operations on a day to day basis at the national level of governance. Such issues include regulations relating to "*food safety and quality, animal welfare, and the environment"* (IFAP.2000. Speech 2). These regulations are attributed to the efforts of consumers and civil society groups.

The policy solutions advocated by IFAP as a means of protecting farmers' incomes as well as agriculture's multifunctional role from the threat posed by agricultural trade liberalization reflect the diverse constituency of the organization i.e. European, North American, and Developing Country organizations. Overall, among the documents reviewed, there was a good degree of advocacy of the Green Box as a group of policies that could be deployed to protect the incomes of farmer (and by default the multifunctional role of agriculture). The specific types of policies advocated included European style "*Direct payments to producers to meet non-trade concerns."* (discussed in 75% of documents) and US Style "*Measures to better manage economic risk"* such as "*crop insurance, and safety net programs"* (discussed in 42% of

documents) (IFAP.2000.Statement 2). Structural adjustment policies were also advocated as a tool to *"…assist farmers to adjust to change. Such assistance does not interfere in the direction of change determined by market forces, but facilitates adaptation to that change in a less brutal way than under market forces alone"* (IFAP.2002. Statement 3).

This quote is indicative of the overall policy approach adopted by IFAP whereby market forces are acknowledged as dominant, but the possibility of softening the effects of these forces on farm livelihoods by using the Green Box is recommended. Thus, IFAP is not seeking to directly challenge market liberalization, but rather ensure that farmers are protected from its worst excesses. IFAP's intention to use the Green Box as a mechanism for market oriented reform can be seen from the following quote:

> *"The 'Green Box' is essential to promote the reform of domestic support policies in the direction of market-oriented and non-trade-distorting measures"*. (IFAP.2000.Statement 2)

While the Green Box is IFAP's preferred mechanism for protecting farmers incomes, it was also acknowledged that both direct payments and income safety nets had to be provided in a transparent manner and that "*strict disciplines should be in place to prevent funding schemes which are trade-distorting"* (IFAP.2000.Statement 2). This stipulation is a reflection of the concerns of the developing country organizations who are IFAP members. One such stipulation was that any direct payments made to farmers should only compensate for income forgone as a result of efforts to protect agriculture's multiple functions.

Other concerns of developing countries which were reflected in the documents reviewed, related to promoting mechanisms other than the Green Box for addressing their unique non-trade concerns. Such mechanisms were thought necessary because "*publicly-funded government programs are either not available, or are inadequate, in many countries, particularly developing countries"* (IFAP.2000.Statement 2). It was thus recommended that developing countries should have the flexibility to pursue programs funded through levies on domestic and foreign sales, as long as they are subject to strict disciplines. A range of other innovative suggestions were put forward for dealing with predatory trade practices such as dumping surplus production which industrialized countries including supply management programs such as set aside and the use of land for non-food production e.g. bio-fuels, and conservation reserves. Also, food aid to developing countries is presented as a possible substitute for income safety nets.

International Centre for Trade & Sustainable Development

The ICTSD functions as a forum for a range of civil society actors to discuss issues pertaining to the impact of trade liberalization on sustainable development. As such the organization does not directly lobby the WTO on these issues, but acts as a forum which brings together a range of environmental and social movement organizations in order to discuss the implications of trade liberalization for sustainable development. This means that the kind of material reviewed for this chapter section include opinion pieces and discussion documents produced by groups affiliated with the ICTSD (such as the World Wildlife Fund and International Institute for Environment and Development), or as consultants to the group.

Throughout the documents reviewed a range of issues were identified as being dependent on agriculture. According to one writer, aside from the promotion of *"economic growth and income generation"*, agriculture, and agricultural trade has:

> *"….significant implications for other key public policy objectives such as food security, poverty reduction, rural development, environment and biodiversity protection, as well as food safety and health"* (ICTSD. 2004. Discussion Paper 6)

This text excerpt more or less echoes how the EU articulates the multifunctional role of agriculture. The exceptional nature of agricultural production is further addressed in another document where attention is paid to how agriculture is different from other economic sectors because it "*is the only productive sector that bases its activity on the growth and development of living organisms, hence, its particular characteristics"* (ICTSD. 2002. Discussion Paper 3).

However, beyond these two references the ICTSD writers articulate a vision of agriculture's multifunctional role that is distinct from the EU position. The difference is mostly in the functions emphasized by the ICTSD writers. These functions are largely reflective of the interests of the countries of the global south and include concerns surrounding food security, poverty reduction, and livelihood and income security. Among these concerns, the theme of livelihood and income security was discussed the most frequently (in 42% of texts). Livelihoods refer to the capabilities, assets (including material and social resources) and activities required for a means of living (Chambers and Conway 1992). Livelihoods security was believed to be a central function of agriculture because:

> *"Over half of the population in the developing world is rural and 2.5 billion people worldwide depend on agriculture for their livelihoods"* (ICTSD. 2004. Discussion Paper 7)

Thus, the very survival of millions of people across the globe is thought to depend on agricultural resources and activities.

A related concern was that of food security, which was mentioned in 28% of the documents reviewed. In discussing food security one writer focused on the issue of food access rather than the availability of food globally. This suggests that while there is enough food produced globally, the main issue that has to be addressed is how vulnerable populations get access to food (ICTSD. 2004. Discussion Paper 7). Accordingly, the problem was a *"famine of jobs and livelihoods"*, rather than a lack of food. However, another writer framed the issue differently, claiming that while food insecurity is currently a problem of *"distribution and income"*, this is likely to change in the future. It is expected that population and consumption will increase, greatly outstripping production capacity which will be inhibited due to declines in the quality of natural resources such as land and water (ICTSD.2004. Article 5).

The other two important functions mentioned (environmental-biodiversity protection and poverty reduction) were described as being contingent on livelihood and food security. The protection of the environment and biodiversity was mentioned in 28% of the documents reviewed. Agriculture was thought to play a particularly important role in the protection of genetic diversity which further underpins the future of the food supply (ICTSD. 2003. Article 4). However, pressures on livelihoods and food security (which will be discussed below) also serve to threaten agriculture's role in environmental conservation and the role it plays in protecting biodiversity.

As was mentioned above, issues of food security, livelihoods security, and environmental conservation were presented as being interrelated by a number of writers. (ICTSD – 2004 Article 5, 2002 Article 1, 2003 Article 4, 2002 Discussion Paper 5, 2002 Discussion Paper 3). On the one hand the degradation of natural resources undermines the livelihood and food security of populations in the future, while on the other hand pressures on food and livelihood security today are driving the degradation of those resources.

One writer in particular paid attention to international pressures which, by making small units of production unprofitable force poor rural dwellers

> *"…to abandon them in favor of colonizing areas of humid tropical forest, where they cut down trees in order to sow subsidence crops. This process of deforestation leads to a loss of biological diversity, a degradation of water springs and streams and soil erosion."* (ICTSD. 2003. Article 4)

The abandonment of this type of small scale agriculture does not just mean a loss of people from the rural areas, but a loss of genetic diversity from the agrifood system. This is so, because small scale producers who engage in "*diversified and heterogeneous production"* are thought to play a critical role in the "*preservation of genetic resources and maintenance of their diversity."* (ICTSD. 2003. Article 4).

But what are the international pressures undermining peasant agriculture in the Third World? One theme that was repeatedly mentioned was that of protectionist policies pursued by the governments of the North Atlantic (mentioned in 42% the documents reviewed). One article cited how agricultural prices in OECD countries were over thirty percent higher than world prices, largely due to the subsidies provided by Northern governments (ICTSD.2003. Article 2). According to one writer agriculture is:

> *"…the sector most affected by distortions in the global market, caused by heavy subsidies and the high protection enjoyed by farmers in developed countries. The enormous budgets for distortive domestic support …available in the countries of the Organization for Economic Cooperation and Development (OECD)… have given rise to many problems, especially of an environmental nature."* (ICTSD. 2003. Article 4)

These problems continue even though the WTO has been attempting to reduce subsidies. What has been observed by the ICTSD writers is that many trade-distorting subsidies have been shifted into Blue and Green Box categories which are not subject to reduction. Nonetheless, both the Blue and Green Box categories were believed to be inadequate and to serve as potential disguises for what continue to be trade distorting government intervention (ICTSD. 2002. Discussion Paper 1). Part of this problem arises from the lack of transparency surrounding what trade-distortion actually means and how it can be measured.

Ultimately these protectionist measures were believed to contribute to global commodity prices which in some cases were lower than the cost of production and unfair competition between subsidized large scale producers in the global North and unsubsidized small-scale agricultural production in the global South (ICTSD.2004. Article 7). These low prices lead to Northern governments effectively dumping surplus production on the global markets of the South, which directly undermines the viability of peasant production systems.

Concentration in the agri-food chain was another threat to peasant and small scale production systems that was repeatedly discussed in a number of documents (ICTSD – 2003. Discussion Paper 4, 2004. Article 5, 2004. Discussion Paper 7). This referred to the *"integration and consolidation"* of agribusiness interests who were progressively increasing their control over the food system to the point where *"Globally for any single commodity, only some 300-400 buyers make key purchasing decisions, not millions of consumers."* (ICTSD.2004. Article 5)

Interestingly, this process was linked to the neoliberal policy agenda where government was expected to play a much smaller role in the food system through reducing funding for agricultural programs and decentralizing decision making to local levels of governance ((ICTSD. 2003. Discussion Paper 4, ICTSD.2004. Article 5). At first glance this may appear to contradict the assertion that protectionism poses the greatest threat to peasant production systems. However,

on closer examination, what is revealed is that the ICTSD writers are opposed to the process of uneven liberalization which disproportionately benefits producers and agribusiness interests located in the North Atlantic (ICTSD. 2003. Discussion Paper 4)

A range of policy actors were identified as key players in pursuing the goal of protecting or enhancing agriculture's multifunctional role in the global food system. These included governments, food processors and retailers, consumers, civil society groups, producers, and international finance and trade institutions. Each of these actors was mentioned in at least three of the documents reviewed for this study. Among these, the actor which was cited the most frequently as being important was that of national governments (discussed in 43% of documents). Even with the emergence of the WTO and transnational agribusiness corporations, national governments were believed to play a key role, either individually, or as coalitions of groups within the WTO negotiating process. However, it was also clear from the texts reviewed that no single stakeholder group will make the international commodity system significantly better in terms of its social and environmental impact. According to one writer:

> *"Agricultural production, and commodity production in particular, does not take place in a vacuum. Governments, NGOs and society at large, including food manufacturers and retailers, all have an interest in the impacts of farming"*. (ICTSD.2004. Article 5).

Thus, it is a coalition of what are often presented as competing interests that will ultimately help re-embed agricultural production in social and environmental relationships. What is interesting to note about the above excerpt is the positioning of farming, and by extension farmers, as passive recipients of change rather than active participants in the negotiation of agriculture's future.

As was the case with policy actors, a variety of innovative, though not necessarily revolutionary, solutions were put forward as mechanisms for addressing the environmental and social concerns surrounding agriculture. These including overhauling and downsizing subsidies provided by Northern governments to their farmers, providing compensation to Southern Farmers, allowing flexibility for developing countries within the liberalization agenda, providing development assistance to help build developing country productive capacity, multilateral supply management, and crop specific measures.

One of the more popular solutions advocated was overhauling the subsidies northern governments provide to their domestic producers (discussed in 29% of documents). Part of this process will involve clarifying the use of the Green Box system of support in order to ensure it is not being used as to disguise trade distorting supports (ICTSD. 2002. Discussion Paper 1). A related solution advocated in three separate documents (ICTSD. 2003. Article 4, ICTSD, ICTSD.

2002. Discussion Paper 3, ICTSD. 2004. Discussion Paper 6) involved Northern countries contributing:

> *"Financial resources – equivalent to a certain percentage of the total support they grant their farmers – and these resources shall be used for direct support to those small farming communities in developing countries"* (ICTSD. 2003. Article 4).

Such a solution could involve establishing a multilateral compensatory mechanism such as the Global Environment Facility operated by the World Bank. It reflects the belief among the ICTSD writers that the inequities of the current system can be rectified through innovative policy mechanisms. Another solution advocated by a number of writers was that of *"real special and differential treatment for developing countries"*, which would build on existing provisions within the agreement on agriculture:

> *"…in order to ensure that, besides achieving better access to markets of industrialized countries, the developing countries are able to maintain the modest measures of support, defense and protection for their farmers which are already in place"*. (ICTSD. 2002. Discussion Paper 3)

Again, this does not suggest a complete rolling back of the liberalization process, but rather that the process is biased in favor of developing countries, as opposed to industrialized countries. Such special and differential treatment might be further bolstered through technical and financial assistance from the North that would further enable southern producers to compete fairly in the global marketplace.

Via Campesina

The primary concern of Via Campesina is the promotion of Food Sovereignty, as opposed to Food Security. Food Sovereignty was discussed as an issue of concern in almost all of the documents reviewed (88%). The difference between food sovereignty and food security is where food production takes place. Food Security can be achieved through importing food from abroad, or receiving food aid. However Food Sovereignty refers to *"the right of peoples to define their own agriculture and food policies, to protect and regulate domestic agricultural production and trade in order to achieve sustainable development objectives, to determine the extent to which they want to be self reliant, and to restrict the dumping of products in their markets."* (Via Campesina. 2001. Statement 1)

Key features of the concept include sustainable development and people's right to self reliance. However, in discussing food sovereignty it is not clear whether Via Campesina is primarily concerned about local, regional, or national food sovereignty. One thing that is clear is that food sovereignty depends on *"Small-scale family farm and peasant agriculture which are*

based on the sustainable use of local resources for the production of quality food for local consumption" (Via Campesina.2002. Position Paper 4). Such systems of production are said to be characterized by low input use, traditional knowledge of natural resources, and production for household or local consumption. Even though the multifunctional role of agriculture is not explicitly mentioned, repeated mention is made of the important role of peasant production systems beyond ensuring food sovereignty (discussed in 29% of documents). For example such systems are thought critical for the protection of the environment, household livelihoods, human dignity, and cultural diversity. They are also believed to play a critical role in promoting economic development.

The major threat to the peasant production systems believed to underpin food sovereignty, along with a range of other benefits, is the promotion of intensive export oriented agriculture through mechanisms such as the World Trade Organization's Agreement on Agriculture. This model of production was mentioned as a direct challenge in over one third (35%) of the documents reviewed for this study. Such systems of production are believed to have serious implications for the well being of rural societies and environments:

> *"These modes of production do not respect farming people, their cultures or their animals and cause extensive (in many cases, irreversible) damage to the environment. They frequently disrupt environments and livelihoods far beyond their immediate reach when surplus production is dumped elsewhere in the world."* (Via Campesina.2002. Position Paper 4).

This suggests that industrialized agricultural production has the inverse effect of peasant production. It also implies that the negative effects of industrial agriculture are both local and global in nature. Locally, peasant production systems are disrupted due to competition for resources with industrial systems, while surplus production affects global commodity price.

Ironically, even though the WTO is in the process of banning production incentives used in the global South, direct payments, classified as "Green Box" payments are still permissible and are heavily used by the US and EU, functioning to artificially lower the price of agricultural commodities below the cost of production, and encouraging surplus production. Surplus commodities are then dumped on the markets of developing countries as cheap imports which undermine local agricultural markets that are the lifeblood of peasant producers.

> *"This 'predatory pricing' means that farmers can no longer afford to produce food even for their own local markets. In many countries, especially in the South, peasant-based production is being replaced with a combination of cheap imports from other countries and industrial, export-orientated production based on cheap labor and lax enforcement of social and environmental standards."* (Via Campesina.2003.Statement 2)

Overall, dumping was considered one of the greatest threats to peasant production systems, being discussed in 70% of the documents reviewed. Ironically, it is the "Green Box" policies which the EU promotes using the multifunctional agriculture argument that encourage the destruction of peasant livelihoods.

This system of export oriented and industrial agriculture is actively promoted by the main global trade blocs (The EU and US) and key multilateral institutions (WTO, World Bank, and IMF) (Via Campesina. 1999. Position Paper 1). These institutions promote a neoliberal economic policy model which seeks to orient agricultural production towards export markets through removing import tariffs, as well as price and supply controls, while retaining "Green Box" payments which only the EU countries and US can afford.

Via Campesina identifies a range of actors with a stake in the agri-food system. These actors can be divided into three groups: victims, culprits, and saviors. Victims include small farmers, fisher folk, consumers, and small businesses. It is the task of Via Campesina and other civil society organizations to represent the interests of these groups, and make sure their voice is heard during international trade negotiations.

Culprits include corporate agribusiness and their enablers i.e. The EU and US, as well as multilateral organizations such as the World Trade Organization, the International Monetary Fund, and the World Bank. These institutions serve to confuse the real conflict in the food system by presenting it as an inter-governmental problem rather than a conflict between:

> *"…models of production ….. a conflict between a sustainable model of peasant production based on food sovereignty, demanded by the peasants in the North and South and an industrial model, oriented to export, pushed for by trans-nationals, the US, the EU, other industrialized countries, but also by certain elite and important forces within governments 'of the South"* (Via Campesina. 2003. Press Release 4).

Thus, while the multilateral institutions and northern governments functioned as corporate proxies in the debate surrounding agriculture's future, social movement organizations representing consumers, peasants, fisher folk and environmental interests need to advocate on behalf of the sustainable model of peasant production. Ideally, Via Campesina would like to see this conflict play out in UN institutions such as the Food and Agriculture Organization, the International Labor Organization, and the United Nations Congress for Trade and Development, rather than the WTO. These institutions were portrayed as potential saviors of the peasant system of production, and as more democratic forums for the resolution of global agricultural trade concerns.

Via Campesina recommended a number of solutions for protecting peasant production systems and overcoming the threats to those systems posed by the export model of production

promoted by the WTO. First of all, it was recommended that member countries *"reject the WTO agriculture policies imposed by the EU and the US and...Stop any further negotiations leading to further "liberalization" in the agricultural sector"* (Via Campesina. 2004. Press Release 6). This reflects an overall rejection of the WTO as a negotiating forum for deciding rules and regulations on agricultural trade. Indeed, ever since the abortive start of negotiations on agriculture in Seattle, Via Campesina has been calling on social movements and member countries to *"Take the WTO out of Agriculture"* (Via Campesina. 1999. Position Paper 1).

Overall it was argued that the establishment of an international trade system for agricultural production, regardless of the type of rules or disciplines put in place, contradicted the goal of food sovereignty. The WTO agenda for agriculture was considered particularly problematic for food sovereignty as it insisted on a Country's *"right to export"*, and even mandates that member countries import at least 5% of their food needs (Via Campesina. 2004. Press Release 6). Both the right to export, and the mandate to import were contested by Via Campesina. The kind of alternative policies recommended by Via Campesina include controlling imports, supply management through production controls, global supply management agreements, public assistance to develop and market peasant production, and organizing domestic markets to ensure peasant men and women have full access (Via Campesina. 2003. Press Release 4).

Thus, the kind of measures recommended include an array of instruments characteristic of the Fordist Food Regime, where national governments determined the shape of the agri-food system. Such measures could be broadly described as protectionist in nature, especially the import control, production control, and supply management measures. The public assistance measures would seem to be similar to the Green Box payments promoted by the EU and the US. However, Via Campesina envisaged these policies as primarily benefiting small producers (Via Campesina.2003.Statement)

Table 4: The Discursive Field of the Green Box

Frame Component	*WTO*	*USTR*	*EUTD*	*IFAP*	*ICTSD*	*Via Campesina*
Issue	Non-Trade Concerns, Environmental Protection, Food Security, Rural Development, Poverty Alleviation,	Economic Growth, Poverty Reduction, Rural Development, Environmental Protection and Food Security	Multifunctional Agriculture, The Provision of Quality Food, Environmental Protection, Rural Development, and Animal Welfare	Multifunctional, Agriculture, Income Stability, Food Provision, Environmental Protection, Rural Development	Economic Growth, Environmental Protection, Food Security, Poverty Reduction, Livelihood Security	Food Sovereignty, Environmental Protection, Livelihood Security, Human Dignity, Cultural Diversity
Threat	Government Intervention	Government Intervention, Environment Regulation	Technological Developments, Market Pressures, Extreme Policy Environments	Price Instability, Concentration in The Food Chain, Liberalization, Intensification	Protectionist Government Intervention, Low Global Commodity Prices, Concentration In The Agrifood Chain	Intensive Export Oriented Agriculture, Green Box Subsidies, Cheap Imports,
Actor	National Governments, Trade Blocks, Farmers, The WTO	Farmers and Ranchers, Consumers, Processors and Retailers, Civil Society	Farmers, Consumers, Civil Society Groups.	Transnational Organizations (WTO), Transnational Corporations, Farmers Organizations, Civil Society Groups.	Governments, Food Processors and Retailers, Consumers, Civil Society Groups, Producers, International Finance and Trade Institutions	Multilateral Institutions, Trade Blocs, Corporations, Small Farmers, Consumers, Small Businesses, Fisher folk, UN Institutions
Solution	Green Box (Environmental Payments, Regional Assistance, Direct Payments), Special and Differential Treatment	Market Access Improvement, Export Subsidy Removal, Targeted Conservation Programs, Blue Box Programs	Market Access, Export Subsidy Removal, Blue Box Programs, Single Farm Payments, Cross Compliance, Stewardship Programs, Geo-Indicators	Green Box - Direct Payments, Income Safety Nets, Structural Adjustment, Developing Country Flexibility Supply Management	Overhauling Subsidies, Flexibility For Developing Countries, Development Assistance,	Remove The WTO From Agriculture, Import Control, Production Control, Supply Management,

The Discursive Field of the Green Box

The above table serves to outline the discursive boundaries of the debate on the Green Box and non-trade concerns within the WTO. From this table it can be seen that for the most part the socio-political actors engaged in the debate focused on three key areas of concern – food security, environmental protection and material well being (defined as poverty, income security, livelihood security, rural development etc). The threats to these concerns were largely situated in the realm of political economy, ranging from destructive government intervention, to corporate concentration in the food chain.

Actors identified as being responsible for dealing with these threats included official actors like the WTO Secretariat, European Commission, and United States Government, as well as a plethora of non-state actors such as civil society groups, agribusiness corporations, consumers, and farmers themselves. The solutions which these actors were expected to pursue, either as decision makers, advocates, or collaborators were quite varied. Suggestions ranged from the maintenance of existing protectionist measures, complete liberalization, and a range of compromise proposals normally involving the use of the Green or Blue Box support categories or special and differential treatment for developing countries.

Ideological Orientations and Master-frames

The WTO discussions of agriculture's multifunctional role, labeled as non-trade concerns, appear to be primarily focused on restricting the applicability of the concept to a limited number of functions (environment and food security), and to specific geographic contexts (i.e. the developed world). One could view this strategy as an attempt to trump "the friends of multifunctionality" (The EU, Japan, South Korea, Switzerland and Norway) in their efforts to broaden their coalition to include countries from the developing world. The reticence of the WTO to fully embrace the concept of multifunctional agriculture as articulated by the EU reflects a "roll back the state" neoliberal orientation e.g. redefining domestic food security as global food security, identifying government intervention as the main source of environmental degradation, and promoting free trade as a mechanism for ensuring poverty alleviation in the third world. Thus, even though non-trade concerns are acknowledged, it appears that the "roll back the state" version of neoliberal ideology is dominant among the secretariat and leadership of the WTO.

Taken at face value it would appear that the USTR adopts a similar neoliberal perspective on agriculture's multifunctional role. Firstly, the multiple functions of agriculture which receive the most attention include issues like global economic development, global food security, and global poverty reduction. All of these benefits are global in-scope and dependent on the

liberalization of agricultural trade through the removal of tariff barriers to market access and the reduction of trade distorting domestic and export subsidies.

However contradictions in the texts reviewed suggest we cannot fully understand the USTR position as an expression of roll-back the state neoliberal doctrine. There were two messages being put forward regarding agriculture's potential – one emphasizing global food security and poverty reduction in the interests of the developing world, and the other focusing on agriculture's potential contribution to national economic development in the US. Emphasizing agriculture's role in national economic development is reminiscent of the neo-mercantilist arguments put forward by productive capital concerns. Furthermore, if the neoliberal agenda was paramount, one would expect more discussion of the concerns of consumers and corporate interests. However, most of the documents reviewed emphasized the concerns of farmers and ranchers and the need to maximize export opportunities for this group while simultaneously providing an income safety net using the Green Box mechanism.

Also, there is little discussion among the USTR texts of the Green Box, the definition of which was a major source of contention among developing countries. This may in part be due to the fact that the US views the Green Box in a very favorable light, not as a means of paying the non-commodity functions of agriculture, but as a means of providing continued income support to producers who have historically received price supports and export subsidies. Such payments allow US farmers to adjust to market conditions, and by reducing their exposure to risk, to possibly occupy a dominant position in the market relative to other producers across the globe. This means US producers have a *"safety net"*, which although consistent with the letter of WTO rules, actually serves the agenda of productive agriculture. Thus, overall, while it appears that the USTR adopts a roll back the state neoliberal perspective on multifunctional agriculture, evidence of neo-mercantilist based frames persist. The combination of the two places the US in a unique position of advocating uneven liberalization which will ultimately privilege domestic productive interests.

The advocacy of multifunctional agriculture by the EU appears to be based on a concern for public opinion in the EU, and the welfare of its consumers. It seems that the liberalization agenda can be sold to the European citizenry only if its environmental and social costs are minimized. Given the difficulty the EU is experiencing in terms of its legitimacy (e.g. the rejection of treaties and the EU constitution in national referenda); it is understandable why it would want to be sensitive to the non-economic concerns of its citizens. However, there still is a commitment to the liberalization agenda, and it appears that the Commission negotiators are

invoking multifunctional agriculture not to legitimize a protectionist position to the other countries involved in the WTO, but rather to legitimize the liberalization to a domestic audience.

In response to these concerns the EU is promoting a strategy that seeks to strike a balance between the policy extremes of complete liberalization, and complete protectionism through the judicious use of the Green Box. Through defending the Green Box the EU can simultaneously pursue a neoliberal agenda of increased market access for imports, and the removal of export subsidies, while continuing to subsidize its own producers through non-trade distorting direct payments, which, through cross compliance and agri-environmental programming, also address consumer and societal concerns vis a vis environmental quality, food quality and safety, and animal welfare.

The efforts of the EU to include the concerns of developing countries (e.g. Food Security and Poverty Reduction) represented an interest in creating a broader constituency for the concept of multifunctional agriculture. However, while it was believed the concept was equally valid to developing countries, the solutions recommended for these countries are distinct from those advocated for the countries of the EU. Thus, problems such as poverty are said to be best resolved through providing market access to developing countries - so they can export there way of poverty, while problems of subsistence farming and food security can be addressed by delaying liberalization, or specifying sensitive products for which tariffs could be maintained. Overall, the EU perspective on multifunctional agriculture is a hybrid of neoliberal and hygienic ideologies. This means that the EU does not seek to overhaul, or block the liberalization process, but rather use the mechanisms available under the WTO to assuage the concerns of its largely urban citizenry about the hygienic and environmental implications of the process.

IFAP articulates a position on multifunctionality that on the surface appears to be quite similar to that of the EUTD. Among the actors studied at the global level, it is the only one, other than the EUTD, that actually uses the term multifunctionality. However, some functions appear to be more important than others with a significant emphasis being placed on securing farmer incomes and livelihoods, as well as food security. Furthermore, the emphasis on price instability resulting from liberalization as a threat to these functions, and the continued belief in the role of national government suggests that IFAP has adopted a neo-mercantilist interpretation of how agriculture's multifunctional role can best be protected and enhanced. However, the kind of policy measures advocated (direct payments and income safety nets) indicate that IFAP does not wish to challenge market liberalization but merely protect its constituents from its worst excesses. Thus, the IFAP perspective could be said to represent a hybrid of neoliberal and neo-mercantilist ideology.

While chosen to represent environmental interests at the global level, the ICTSD largely articulated a vision of agriculture's multifunctional role which is reflective of developing country concerns e.g. food security, poverty reduction, and livelihood security. However, these functions were thought to underpin environmental sustainability, and to be primarily threatened by the protectionist policies advocated by the countries of the global north which they believe should be overhauled and downsized. Thus, it would appear that the ICTSD writers frame agriculture's multifunctional role in neoliberal terms. However, their recommendations such as including multiple actors in decisions making, and multilateral compensation mechanisms demonstrate a commitment to policy innovation and joined up governance reflective of eco-modernization ideology.

The only group that genuinely sought to challenge the liberalization process was Via Campesina who believed the WTO should be completely removed from agriculture, and an alternative global structure put in place. While the manner in which Via Campesina framed the issue of multifunctional agriculture is reminiscent of agro-ecological ideology, most of the solutions they recommended for protecting these functions were protectionist in nature. This may reflect a difficulty in scaling up agro-ecology from the local to the global level, meaning that the Via Campesina writers drew on the language of neo-mercantilism when discussing policy solutions.

The different ideological orientations of the various actors engaged in the discursive field of Green Box draw on each of the Master-frames discussed in the theory chapter. The roll back the state neoliberal approach of the WTO and USTR, along with the eco-modernization position of the ICTSD draws on the neoliberal master-frame, while the neo-mercantilist arguments put forward by IFAP and Via Campesina reflect the protectionist master-frame. Also, the hygienic arguments articulated by the European Union draw on the sustainability Master frame.

Hegemony and Resistance

It would appear that the roll-back the state neoliberal interpretation of agriculture's multifunctional role occupied a hegemonic position in the discursive field of the Green Box. This was the position articulated by the WTO, and which received at least some degree of support and validation from USTR, EUTD, IFAP, and ICTSD. It appears that all of these actors are articulating visions of agriculture's multifunctional role which do not challenge the neoliberal agenda that is a defining feature of the WTO. Rather, they envision an adjusted version of this agenda which takes into account the unique circumstances of their constituents. As a result many actors articulate hybrid positions combining roll-back the state neoliberal arguments with

hygienic, neo-mercantilist, and eco-modernization claims. However, fundamental to each of these positions is that the neoliberal vision of continuing trade liberalization, global food security, and global economic development, and a reduced role for national governments in the agri-food production is unchallenged.

While each participant in this discursive field displayed some degree of resistance to the hegemonic neoliberal interpretation of multifunctional agriculture, the only actor that directly contradicted this position was Via Campesina. The counter-hegemonic interpretation put forward by Via Campesina was largely reflective of neo-mercantilist ideology, and sought to directly challenge not only the neoliberal interpretation, but even adjusted or negotiated paths to liberalization which are put forward by actors such as the EUTD. The oppositional position adopted by Via Campesina largely reflects the concerns of its constituents. Small farmers and peasant producers across the world have been shut out from the debate on agricultural policy, being ignored by their governments and marginalized within the mainstream farmer unions and cooperatives. Because these groups do not have a seat at the negotiating table, and lack the resources necessary for the sophisticated lobbying efforts of groups such as IFAP, they are obliged to engage in the politics of protest and disruption. This means that Via Campesina may be more interested in having their arguments resonate with some of the more radical constituents of the anti-globalization movement, than with representatives of governments or trade blocs who have a seat at the negotiating table.

On the other hand, groups such as the ICTSD, and more especially IFAP, represent more mainstream constituencies of commercial farmers and environmentally conscious consumers. Both these social groups possess a good deal of political clout at the domestic level of governance. It is therefore the case than the organizations which make up the ICTSD and IFAP may well be engaged in discussions at the domestic or trade bloc level about the liberalization process. However, through being engaged in the debate, they are effectively recognizing the legitimacy of the WTO objective, which is the liberalization of agriculture worldwide. As such, they can only seek to modify the effects of this process, rather than completely reverse the process itself.

CHAPTER 7: THE EU's RURAL DEVELOPMENT REGULATION

This chapter explores how agriculture's multifunctional role was framed in the debate surrounding the reform of the Common Agricultural Policy, especially the introduction of the Rural Development Regulation, between 1999 and 2005. The analysis conducted suggests that hygienic and eco-modernization interpretations dominate the public discourse on multifunctional agriculture in the EU.

Before proceeding to explore the debate on this subject, it is important to consider some of the characteristics of agriculture within the European Union. These characteristics include the sector's significance, its structure, the relative importance of different commodities, environmental indicators, and the importance of different policy programs. Beginning with the sector's significance, Table 5 provides information on agriculture's importance as a land use, a source of income, and as a source of employment among the EU's 25 member states:

Table 5: Economic and Land Use Significance of Agriculture in the European Union*

	Number	% of total	
Agricultural Area (Ha)	163,479,000	41%	Of the land area
Numbers Employed in Agriculture* (1000 persons)	10,082,000	5.2%	Of the workforce
Agriculture's contribution to GDP (million Euro)	157,560	1.6%	Of total GDP

*CEC 2006

From these data it can be seen that even though agriculture represents a relatively small portion of the collective GDP for the EU's member state's (1.6%), its contribution to employment is much greater (5.2%). More importantly, it accounts for over 40% of the Union's territory, making it the single most important land use among the 25 member states.

Table 6 provides summary information on structural characteristics of agriculture in the 25 member states:

Table 6: Structural Characteristics of Agriculture in the European Union*

Structural Feature	*Number*	*Percent*
Numbers of Holdings	9,870,590	
Holdings with Area under 5ha	6110070	61.9%
Holdings with Area between 5 and less than 20ha	2268100	23.0%
Holdings with Area between 20 and less than 50ha	823105	8.3%
Holdings with 50 or more hectares	669270	6.8%
Full time Farm Labor Force	4217950	21%
Part time Farm Labor Force	15952070	79%
Total Labor Force	20170020	

*Eurostat 2006

The above data suggest that most of the farms in the European Union are under five hectares in size. Furthermore, a little over one in five of people working on farms in the European

Union are employed full time. This suggests that many of the farms in the European Union are small scale and part time operations. Another key feature of agriculture in the EU is the relative importance of different commodities produced. Information on commodities produced among the 25 member states is summarized in the following table.

Table 7: The Value of Agricultural Commodities Produced in the European Union*

Commodity	*Euro Value*	*Percent*
Fresh Fruit and Vegetables	46,288,761,447	15.15%
Milk	41,840,100,829	13.69%
Cereal	37,669,358,200	12.33%
Cattle	29,260,239,885	9.57%
Pigs	26,094,956,239	8.54%
Eggs and Poultry	19,169,888,747	6.27%
Wine & must	13,955,200,400	4.57%
Potatoes	7,478,591,084	2.45%
Sheep & goats	6,890,470,355	2.25%
Olive oil	5,631,538,200	1.84%
Oilseeds	5,414,203,600	1.77%
Sugar beet	5,078,556,800	1.66%
Textile fibers	1,264,747,300	0.41%
Tobacco	1,224,380,900	0.40%
Seeds	1,017,055,500	0.33%
Rice	822,439,600	0.27%
Hops	151,472,500	0.05%
Ag Services	10,708,966,700	3.50%
Other	45639645241	14.93%
Total	*305,600,573,527*	*100.00%*

*CEC 2006

From the above table it can be seen that fresh fruit and vegetable's represent the most important commodity category in terms of overall value (15.1% of the total value of commodities produced). Dairy, Cereal production, Beef Cattle production could also be considered as important commodities.

There has been significant debate among the EU member states regarding agriculture's relationship to the environment, and this debate had a significant influence on the elaboration of the rural development regulation which is the focus of this chapter. Table 8 provides summary information on a number of environmental indicators for agriculture in the EU.

Table 8: Environmental Indicators for the 15 Member States (pre 2003 accession)

Environmental Indicator	*…….Years Covered……..*					
	1997	*1998*	*1999*	*2000*	*2001*	*2002*
Tonnes of Pesticide Sold	348958	355537	352940	332806	327280	NA
Tonnes of Chemical Fertilizer Consumed	17505516	17463452	17259551	15663110	15610276	NA
Total Agricultural Area Under Organic		1.7	2.5	2.9	3.4	3.7

*Eurostat 2006

The above data show a steady decline in the quantity of pesticide sold to producers between 1998 and 2001, and in the amount of chemical fertilizer consumed between 1997 and 2001 in the 15 countries that made up the European Union during that time. This was paralleled by an ever increasing expansion of the total agricultural area under organic production. This suggests that the use of potential pollutants in agriculture is steadily declining, while sustainable agricultural practices are increasing in importance.

In terms of CAP expenditure, table 9 breaks down the allocation of the CAP budget by category of support between 2003 and 2005.

Table 9: Common Agricultural Expenditure 2002 – 2005 by Budget Category*

	2002 Execution €m	**2003 Execution €m**	**2004 Budget €m**	**2005 Estimated €m**
Total Expenditure on Agriculture and rural development	*46,534.80*	*47,903.50*	*50,459.50*	*54,503.90*
Administrative expenditure of policy area Agriculture	112.40	123.20	143.30	153.60
Plant products Payments	28,437.30	26,325.70	27,537.40	29,918.90
Animal products Payment	10,361.50	13,461.10	12,717.50	13,677.00
Rural development Regulation Payments	7,281.40	7,767.80	10,093.20	10,771.50
Special Accession Program for Agriculture and Rural Development	554.50	560.00	225.20	248.80
External relations	4.90	4.70	5.20	5.90
Audit of agricultural expenditure	-259.30	-394.70	-361.30	-374.10
Policy strategy and coordination of policy area Agriculture	40.90	54.20	99.00	102.30
Expenditure on administrative management of programmes	1.20	1.50	-	-

*Source: Agricultural Situation in the EU 2004 (Agricultural DG website 2004)

The above table shows that while direct payments for animal and plant production continue to represent the largest categories of expenditure throughout the time period, there has been a steady increase in expenditure on the measures covered by the rural development regulation. These measures include agri-environmental programs.

Overall, it can be said that agriculture represents a key employment sector and one of the most important land uses in the EU. It is a sector which is however characterized by relatively small scale units and a mostly part time labor force. In terms of commodities it would appear that fruit, vegetables, cereal, dairy and cattle products dominate. It also appears to be the case that the use of potential pollutants in the sector has been decreasing over the last number of years. This may be related to the growing importance of organic farming and the increased levels of expenditure under the Rural Development Regulation which cover agri-environmental programs.

Having provided some facts about agriculture in the European Union, let us now turn our attention to how agriculture's multifunctional role was interpreted by a range of different policy actors in the debate surrounding the introduction and implementation of the EU Rural

Development regulation between 1999 and 2005. The actors involved in shaping this debate whose contributions are the focus of this chapter include the Commission's Directorate General for Agriculture (ECDGAG - as the official mainstream actor), the Committee of Professional Agricultural Associations (IFA - representing the commercial farm lobby), the European Farmer's Co-ordination (EFC - representing alternative farm interests), and the World Wildlife Fund's European Policy Office (WWF-EPO - representing the environmental movement). The following table provides summary information on the texts produced by each of these organizations which were reviewed for the purpose of this study:

Table 10: Number of Documents reviewed relating to the Rural Development Regulation

Organization	*Documents*	*Pages*
ECDGAG	68	420
EFC	29	87
COPA	33	131
WWF –EPO	20	216
Total	150	854

From the above table it can be seen that 150 documents on the subject of the rural development regulation were reviewed, coming to a total of 854 pages. These included newsletter articles, press releases, discussion papers, policy statements, position papers, policy submissions, policy background papers, reports, communications, speech transcripts, memos, and regulations.

Mainstream and Challenging Frame

For each socio-political actor, the manner in which they framed agriculture's multifunctional role in their contributions to the debate on the rural development regulation is discussed. This involves describing the key issues and concerns addressed in these contributions, the threats to these issues, actors responsible for dealing with these threats, and potential solutions.

European Commission Directorate General for Agriculture (ECDGAG)

Agriculture's multifunctional role in society was explicitly mentioned in over one third (34%) of the documents reviewed. Because agriculture covers close to half of the EU's territory it was presented as playing a key role in providing a variety of social and environmental benefits (ECDGAG. 2001. Communication 2). Functions emphasized ranged from the:

> *"…production of food and renewable raw materials to the stewardship of rural landscapes and the protection of the environment. Agriculture's contribution to the viability of rural areas is indisputable" (*ECDGAG. 1998. Strategy 1*).*

Thus agriculture plays a key role in food production, environmental protection, and the socio-economic vitality of rural areas. Among this group of functions, environmental protection was discussed in close to one third (31%) of the documents reviewed. Throughout these documents it was acknowledged that agriculture can "*have beneficial as well as damaging effects on the environment*". Environmental concerns raised included water quality, land use and soil conservation, climate change and air-quality, landscape and biodiversity, animal welfare, and afforestation (ECDGAG. 1998. Strategy, ECDGAG. 1999. Communication 1). Among these issues, a significant amount of attention was paid to biodiversity (discussed in 13% of documents), which became the subject of a special action plan (ECDGAG. 2001. Communication 2). The beneficial biodiversity effects of agriculture were largely articulated in terms of the protection of habitats:

> *"…the evolution of agricultural activity in certain cases enriches biodiversity. It creates and maintains special ecosystems and habitats, such as the mosaic of cultivated fields and field boundaries demarcated by hedges and ditches providing refuge and sources of food for certain flora and fauna and micro-fauna. Agriculture has molded a semi-natural environment where endemic and threatened species have often survived."* (ECDGAG.2001. Communication 2).

Agriculture was also believed to play a key role in the preservation of genetic and plant diversity. Another key environmental theme that was discussed repeatedly (11% of documents) was that of animal welfare. This official concern for animal welfare is mandated under the 1997 Treaty of Amsterdam which recognized animals as sentient beings.

It is important to note however that the emphasis placed on agriculture's environmental role does not suggest an abandonment of production oriented agriculture, but rather the evolution of the sector so that it serves both ecological and economic needs. The economic role of agriculture was discussed in close to one quarter (24%) of the documents reviewed. Most of the discussion surrounding agriculture's economic impact focused on the need for the sector to modernize and adjust to global market conditions. It was also acknowledged that environmental and landscape amenities in rural areas could play a key role in attracting modern information intensive employers, and that agriculture was "*largely responsible for safeguarding these qualities*" (ECDGAG. 2004. Speech Transcript 4). A concern related to agriculture's importance for economic development was the role it played in maintaining rural population. This issue, along with related social concerns such as combating poverty, and protecting semi-subsistence farm households in Eastern Europe was discussed in a number of different documents (13%).

The more traditional role of agriculture as a source of food also received a good deal of attention, being discussed in multiple documents (15%). However, concerns over food provision were focused more on issues of quality and safety, rather than quantity:

> *'…the future of Europe's agriculture does not lie on bulk production – which mostly cannot compete on world markets – but on the quality and prestige of its processed products, which add value to our agricultural commodities'* (ECDGAG. 2004. Speech Transcript 27).

Instead a major emphasis was placed on reassuring consumers about the safety of food and in promoting quality regional products "*which form part of Europe's heritage, and with their own specific characteristics linked to the environment and know-how"* (ECDGAG. 2004. Speech Transcript 27).

Most of these functions were believed to be interrelated as part of a holistic sustainable European Model of Agriculture. For example protecting biodiversity was partly dependent on the provision of quality regional foods which were based on a diversified plant and genetic animal base. Furthermore, agriculture's economic role helped maintain rural population, and in doing so prevented land abandonment and the ensuing encroachment of scrub.

The two immediate threats to the European model of agriculture were the related processes of intensification and marginalization. Intensification was discussed in a number of documents (7%) and involves the over-exploitation of productive agricultural land through the intensive application of chemical and mechanical inputs, specialization in monocultures, and the enlargement of units of production (ECDGAG.2001. Communication 2). Marginalization (discussed in 4% of documents), involves the abandonment not only of marginal land, but also the less profitable systems of agricultural production such as extensive grazing or production on small holdings. Such production systems may however have a relatively high ecological or social value.

The main factors thought to underpin these processes include the original subsidy driven policies of the CAP (discussed in 15% of documents), along with the more contemporary processes of economic liberalization (13%) and globalization (10%). Accordingly, the protectionist subsidy regime promoted under the CAP *"…regime that encourages farmers to use the most intensive methods possible is one that risks losing the support of European taxpayers."*. (ECDGAG. 2002. Press Release 7)". Concern was expressed that while the EU was in the process of moving away from this state led intensification model, this was being made difficult by the position adopted by the United States which continues to protect its farm sector.

While incentives for intensification were being removed, concern was expressed that the related processes of liberalization and globalization might lead to the marginalization of farming

systems with high social and environmental value. While the EU was largely supportive of the liberalization agenda promoted within the WTO, it was felt that they could not "*ignore the important role environment or food safety plays in agriculture*" (ECDGAG. 2001. Press Release 2). The complete liberalization of agriculture would tend to favor those large intensive operations that already had the greatest amount of market share, and further marginalize less profitable operations.

Further concern was expressed about the overall a *"global orientation of our economies and of the agri-food sector in particular"* said to be characterized by an increase in the transnational transport of commodities, capital mobility, and the growth of multinational enterprise (ECDGAG. 2000. Speech Transcript 2). It was felt that this process was biased in favor of the United States which had a natural comparative advantage, and that the public were concerned about the adverse social, health, environmental and cultural impacts of increases in food imports that accompany trade liberalization and the global integration of the food system. Other important factors that were said to accelerate marginalization included the potential damage wrought by food scares (discussed in 7% of documents), and disease events such as Bovine Spongiform Encephalopathy (BSE) and Foot and Mouth Disease (discussed in 9% of documents).

A recurring theme among the documents reviewed was the need to include non-traditional actors such as civil society organizations (6% of documents), consumers (10%), citizens (15%), and researchers in agrifood policy decision making. This does not suggest the complete marginalization of more traditional *"agricultural stakeholders"*, such as the farm lobby and cooperatives but rather points to the need to broaden involvement in the food system (ECDGAG. 2001. Speech Transcript 9). It also does not mean that the governance of the agri-food system will be handed over to these actors. Ultimately, the European Commission and its constituent member states will be the primary decision makers in the policy options pursued.

While support for the liberalization agenda inherent in the WTO negotiating process was expressed in a number of different documents produced by the Directorate General for Agriculture (7%), this was often balanced with an expression of the need to maintain some sovereignty over the domestic policy mechanisms in order to address non-trade concerns:

> *"…every democratic society has the right to choose its own agricultural policy. What is important is to limit its trade-distorting effects. The EU's negotiation position has to be seen in this context."* (ECDGAG. 2001. Press Release 2).

The kind of policies the Commission promoted in the documents reviewed were chosen primarily to be non-trade distorting. These included direct income support (4% of documents), cross compliance requirements (15%), investment to assist adjustment to market conditions (9%), a

range of rural development supports to help diversify production and improve the quality of rural life (4%), and paying farmers for providing public goods (15%). Thus, the measures which received the most attention were those that focused on cross compliance requirements for direct payments and paying farmers for public goods provision.

The dual emphasis on these measures reflects a general operating principle underpinning agri-environmental policy whereby:

> *"…farmers should observe a minimum level of environmental practice as part-and-parcel of the support regimes, but that any additional environmental service, beyond the basic level of good agricultural practice and respecting environmental law, should be paid for by society through the agri-environment programmes." (CEC.2001. Communication 2)*

Thus, the polluter pays principle is applied to violations of what could be termed *"Usual good farming practice"*. However, where the farmer goes beyond such practices to provide cultural or environmental goods for which no market exists, then they should receive financial support (ECDGAG. 1999. Regulation 1). Because of the agro-ecological diversity of the European Union, the *"subsidiarity principle*" is applied. This means that the member states of the EU are given discretion about which public goods they will finance and how they will go about financing them. The broad categories of support mentioned in the regulation included agricultural practices that protect and improve the environment and natural resources (e.g. soil quality and genetic diversity), extensification of farming, lowland pasture systems, high nature-value farming environments, maintaining historical features on farmland, and using environmental planning in farming practice (ECDGAG. 1999. Regulation 1).

Committee of Professional Agricultural Associations (COPA)

One theme that received a good deal of attention among the texts reviewed for COPA was that of multifunctional agriculture (discussed in 21% of documents). The definition of multifunctional agriculture offered by COPA is focused on the following features:

> *"…the highest food safety, environmental and animal welfare standards in the world, maintain the beauty of the countryside and contribute to the vitality of rural areas"* (COPA. 2001. Discussion Paper 2)

This list of functions is almost identical to that offered by the Commission's Directorate General for Agriculture, and the EU Trade Delegation to the World Trade Organization. COPA also appears to prioritize similar functions to the ECDGAG, with a good deal of attention within the texts reviewed focusing on agriculture's environmental (15% of documents), and economic (15% of documents) functions. COPA argued strongly for *"the protection of human-scale sustainable*

agriculture in Europe" (COPA. 2005. Press Release 18). The environmental functions of agriculture considered important included carbon sequestration, the conservation of natural resources such as soil and water, and the potential for alternative energy production, all of which help maintain agriculture's productivity and profitability. The economic function of agriculture stressed was its continuing role in providing employment:

> *"Agriculture and the ancillary industry especially the farmers' cooperatives, provides jobs for about 14 million persons in the EU 15, and is thus to be counted among the most important economic sectors of the European Union"* (COPA. 2005. Press Release 4).

It is important to note, that they are referring to employment beyond primary production agriculture, and focusing on the overall agri-food sector, which includes ancillary business such as food processing and retailing.

Another important function of agriculture discussed in the COPA texts was that of food provision. Within this broad category, the theme of food security was repeatedly discussed (12% of documents). While traditionally, food security has been framed as a national level concern, in one text COPA focused on the role of European agriculture in ensuring global food security:

> *"…we have an important role to play in contributing to world supplies … and we are competitive. And net cereal imports by developing countries are expected to triple over the next 30 years"* (COPA.2004. Statement 6).

This represents a significant difference from the Commission's position, which places a greater emphasis on food quality concerns. Issues of food quality received relatively scant attention in the texts reviewed, being discussed in just one document.

Because these functions were presented as being inherent in all forms of agricultural production, and as not being specific to any given system, factors which threatened European agriculture in its entirety were also framed as threats to the sector's multifunctional role. Such threats included the trade policy of the Commission, liberalization, US Agricultural Policy, the enlargement process, and globalization. Possibly the two most important factors which were repeatedly discussed included the Commission's own trade policy (21% of documents), and the process of trade liberalization (21% of documents).

The trade liberalization process that is being encouraged under the WTO Doha Development Round is thought to be uniquely biased against the European model of agriculture. This is so, as European farmers have to operate in a high cost environment in order to:

> *"…meet society's demands - for the highest possible standards of production methods, food safety and their growing expectations for the environment, rural life and animal welfare"* (COPA. 2003. Discussion 5).

However, the ability of farmers to continue to meet these expectations and to stay in business will be severely compromised if they are obliged to "*cut their prices and slash costs in order to be competitive with the world's major exporters with very different standards?"* (COPA. 2003. Discussion 5). Thus, European farmers have to face high regulatory costs in the domestic environment, while competing with imports from countries which do not have to incur these costs.

Ironically, the European Commission is complicit in both the liberalization process and in the increasing regulatory demands being made on the sector. COPA has argued against the negotiating position adopted by the EU Trade Delegation at the Hong Kong Meeting in October 2005. Accordingly, the trade delegation promises regarding tariff reduction and the removal of export subsidies went beyond their mandate, and ultimately would facilitate flooding the European market with cheap food from *"large-scale and corporate farming in the US and Brazil"* (COPA. 2005. Press Release 22).

The threat posed by US agriculture was believed to be particularly problematic, largely because the US administration has increased production incentives "*…to its farmers by a massive seven-fold over the past four years with the specific aim of increasing its market share and continues to do so"*. (COPA. 2001. Discussion Paper 2)**.** Thus, EU farmers are doubly challenged by the US position, where producers who do not face the same regulatory costs are actually given production incentives. Discontent with liberalization, EU trade policy, and US agricultural policy reflects an overall distrust of globalization. This is evident from one of the policy statements issued by the organization:

> *"…despite this new phenomenon – globalization – we are still a long long way from having a global society: Society's concerns and expectations within Europe vary significantly from one country to another. The differences between societies in Europe, China, Brazil or Ethiopia are huge."* (COPA. 2003. Statement 4)

This suggests a desire to see a continued emphasis being placed on the domestic level of governance, which COPA believes is more responsive to the unique concerns of national agriculture's. This concern is also expressed in the discussion of the implications of the enlargement of the European Union (9% of documents), which will ultimately create "*more competition on a European level"* (COPA. 2004. Statement 8).

Multiple actors were presented as being responsible for the future governance of the agri-food system including political and public authorities, consumers, distributors, processors, socio-economic partners, and environmental groups (6% of documents reviewed). Among these groups, particular attention was played to the growing importance of consumers:

> *"We need to realize that we can only achieve a sustainable future for ourselves and our families if we can maintain the support of the society in general for what we do… there is no doubts that we need to increase our efforts to explain to the public what we are doing."* (COPA. 2004. Statement 8)

The need to pay more attention to the concerns expressed by consumers and the wider public was discussed in a number of different documents (12%). However, from the above quote it appears that the focus is on justifying existing policies being promoted by the organization to consumers, rather than seeking their advice on what those policies should be.

The policy solutions recommended in the texts reviewed largely dealt with mechanisms for protecting European agriculture from the processes associated with globalization. These measures include subsidized production, restriction of market access, direct payments, rural development programming including agri-environmental payments, as well as geo-indications (labels indicating the geographic origin of the product).

The policy option which got the most attention was the reallocation of funding towards rural development pillar of the Common Agriculture policy (discussed in 15% of documents). The attention to this issue was partly motivated by the proposed cuts to rural development funding being advocated by member states such as the United Kingdom. According to COPA:

> "*Without sufficient funding the maintenance of the multifunctional and sustainable 'European model of agriculture' can not be guaranteed"* (COPA. 2005. Press Release 11)

However, COPA also had different ideas regarding what kind of measures needed to be supported. For example, even though COPA stressed the importance of the environmental function of agriculture, they also expressed concern over the environmentalization of rural development:

> *"COPA and COGECA also congratulate the committee's firm rejection of the attempts to turn certain rural development measures, such as measures concerning less favored areas, into purely environmental ones"* (COPA. 2005. Press Release 5).

While COPA discussed agri-environmentalism in a number of documents (9%), most of these discussions focused on restricting the extension of the environmental agenda into agriculture. Another example is COPA's discussion of the soil protection legislation being proposed by the Commission which they believed was unnecessary (COPA. 2005. Press Release 12). This reflects COPA's interest in receiving incentives for providing and maintaining environmental services that "*cannot be supported via the market"*, rather than being subjected to regulatory restrictions (COPA. 2004. Statement 7).

Another set of policy solutions which received significant attention among the texts reviewed were protectionist type policies such as price subsidization (9% of documents) and trade barriers (9%). Indeed one of the policy statements produced by COPA explicitly mentioned the need to retain protectionist policies:

> "*It took us in Europe a hundred years to build up our agricultural sector to what it is today and we used numerous policy tools to achieve it including protection. Even now we need to protect ourselves to some extent if we are to have the sort of agriculture which society in Europe wants***"** (COPA. 2004. Statement 6)

This quote directly ties societal expectations of agriculture to the need to retain some elements of the old protectionist Common Agricultural Policy. Some of these measures include restricting access by foreign produce to the European Market. Again, this is justified on the basis that European Farmers have to comply with much higher standards of production than their foreign competitors in order to meet societal expectations:

> *"…is it right to put European farmers who are producing according rules of sustainability to make way for imports which have been produced by cutting vast areas of the world's forests?"* (COPA. 2004. Statement 6)

An alternative mechanism for ensuring that farmers receive a price that reflects the regulatory costs they incur is that of labeling and geo-indications. This policy option was discussed in a number of the COPA texts (9%).

World Wildlife Foundation – European Policy Office (WWF-EPO)

Agriculture's multifunctional role in society was repeatedly discussed in the documents reviewed (30% of documents) for the European Policy Office of the World Wildlife Foundation (WWF-EPO). The multifunctional role attributed to agriculture was thought to result from the importance of the sector in terms of land use in Europe, where it accounts for close to 40% of the territory. Covering such a wide territory implies that agriculture has a multitude of positive and negative impacts on society and the environment in Europe. The positive effects of agriculture were thought to result from systems of production:

> *"…developed over centuries, (which) often serve to enhance landscapes, produce social and cultural benefits as well as a healthy environment that contributes to the overall wealth of a region."* (WWF. 2002. Position Paper 3)

These systems of production are central to WWF's vision for *"sustainable rural development"*. Other features of this vision include:

> *"…the protection and enhancement of environmental capital; the fostering of viable rural economies; and the strengthening of rural communities and the cultural values that they possess"* (WWF. 2006. Article 12)

This vision is reminiscent of the official version of multifunctional agriculture, or the European model of agriculture, articulated by the European Commission in the debates taking place at the WTO and as part of the CAP reform process. However, despite this vision, most of the discussion of agriculture in the texts reviewed focused on environmental quality (discussed in 80% of documents), with other concerns such as employment (10%), food provision (5%), and cultural values (5%) receiving only sporadic mentions.

The discussion of agriculture's impact on environmental quality focused on its dual role in protecting and threatening a range of natural resources:

> *"While agricultural operations can threaten habitats, pollute waters, and consume resources, they can also - when operations are sustainably managed - provide new habitats, help protect watersheds, and improve soil health."* (WWF. 2005. Article 9)

Within the discussion devoted to environmental quality, consideration was also given to specific environmental functions believed to be important such as biodiversity (discussed in 70% of documents); water quality (25%), soil quality (15%), and climate change (10%). The fact that biodiversity was discussed in most of the documents reviewed reflects WWF's original wildlife preservation agenda. Agriculture was acknowledged as crucial for the protection of biodiversity (extensive production systems) but also as a major threat (in the form of intensive systems).

The importance attributed to extensive farming systems in the protection of biodiversity can be seen in the following quote:

> *"Because of their strong synergies with the natural environment, these farms have created habitats that many wild plants and animals have come to depend upon. Traditionally farmed landscapes of cultivated fields, fallows, wood pastures, permanent pastures, meadows and orchards are now the only habitats left for many species"* (WWF. 2002. Position Paper 3).

This suggests that WWF-EPO does not take a strictly preservationist view of agriculture's relationship with biodiversity, but rather acknowledges the complex synergies that exist between the two phenomena. It also reflects the fact that there are few completely natural habitats left in Europe.

Water quality and quantity was another important environmental issue discussed in the documents reviewed. However, this issue was presented as being negatively impacted by agriculture. WWF-EPO highlighted the fact that agriculture accounts for one third of water usage in Europe, and that at different times in some Mediterranean countries this increases to 75%. The overuse of water by agriculture contributes to drought and wetland destruction (WWF. 2006. Article 11). Agriculture was also thought to provide a:

> *"A Toxic Legacy - Pesticides, fertilizers, and other toxic farm chemicals can poison fresh water, marine ecosystems…, and can remain in the environment for generations."* (WWF. 2005. Article 9)

Thus, agriculture can function to pollute and poison not only fresh water but also marine systems, simultaneously destroying aquatic habitat and jeopardizing human health for generations to come. The other functions of agriculture – climate change, and soil quality were also framed primarily in negative terms.

A range of agricultural practices, ranging from "*burning fields to using gasoline powered machinery*", were said to negatively contribute to climate change (WWF. 2005. Article 9). The impacts of agriculture on climate change go beyond the farm gate, with the transport of food around the world serving as "*one of the biggest sources of transport greenhouse gas emissions"* (WWF.2004. Article 5). The progressive erosion of soil quality in Europe was attributed to 150 years of *"unsustainable farming practices"*, (WWF. 2005. Article 9), with the production of commodities such as sugar presented as having had a particularly negative impact.

The immediate threats to agriculture's positive relationship with the natural environment are the abandonment of ecologically benign traditional farming systems, and the intensification of production which causes environmental damage. Both abandonment and intensification result from policy regimes such as production incentives under the CAP (discussed in 30% of documents), contradictory policy provisions (20%), liberalization (15%), and technological developments (10%).

Historically the Common Agricultural Policy sought to encourage intensive agriculture by providing a protectionist regime of support (import tariffs, export subsidies, price guarantees). Such a system deliberately marginalized more traditional systems of production, because they lacked potential to optimize production:

> "*As a result, intensive farming increased, and many of these important habitats and species disappeared"* (WWF.2004.Article1)

One commodity thought to be particularly problematic in environmental terms, but which received significant support under the protectionist CAP regime is sugar. Problems associated with sugar production include "*the over-use of water for irrigation in Mediterranean countries, a very high use of pesticides and high levels of soil erosion"* (WWF.2004. Article 4). This policy regime has undergone a significant transformation, with subsidies encouraging intensification being removed, while incentives are being provided for the maintenance of more traditional systems.

It has however been noted by the WWF-EPO that a range of contradictory policies persist, some of which come under the heading of rural development:

> *"…despite the EU commitment to prevent further damage on biodiversity in Europe, vast sums of European Union money are being spent on roads, dams and irrigation schemes which threaten critically endangered species and key habitats"* (WWF. 2006. Article 13).

Thus, there appears to be a contradiction between the EU's conservation and economic development priorities within its overarching rural development policy. Other examples of policies which on the surface appear to support agricultural viability, but which in the long run will damage the sustainability of the sector, include unsustainable irrigation schemes and "*the provision of agri-environment rotation payments for intensive oilseed crops"* (WWF. 2006. Article 12).

It wasn't just government intervention that came in for criticism though. Problems were also identified with the market liberalization agenda. The main problem associated with market liberalization stems from the fact that prices are not assigned to environmental inputs or the environmental damage wrought by production. As a result producers are likely to incur these costs as if they were free. These costs are then passed on to the environment or society. By not paying these costs, farmers wind up getting a "*trading subsidy just as much as those who get a guaranteed government cheque for their produce"* (WWF. 2001. Position Paper 2).

Technological developments such as the promotion of monoculture and genetically modified organisms were also thought to pose a threat to agriculture's positive environmental role. Both developments are believed to contribute to biodiversity loss through the erosion of genetic diversity. The use of genetically modified organisms was thought to be particularly problematic for a number of reasons:

> "*…it can bring negative impacts on ecological processes and the ecological sustainability of agriculture, and on economic and social factors"* (WWF. 1999. Position Paper 1)

Thus, GMO's not only threaten agriculture's role in protecting biodiversity, but also the very fabric and future viability of the sector.

In discussing responsibility for protecting and enhancing agriculture's multifunctional role, and dealing with the threats of intensification and abandonment, no one group or institution was given priority. Instead, WWF-EPO envisioned a collaborative approach to reconciling agricultural and biodiversity interests, involving:

> *"…agricultural experts and researchers, investors, institutes and universities, government agencies, producers, manufacturers, retailers, and other food industry interests"* (WWF. 2005. Article 9)

Thus, a multi-actor collaborative approach was envisioned. Inevitably, producers would serve as the focus of any such collaboration as they would be the group tasked with the adoption of best management practices.

One group of actors who also received a significant amount of attention were consumers (discussed in 30% of documents). This is the group who ultimately purchase the goods produced using unsustainable agricultural practices, and they are the ones who foot the bill, as taxpayers, for the environmental damage which results from these practices. This group also has the potential to reshape the agrifood system for the benefit of the environment. This is so as:

> *"High environmental standards are increasingly becoming a demand from Consumers across the world and sustainable use of our natural resources is the basis of a competitive economy in the future"* (WWF. 2006. Article 12).

Thus, consumers could potentially play as important a role as the European Union and its constituent governments in mitigating the harmful effects of agriculture and protecting its multifunctional role.

A range of possible policy options and reforms were put forward as mechanisms for preserving agriculture's multifunctional role, and dealing with the challenges facing the sector. These options included funding agri-environmental programs through the rural development regulation (discussed in 70% of documents); cross compliance requirements for all EU financed agricultural programs (35%), new regimes for agri-food governance (30%), altering global trade regulations (20%), and decoupling government support from production (20%).

Among these policy options, the most attention was paid to the potential for using the EU Rural Development Regulation as a mechanism for funding agri-environmental programs. WWF-EPO argued strongly that such program's deserved additional finance due to their complex nature, and expressed concern over proposals from different countries to reduce contributions to the rural development pillar of the CAP. While, acknowledging that the existing agri-environmental provisions were far from perfect, WWF-EPO did argue that these

> *"…broad range of instruments and financial mechanisms should provide hope for a greener and more sustainable agricultural sector in Europe. However, the reality on the ground is that many of these measures are handicapped by limited budgets, and because governments do not make full use of them.* (WWF.2004. Article 5)"

Thus, the first step is to convince member countries of the necessity of such programs. Then, attention can be focused on improving the content of agri-environmental programming which so far has proved to be nothing revolutionary. Rather, many provisions represent an amalgamation of pre-existing measures which WWF-EPO considers as being too *"close to agriculture"* (WWF. 2002. Report 1). Furthermore, many of the countries which had the greatest need to address

environmental pressures resulting from agriculture were deemed to have "*produced a less satisfactory response, in terms of environmental measures" (WWF. 2002. Report 1).*

One example of how these programs build on rather than reverse older CAP mechanisms is the manner in which compensation for delivering environmental goods is calculated. Farmers are compensated for "*income forgone"* as a result of pursuing agri-environmental practices rather than for the true value of the environmental good delivered. Ideally, the EU "*…should focus on helping establish a market value for the good, so that its delivery can be sustained in the long-term, independent of public funds*" (WWF.2004. Article 5). This suggests that WWF-EPO views the pricing and privatization of environmental goods as a positive step in their preservation. Other recommendations made regarding agri-environmental programs included the targeting of specific environmental outcomes rather than broad agri-environmental practices.

Another policy option which was also believed to be important is that of Environmental cross compliance for EU funded programs. This is thought to be particularly important considering the existence of EU funded programs, such as irrigation schemes that are in direct contradiction with the EU Biodiversity priorities.

WWF-EPO paid a significant amount of attention to discussing issues of governance in the documents reviewed. Governance was considered an essential component of ensuring the effective delivery of agri-environmental programs, and adherence to cross compliance. In discussing governance options, a major emphasis was placed on *"strengthening administrative capacity on a local and regional level"*, enabling *"stakeholders to participate"*, and designing programs that reflect "*the process of learning and ongoing policy development and adaptation"* (WWF. 2002. Position Paper 3). Thus principles of decentralization, flexibility, participation were thought to play a key role in the program design. One governance model which was thought worthy of emulation was the LEADER approach to rural economic development. This model focuses on tackling problems of rural underdevelopment through bringing together diverse local stakeholders who design an integrated and coherent rural development program. It was thought a similar model could be developed for pursuing agri-environmental objectives (WWF. 2002. Report 1).

The European Farmers Coordination (EFC)

Multifunctionality was discussed in a number (21%) of the documents reviewed. On the one hand the EFC was skeptical about the EU's use of the concept, claiming it was used to sell the reclassification of its policies as Green Box compatible. However, the concept is also

discussed in a positive sense as a potential pathway for the future of European agriculture rather than a guise for neoliberal policies currently being promoted. Accordingly:

> *"…small and medium family farms should be maintained, since they play an irreplaceable role in the following fields: A quality and diversified food production, landscape upkeep, wood and forest clearing, human territory occupation etc"*. (EFC. 2003. Statement 5)

Thus, agriculture's multifunctional potential is a feature of *"sustainable family farming"* system, as opposed to something which characterizes the entire European farming system (EFC. 2003. Statement 5).

The detailed discussion given over to the different functions of agriculture focused mainly on environmental quality (52% of documents), food quality and safety (45%), food security and sovereignty (28%), and rural development (28%). Environmental quality was the most frequently discussed function, with repeated references being made to agriculture's positive and negative impact on water quality, air quality, and biodiversity. Most of the discussion was focused on reducing the harmful effects of industrialized agriculture on environmental quality, including *"the pollution of water, air, soil through pesticides, nitrates and phosphates"* (EFC. 2001. Statement 3), and the loss of *"Nature and Biodiversity"* (EFC.2003. Press Release 10).

A good deal of discussion was also given over to food quality and safety concerns. The EFC was committed to promoting a food system that encouraged dietary health among consumers. Particular concern was expressed regarding the role of agro-industry and the retailing sector in setting quality standards for food (EFC. 2001. Statement 3). Interestingly, the issue of food quality and safety received more attention than that of food security and food sovereignty. The latter concerns are normally priority for organizations associated with Via Campesina (the global peasant movement which EFC is a member of). Despite the apparent imbalance in the discussion, concerns relating to food sovereignty pervaded the organization's discussions of agricultural policy where a continuing emphasis was put on the right of populations to "*define their own farming and food policies and guaranteeing their food safety, outside any dumping vis-a-vis the others"* (EFC. 1999. Press Release 17).

Another issue repeatedly discussed in the documents reviewed was agriculture's role in rural development, especially in relation to securing rural livelihoods and employment. According to the EFC, keeping people in agriculture is not a *"sign of economic backwardness"*, but rather a means of adding value to rural economies (EFC. 2003. Statement 5). This is especially the case for small – scale farms, which the EFC claimed were more effective than large scale operations in generating agricultural and rural employment (EFC. 2004. Press Release 18).

Intensification was identified as the most immediate threat to the positive role agriculture plays in the countryside. This threat was discussed in over one third (34%) of the documents reviewed. Intensive and industrialized production systems were believed to be a major source of pollution, one of the main consumers of energy worldwide, and to have resulted in a variety of food scares including the BSE outbreak (EFC. 2001. Statement 2).

The intensification of agricultural production was thought to be underpinned by a number of factors including decreasing prices for agricultural commodities (discussed in 38% of documents), decoupling of government support from production (38%), the orientation of production towards export markets (24%), and the neoliberal policy model (10%). The most frequently discussed factors were the related processes of decreasing commodity prices and decoupling. The EFC noted that decreases in commodity prices, which originally affected only grain, but which now impact milk, is in the interest of "*the European agro-industry and the retailing"* sectors, rather than consumers. In some cases prices are said to be decreasing below the cost of production allowing agribusiness interests to continually purchase goods at cheaper prices, while not having to pass these savings onto consumers. These price decreases are thought to have

> *"…Further brought down the social recognition of farmer's work for the role they may play in food security, dietary health and in the creation of attractive rural areas."* (EFC. 2005. Report 1)

Thus, price decreases are having a negative impact on society's appreciation of agriculture's multifunctional role. Furthermore, this damaging price regime has been actively encouraged by the policy of decoupling government support from agricultural production, which has been ongoing since 1992.

According to the EFC, consumers finance the provision of food below the cost of production by providing direct decoupled payments to agricultural producers. De-linking government payments from production is part of the EU strategy of encouraging *"competitive farms"*, where producers have the freedom to produce the quantity and type of produce demanded by the market. However, this system of support, "*will lead the small farms to abandon production"*, as they no longer have an incentive to keep land in production (EFC. 2005. Report 1). The irony of this system of support is that *"without public subsidies"*, the *"competitive farms"*, receiving support, *"would not be competitive at all"* (EFC. 2005. Report 1).

The adoption of this contradictory policy stems from the EU's dual ambition of maintaining a strong orientation towards export markets while wishing to *"protect its farming"*. The orientation towards export markets is said to reflect a hegemonic neoliberal policy of

deregulation which is supposed to characterize the second half of the 20th century (EFC. 2001. Statement 3). This means that rural policy functions as a:

> *"Corrector and the good consciousness of a neoliberal agriculture policy, which eliminates farms every day in Europe and around the world"*. (EFC. 2005. Press Release 15)

Thus, even policies which are presented as being socially progressive may in fact simply serve to mask a neoliberal agenda. Decoupled income support is one such policy measure, which functions as a threat to agriculture's multifunctional role, rather than a solution to the problems it is facing.

The principle actors in the agricultural policy arena envisioned by the EFC includes taxpayers-consumers (discussed in 41% of documents), farmers (28%), agro-industrial corporations (17%), and supermarket chains (7%). It is interesting to observe that taxpayers-consumers received the greatest amount of attention, even more than farmers. Implicit throughout the texts reviewed was that these different interests were competing for dominance over the EU's policy making process. Farmers were believed to share a common interest with Consumers, who together *"need to resist Commission's hegemonic discourse"* (EFC.1999.Press Release 3). This official discourse was believed to largely reflect the interests of agro-industrial and retail interests.

A range of policy solutions designed to enhance and protect small scale sustainable agricultural systems thought to be inherently multifunctional were discussed in the documents reviewed. These solutions included supply management and de-intensification (38% of documents), real cross compliance (28%), pricing policy (24%), localization (24%), and the adoption of the precautionary principle for new technologies such as genetically modified organisms (21%).

Among these solutions, the greatest amount of attention is paid to a variety of measures grouped under the heading of supply management and de-intensification. These measures include:

> *"…specific instruments to regulate the market in case there are surpluses due to a specific economic situation, community preference being extended to animal feedstuffs imports (see above), and dis-intensifying the farms[2] which are too intensive."* (EFC. 2003. Press Release 11)

The overall objective of such measures is to avoid the production of structural surpluses which result in dumping on foreign markets, and which contribute to the decreasing price of food globally. This means that the EFC is promoting a set of policies which in some ways coincide with the WTO Blue Box category of supports which are still connected to price but which serve

to limit production. However, recommendations such as the community preference regarding animal feed are in direct contradiction of the WTO objective of removing trade barriers.

One solution, which was advocated by both the EFC and the ECDGAG, is that of cross compliance requirements. This is a policy solution which the EFC supports in principle, however…

> *"A CAP that lowers the prices and despises the value of agricultural produce and animals does neither respect the environment, nor the quality of the products, nor animal welfare"*. (EFC. 2003. Press Release 11)

A related concern was that cross compliance requirements for good practice in environmental quality, food safety and animal welfare only applied to those producers who received direct payments, while the most intensive producers were not subject to any requirements.

What this suggests is that EFC envisions a system of production where everyone is subject to regulation, and where the prices farmers receive reflect the real costs of production. Thus, price needs to become a core element of the EU's rural policy:

> *"In order to maintain agricultural farms viable on the long run, their income should be based on the selling of their own products: agricultural price should become again the income's core element"* (EFC. 2005. Report 1)

The policy mechanism for achieving such prices would be the establishment of a "*Community preference level for all farm produce… which will be used as an orientation price for the European market"* (EFC. 2005. Report 1). This community preference price would be based on average European production costs and the requirements of cross compliance. Such a measure contradicts the policy approach envisioned under WTO agreement on agriculture, and actually has a lot in common with the countercyclical payments offered under the 2002 US Farm Bill.

Another solution to the challenges facing multifunctional agricultural systems was the re-localization of agricultural production and food systems. This was to combat the productivist tendency towards regional concentration of production in the most productive regions. It would ensure that certain types of production are encouraged in regions where *"there is a natural or cultural vocation"* towards a specific farming system. It was also thought to be important to encourage the re-localization of consumption of farm produce.

Another policy option frequently discussed in the documents reviewed was the adoption of the precautionary principle in relation to new agrifood technologies such as genetically modified organisms and animal bone-meal feed. Particular attention was paid to the regulation and outright banning of genetically modified organisms. Other policy solutions discussed less frequently in the documents reviewed included the imposition of import tariffs (discussed in 14%

of documents), funding agri-environmental programs (14%), imposing ceilings on the amount of public aid a farm receives (14%), and the complete removal of export subsidies (10%).

Table 11: The Discursive Field of the Rural Development Regulation

	DGAG	*COPA*	*WWF-EPO*	*EFC*
Issues	Multifunctionality, Food Security, Food Quality, Water Quality, Soil Conservation, Climate Change, Air Quality, Biodiversity, Animal Welfare, Genetic Diversity Economic Development, Maintaining Population	Multifunctionality, Carbon Sequestration, Soil and Water Conservation, Alternative Energy, Employment, Global Food Security, Food Quality,	Multifunctionality, Employment, Food Provision, Cultural Values, Biodiversity, Water Quality and Quantity, Soil Quality, Climate Change,	Multifunctionality, Food Quality and Safety, Food Security and Sovereignty, Water Quality, Air Quality, Biodiversity, Rural Livelihoods and Employment,
Threats	Intensification – Chemical, Mechanical, Specialization, Unit Enlargement, Marginalization Of Traditional Systems, Production Incentives, Liberalization, Globalization, Food Scares, Disease Events	EU Environmental and Food Safety Regulations, Liberalization, US Agricultural Policy, Enlargement Process, Globalization	Abandonment Of Traditional Farming Systems, Intensification Of Production, Production Incentives, Policy Incoherence, Liberalization, Technological Developments	Intensification, Decreasing Prices, Decoupling, Neoliberal Policy Model,
Actors	Civil Society, Citizens, Researchers, Farmers, Government	Political Parties, Public Agencies, Consumers, Distributors, Socio-Economic Partners, Environmental Groups	Experts, Researchers, Investors, Universities, Public Agencies, Farmers, Processors, Retailers, Consumers	Taxpayers, Consumers, Farmers, Agro-Industrial Corporations, Supermarket Chains,
Solutions	Direct Income Support, Cross Compliance, Adjustment Payments, Diversification Measures, Agri-Environmental Payments.	Subsidized Production, Restricting Market Access, Direct Payments, Rural Development Programming, Agri-Environmental Payments, Geo-Indications.	Agri-Environmental Programming, Cross Compliance, Governance Regimes, New Global Trade Regulations, Decoupling	Supply Management and De-Intensification, Real Cross Compliance, Pricing Policy, Localization, Precautionary Principle

The Discursive Field of the Rural Development Regulation

The above table provides a summary of how each organization framed agriculture's multifunctional role. The issues, threats, actors and solutions identified by these different actors represent the boundaries of the discursive field of the Common Agriculture Policy's Rural Development Regulation.

The types of issues identified by each organization were largely material in nature. Little attempt was made to address the aesthetic, cultural, or spiritual values that might be attached to the agricultural production process. The threats discussed were largely man-made, being tied to the decisions of policy makers and producers within the agricultural policy arena. This suggests that the threats to agriculture's multifunctional role have the potential to be controlled. Factors exogenous to the agricultural arena, such as natural disasters or global warming, or those emanating from other sectors (e.g. energy shortages, pollution from manufacturing facilities) were largely excluded from the discourse on the rural development regulation.

Actors who were believed to play a key role in promoting agriculture's multifunctional role included producers, taxpayers/consumers, public authorities, experts and corporate entities. Little mention was made of agricultural laborers or other people employed in agri-business. Also, non-farm rural dwellers and local government actors were largely invisible in the texts reviewed. Most of the solutions put forward were top down and expert led in nature, with limited consideration being giving to solutions based on the practical knowledge of farmers or other rural actors.

Ideological Orientations and Master-frames

Two broad ideological orientations can be detected from the analysis of the documents produced by Directorate General for Agriculture. At first glance it would appear that concerns which typify the "hygienic" model of agriculture dominate, with a major emphasis being placed on issues which are primarily of concern to urban populations such as biodiversity, animal welfare, and food quality and safety, while scant attention was paid to the social and economic welfare of rural residents. Further evidence of this orientation can be seen from calls to include (again primarily urban based) non-traditional actors such as consumers, environmental NGOs, and scientists in agricultural policy decision. Also, cross-compliance represents an attempt to habituate the farming population to the principle of the "polluter pays", while agri-environmental programs appear to involve promoting the compartmentalization of agro-ecosystems into manageable public goods.

There is however a parallel eco-modernization orientation running throughout the texts reviewed. The fact that the EU was not against liberalization per se was repeatedly stressed, while the policies advocated were deliberately designed to be non-trade distorting. One possible interpretation of the emphasis on food quality, and the incorporation of cultural, environmental, and animal welfare concerns in the food production process, is that the ECDGAG is attempting to position European produce relative to growing niche markets, where it may have a comparative

advantage over commodities produced elsewhere. Because the EU is allowed to continue direct payments under the WTO regime at least up until 2013, the ECDGAG may envision a transitional regime that enables producers to re-orient their production systems to quality markets while continuing to benefit from the safety net of direct payments.

While the functions of agriculture discussed by COPA were similar to those emphasized by the ECDGAG, the differences in how those functions were defined reveals differences in ideological orientation between these two organizations. Ultimately, while COPA pays lip service to the hygienic orientation of the Commission, the manner in which it frames agriculture's multifunctional role is biased towards neo-mercantilist ideology. For example, the economic function emphasized was that of employment creation, and the discussion of food provision largely privileged quantity over quality concerns. Also, in discussing agriculture's environmental function, it appears that no distinction is made between the environmental value of extensive versus intensive production systems, or of small versus large scale operations. This suggests that agriculture should be valued in its entirety, with intensive and large scale operations being just as important as extensive and small scale operations in terms of their environmental value.

Further evidence of a neo-mercantilist orientation can be seen from the identification of threats to agriculture's multifunctional role, and to its very existence and survival in Europe. These threats related almost exclusively to the liberalization process and the wider process of globalization. It was also implicit that domestic regulation of agriculture posed difficulties for agricultural producers. Finally, many of the policy solutions proffered by COPA were explicitly neo-mercantilist including the restriction of market access, and the continuation of price supports. While, a lot of attention was also paid to "rural development" measures, these were framed largely as mechanisms for modernizing the sector in order to make it more competitive globally. The environmentalization of rural development was actively resisted.

Within the WWF texts there appears to be three different ideological orientations being expressed. Firstly, there is a hygienic orientation, with a significant amount of attention being paid to the issue of environmental quality, and the negative impacts of agriculture on water and air quality. The hygienic orientation is also evident from the emphasis placed on consumers as important actors in the reform of the agrifood regime, and in the criticism leveled at existing agri-environmental programs as being too *"close to agriculture"*. Secondly, there is evidence of an eco-modernization orientation, which is largely deployed to deal with the issue of biodiversity, an environmental issue not conducive to hygienic prescriptions, due to its symbiotic relationship with production agriculture. Thus, innovative solutions are thought necessary to foster a benign relationship between agriculture and biodiversity, including collaborative natural resource

management, local governance arrangements, and integrated policy initiatives. Finally, there was some discussion of ideas which reflected the principles of roll back the state neoliberalism. For example, there was suggestions made that agri-environmental programs should serve as the first step in assigning market prices to environmental goods.

Overall we can thus argue that WWF-EPO adopts a hybrid ideological orientation in framing agriculture's multifunctional role, variously combining aspects of the hygienic perspective on multifunctionality, with aspects of eco-modernization, and roll back the state neoliberalism. On the surface this may appear contradictory. However, it would seem that WWF is defining environmental problems in hygienic terms, recommending eco-modernization solutions for their immediate solution, while also acknowledging that in the long term it may be necessary to assign market prices to environmental goods.

While the European Farmer's Coordination's discussion of the localization of agrifood systems and their emphasis on small scale sustainable family farming speaks to agro-ecological concerns, most of the texts reviewed for this organization expressed either a hygienic or a neo-mercantilist ideological orientation, or some combination of the two. The hygienic orientation was evident from the emphasis placed on issues relating to environmental quality and food safety, which were believed to be threatened by the industrialized system of agriculture.

Furthermore, there was a good deal of discussion given over to the role of consumers, and the need to subject all agricultural producers (not just subsidy recipients) to stringent environmental regulations. The neo-mercantilist orientation is evident from the manner in which EFC presents the policy of decoupling as a threat to agriculture's multifunctional role, while emphasizing the need to implement policies of supply management and a community preference price. The hygienic and neo-mercantilist perspectives on multifunctional agriculture put forward by the EFC are not necessarily contradictory. This is so, as a key component of supply-management (typifying a neo-mercantilist position) is the de-intensification of production. This solution is believed to serve the dual purpose of encouraging chemically extensive production, while reducing the supply of commodities, and stabilizing prices.

This ideological analysis suggests that the organizations involved in shaping the discursive field of the rural development regulation draw on each of the three master-frames thought to characterize contemporary agricultural policy. The ECDGAG, WWF, and EFC draw on the sustainability master-frame, while COPA and the EFC mobilize ideas from the protectionist master-frame. Furthermore, the ECDGAG and WWF draw on the resources of the neoliberal master-frame.

Hegemony and Resistance

The analysis of the ideological orientations of the EU directorate general, COPA, WWF, and EFC strongly suggest that hygienic ideology occupies a hegemonic position within the discursive field of the rural development regulation. This is so, as the hygienic orientation evident from within the ECDAG texts, was also shared by the WWF and the EFC. Thus, groups normally considered outside of the Iron Triangle of interests demonstrate an orientation to the ideological position taken by the of the European Commission's Directorate General for Agriculture. There is also evidence that eco-modernization functions as a sub-hegemonic ideology, combining with the hygienic ideological position taken by the ECDGAG and WWF.

There are a number of reasons why the ECDGAG advocated this hybrid position in the first place. Firstly, it allows the directorate to put forward policy solutions which conform to the technical and legal restrictions of the WTO Green Box, reduce surplus production, and avoid any sense of subsidy entitlement by producers from new member states. The decision to focus on hygienic concerns may stem from a desire to restore consumer confidence in the agrifood sector which was damaged during the Bovine Spongiform Encephalopathy (BSE) crisis.

The hybrid hygienic and eco-modernization orientation of the WWF-EPO represents a cognizance of the need to maintain environmentally benign agricultural systems, while controlling the worst excesses of commercial and intensive agriculture. As a mainstream environmental organization it is also committed to technical and legal solutions to environmental problems, and thus focuses largely on altering, rather than completely overhauling the ongoing policy reform process.

Ironically, resistance to the hegemonic and sub-hegemonic ideologies is put forward by the Farmer's organization – COPA, who adopted a neo-mercantilist orientation that contradicts both neoliberal and hygienic ideologies. The neo-mercantilist position of COPA reflects the fact that the organization is dominated by processing cooperatives and commercially oriented farmer unions. These groups have a vested interest in maintaining trade distorting subsidies which encourage the optimization of production, as without these incentives it is unlikely that their constituents could compete with food produced in breadbasket regions such as North America.

The European Farmer's Co-ordination appears to share in the neo-mercantilist orientation of COPA, but occupies a somewhat ambiguous position in terms of resistance due to its advocacy of concerns reflective of the hegemonic hygienic ideology. In taking this position, the EFC is seeking to balance a critique of the status quo, reflecting it's anti neoliberalization stance, with

arguments that might also have broader public appeal. Arguing simply against neoliberalism is unlikely to elicit sympathy beyond marginal farmers, who, unlike the constituents of other Via Campesina member organizations in member countries, are numerically insignificant in most European Countries. Therefore, they adopt a hygienic approach which may appeal to the concerns expressed by consumers across the European Union.

CHAPTER 8: THE US CONSERVATION SECURITY PROGRAM

This chapter explores the how agriculture's multifunctional role was framed in the debate surrounding the elaboration and implementation of the Conservation Security Program. This program was established under the 2002 Farm Security and Rural Investment Act. Based on the analysis it appears that two major interpretations of agriculture's multifunctional role emerge – one combining neoliberal and eco-modernization principles, and the other combining eco-modernization principles with hygienic concerns.

Before exploring the contributions made by different socio-political actors to this debate, it is necessary to consider some important features of agriculture in the United States. These features include the economic and land use significance of the sector, its structural characteristics, the relative importance of different agricultural commodities produced, environmental indicators, and the various government subsidy programs in operation. Beginning with the significance of the sector, the following table provides summary information on agriculture's importance as a land use in the United States, as well as its economic importance.

Table 12: Economic and Land Use Significance of Agriculture in the United States*

	Number	% of total	
Agricultural Area (Millions of Acres)	938.28	41.4	Of the land area*
Numbers Employed in Agriculture	3074946	1.8	Of the workforce**
Agriculture's contribution to GDP	117,340,000	1.0	Of total GDP***

* USDA – ERS, State Fact Sheets, 2006
** USDA – ERS, Farm and Farm Related Employment, 2005
***USDA – ERS, Amber Waves, 2006

It can be seen from the above table that agriculture represents less than 2% of the workforce in the United States, and contributes only 1% to the Gross Domestic Product. Thus, in economic terms the sector plays a relatively marginal role. However, the sector still plays a critical role in terms of land use, accounting for over 40% of the nation's total land area.

According to the USDA, a farm can be defined as any place from which $1000 or more of agricultural product have been sold, or would have been sold, in the year under consideration (USDA – ERS. 2005). The following table provides summary information on the structural characteristics of agriculture in the United States. This includes information on the relative size and scale (in terms of sales volume) of agricultural operations.

Table 13: Structural Characteristics of Agriculture in the United States*

Number of holdings		2,215,876
Average farm size (acres)		441
	Number	*Percent*
Farms by size		
1 to 99 acres	1,130,097	51
100 to 499 acres	733,455	33.1
500 to 999 acres	168,407	7.6
1000 to 1,999 acres	104,146	4.7
2,000 or more acres	81,987	3.7
Farms by value of gross farm sales		
Less than $9,999	1,314,014	59.3
$10,000 to $49,999	429,880	19.4
$50,000 to $99,999	146,248	6.6
$100,000 to $499,999	250,394	11.3
More than $500,000	73,124	3.3

*USDA 2002 Census of Agriculture

These data show that even though the average farm size is 441 acres, just over half of the agricultural operations in the United States are less than 100 acres in size. Furthermore, the majority of farms in the US have annual sales totaling less than $10,000.

Table 14 breaks down sales from agricultural operations in 2002 by commodity. These data show that four commodities accounted for most of the sales conducted that year. These commodities included cattle, grains, poultry and dairy products, which, when taken together accounted for close to 65% of the total sales in 2002. Among these commodities both cattle and grain were by far the most important.

Table 14: The Value of Agricultural Commodities Produced in the United States in 2002*

Commodity	*Dollar Value ($1000)*	*Percent*
Cattle	45,115,184	22.5%
Grains Oilseeds dry beans, dry peas	39,957,698	19.9%
Poultry and Eggs	23,972,333	11.9%
Milk and Dairy products	20,281,166	10.1%
Nursery, Greenhouse	14,686,390	7.3%
Fruits, tree nuts	13,770,603	6.9%
Vegetables	12,785,898	6.4%
Hogs and Pigs	12,400,977	6.2%
Other Crops and hay	7,929,618	4.0%
Cotton and Cotton Seed	4,005,366	2.0%
Tobacco	1,616,533	0.8%
Horses	1,328,733	0.7%
Sheep, Goats, & Other Animals	1,263,483	0.70%
Aquaculture	1,132,524	0.6%
Cut Christmas trees	399,848	0.2%
Total	*200,646,354*	*100.0%*

*USDA Census of Agriculture, 2002

The following table presents data from 1992, 1997, and 2002 on some key environmental indicators for agriculture in the United States. These indicators focus on the number of acres conserved in land retirement programs, chemical plant nutrients consumed, and the amount of acreage under organic production. This information is indicative of the direction of agri-environmental programming in the United States over the last number of years. Both the number of acres conserved and under organic production was identified as key environmental indicators by the USDA in its state fact sheet.

Table 15: Environmental Indicators for Agriculture in the United States 1992 - 2002*

	1992		*1997*		*2002*	
	Number	*% of Total Farmland*	*Number*	*% of Total Farmland*	*Number*	*% of Total Farmland*
Acre's Conserved**	22692720	2.4	31202490	3.3	3272000	3.3
Acre's Organic Farmland	935,450	0.10	1,346,558	0.14	1,925,534	0.21
Nutrients Consumed***	20,706.0	NA	22,088.2	NA	21,659.6	NA

*USDA - ERS 2006 (State Facts), 2005 (Fertilizer Use and Price), 2005 (Organic Production)
**Conservation and Wetland Reserve Programs
*** 1000's of Nutrient Tons of primary chemical nutrients (nitrogen, phosphate, & potash)

From the above table it can be seen that the amount of land in conservation expanded between 1992 and 1997, and remained relatively unchanged between 1997 and 2002. There was also a good deal of expansion in the amount of land certified as organic during this period. Overall, the amount of land in conservation programs was much greater than the amount of land certified as organic. Nutrient consumption actually increased between 1992 and 1997, decreasing only by a small amount in 2002.

In terms of the expenditure under the 2002 Farm Bill, the following table provides summary information on the distribution of payments between conservation, disaster and commodity subsidies.

Table 16: 2002 - 2004 Farm Bill Expenditure by Category

Payment Type	*2002 Payments*	*2003 Payments*	*2004 Payments*
Conservation Subsidies	$1,990,918,128	$2,021,145,509	$2,082,706,056
Disaster Subsidies	$1,358,545,176	$2,950,971,607	$547,616,747
Commodity Subsidies	$9,613,405,245	$11,463,173,877	$9,894,421,056
Total USDA Subsidies	$12,962,868,549	$16,437,903,739	$12,525,123,749

*EWG 2006

From this table it can be seen that expenditure on conservation subsidies experienced a relatively modest increase between 2002 and 2004. Both disaster payments, and commodity payments increased significantly in 2003, declining again in 2004 (disaster payments were greatly reduced for 2004). Furthermore, while conservation subsidies represented an important component of expenditure, they were dwarfed by the amount of money spent on commodity programs.

Overall, while agriculture in the United States is relatively marginal in economic terms, it still represents an important sector in terms of land use. Even though the average farm size is relatively large, US agriculture is characterized by many small scale operations, most of which earn less than $10,000 per year. In terms of output, the sector is dominated by cattle and grain production. Agri-environmental efforts have been characterized by land retirement and soil conservation initiatives, with very little progress being made in organic or other less intensive production systems. It is also the case that government expenditure on agriculture is still largely characterized by commodity subsidies.

Having examined the profile of agriculture in the US, it is now time to focus on how agriculture's multifunctional role was interpreted by different socio-political actors in the debates surrounding the elaboration and implementation of the Conservation Security Program. This debate has been ongoing since the program was first put forward under the 2002 Farm Security and Rural Investment Act. Some of the most important actors who contributed to this debate included the Natural Resource Conservation Service (NRCS - the official government actor responsible for developing regulations and implementation), the American Farm Bureau Federation (AFBF - representing mainstream farmers), the National Campaign for Sustainable Agriculture (NCSA - representing alternative farmers), and Environmental Defense (EDF - representing environmental interests). The following table provides summary information on the texts reviewed:

Table 17: Number of documents and pages reviewed

Organization	*Number of Documents*	*Number of Pages*
NRCS	38	474
AFBF	48	115
EDF	15	94
NCSA	40	177
Total	*141*	*860*

From the above table it can be seen that over 140 documents which addressed the Conservation Security Program and agri-environmental concerns were reviewed for the purposes of this study coming to a total of 860 pages. These documents included fact sheets, op-ed pieces, newsletter articles, speech transcripts, testimony and hearing transcripts, regulations, policy statements, press releases, action alerts, reports, written public comment contribution, and policy background documents.

Mainstream and Challenging Frames

For each actor, the manner in which they framed agriculture's multifunctional role in their contributions to the debate on the Conservation Security Program is discussed. This involves describing the key issues and concerns addressed in these contributions, the threats and challenges underpinning these concerns, the actors responsible for dealing with these challenges, and potential solutions to these challenges.

Natural Resource Conservation Service (NRCS)

While the NRCS made no mention of the concept of agriculture's "multifunctional role" the related concept of stewardship on working lands was widely discussed (53% of documents). The term *"Working lands"*, was used to refer to a range of different land uses including:

> *"…cropland, grassland, prairie land, improved pasture, and range land, as well as forested land that is an incidental part of an agriculture operation"*. (NRCS. 2003. Federal Register 1)"

These landscapes are crucial for the maintenance and protection of some of the nation's most important natural resources including the quality and quantity water, soil, plants, and wildlife. Protecting and enhancing these resources is believed to be in the long term interests of individual farmers who play a vital stewardship role:

> *"They want to protect the environment in which they and their neighbors live; they want to hand on to the next generation a land as productive and healthy as the one they received from the last generation. But they need help to be the good stewards they want to be."* (NRCS.2002. Testimony 1)

This implies that while farmers may desire to engage in good stewardship of natural resources, and that such stewardship is in their long term interest, government support is necessary to support them in this role. In discussing the importance of stewardship on working lands, a good deal of attention was paid to a range of different social, economic and environmental concerns. These concerns included soil and water conservation (discussed in 29% of documents), economic sustainability (13%), food security (7.9%), habitats and wetlands (7.9%), air quality (7.9%), and alternative energy (5.3%).

In most of the documents reviewed soil and water conservation were discussed as joint rather than separate issues. Both these issues received a significant amount of attention due to their role as *"nationally significant resource concerns"*, which underpin other significant environmental benefits (NRCS. 2005. Fact Sheet 7). Soil quality concerns related to the *"…depletion of soil organic matter content and the physical condition of the soil…and overall soil productivity."* (NRCS. 2004. Federal Register 2).

This suggests that the issue of soil quality was a concern because its neglect threatened the future viability of the sector. Water quality concerns expressed focused on the presence of nutrients, pesticides, sediment, in both surface and groundwater. The discussions of water quality therefore centered on the welfare of the general public rather than the productivity of agricultural operations.

The issue of productivity was repeated in discussions of economic sustainability. It was clear from reviewing the documents that the NRCS wished to pursue its environmental objectives without jeopardizing the ability of agricultural operations to remain competitive. Indeed it was thought that environmental and productive objectives were compatible:

> *"Profitability and environmental quality are indeed compatible goals. It is possible to produce food and fiber while maintaining—and even improving—the environment"* (NRCS. 2005. Speech Transcript 11).

Thus, commercial agriculture can continue to thrive without undermining environmental quality. In fact, it is thought to be possible to transform environmental benefits into tradable commodities in the form of environmental credits. In one speech given by the Chief of the NRCS, trading environmental credits in habitats protected or carbon sequestered was referred to as the "*new environment agenda"* (NRCS. 2005. Speech Transcript 14).

Traditional concerns such as food provision were also discussed in a number of documents. This referred to agriculture's multifaceted role in ensuring a *"safe, abundant, and affordable food supply",* (NRCS. 2005. Speech Transcript 11). Specific reference was also made to agriculture's role in supplying a sufficient quantity of food to satisfy both domestic and global food demands.

Aside from soil and water conservation, a number of other natural resource concerns were discussed including wildlife habitats and wetlands, air quality and energy conservation. However, these issues did not receive anywhere near the same amount of attention that soil and water conservation concerns received. The emphasis placed on soil and water conservation may relate back to the role of these resources as cornerstones for the delivery of other environmental benefits. For instance, in the case of air quality *"many of the practices that control erosion and improve water quality have the extra benefit of sequestering carbon"* (NRCS. 2005. Speech Transcript 14). The same could be said of efforts to protect wildlife habitat and wetlands.

Agriculture's ability to contribute to the economy, food security, and the conservation of priority natural resources was thought to be threatened by the changing economic environment and environmental regulation. The economic changes which are thought to create challenges for the sector include the fact that:

> *"Economies of scale make consolidation a reality for the mass market, and frequently force smaller producers to look for niche markets and new products to remain profitable."* (NRCS. 2005. Speech Transcript 14)

Thus there is a trend towards concentration among those operators who wish to compete for mass markets leading to large scale holdings, while those who wish to continue operating on a smaller scale have to find niche markets. The implication is that prices for mass market commodities are unstable or declining, and that the only way to succeed in these markets is through achieving economies of scale. This trend towards larger economies of scale implies bringing more land into production and intensifying production on existing farmland. Both these aspects are contrary to environmental and natural resource conservation priorities.

There is also the challenge of increasing environmental regulation. Command and control environmental regulation was largely presented in a negative light, as it was believed to cause "*American farmers and ranchers to operate at an economic disadvantage compared to producers in developing nations"* (NRCS. 2005. Speech Transcript 14). This was so, as operators in USA would be subjected to regulatory costs which operators in the developing world would not have to abide by. This means developing world operators could undercut the price of US commodities. Thus, the drive towards economies of scale as well as increasing environmental regulations work together to squeeze the profits and livelihoods of producers in the United States.

Environmental regulations were also believed to pose a direct threat to the active stewardship role which farmers were expected to play. This was thought to be the case as regulatory measures were said to encourage producers to adopt minimum standards of practice rather than "*finding new and better ways to get the job done"* (NRCS. 2005. Speech Transcript 14). It was further thought to erode farmer initiative in relation to conservation:

> *"…we farmers and ranchers find our own sense of responsibility for the land increasingly supplemented by government regulations rising out of society's increasing desire for greater improvements in environmental quality"* (NRCS. 2003. Op Ed Piece 1).

This suggests that while command and control regulation might be appropriate for other industries which do not have a tradition of stewardship, such regulations are inappropriate for a sector such as agriculture.

A number of different actors were believed to play an important role in the promotion of the role of farmers as stewards of the nation's natural resources. These actors included the farmers and ranchers themselves (discussed in 24% of documents), local conservation agencies (18%), state agencies (13%), federal agencies (7.9%), private planning consultants (7.9%), and civil society organizations (7.9%).

Overall it was felt that farmers and ranchers were responsible for voluntarily adopting good practice in environmental stewardship. This role could not be forced upon them, and ultimately *"It is the individual producer who decides what contributions to make, based on individual values, individual business goals, and individual environmental goals"*. (NRCS. 2005. Speech Transcript 14)

This does not mean that government agencies have no role in supporting farmers as resource stewards, but rather that such agencies should work in collaboration with producers, rather than in conflict. Such a collaborative relationship could best be pursued by local branches of the government's agricultural bureaucracy:

> *"We have been making the rules as simple as possible, keeping the rulemaking process fully collaborative, and leaving as much decision making as possible at the local level, so that local people have as much control of the programs as possible"* (NRCS. 2003. Op Ed Piece 1).

These local organizations include branch offices of the NRCS, as well as the Soil and Water Conservation Districts operating throughout the country. Implementing conservation and stewardship programs through these organizations reflects the principles of *"lean, local, and accessible"*, articulated by the NRCS Chief in testimony given to congress (NRCS. 2004. Testimony 5).

State level official actors were also believed to play an important role, particularly in relation to the Conservation Security Program. Important actors in this regard include the State Technical Committee and the State Conservationist who were responsible for the "*…development of State program technical policies, payment related matters, outreach efforts, and other program issues"* (NRCS. 2004. Federal Register 3).

Ultimately, the guidelines and regulations for conservation programming are established at the federal level. Thus, the system envisioned is one where even though programs are centrally defined in Washington, opportunities exist for state and local level actors to tailor programs such as the CSP to the unique circumstances of their territories. However, government organizations were not the only actors believed to have responsibility for promoting stewardship among farmers. Private Planning consultants and civil society organizations were also thought to have a significant contribution to make. With the funding increases made available for conservation programming under the 2002 Farm, it was expected that a bulk of the technical assistance for these programs would be provided not by agents of the USDA, but through what have been referred to as *"technical service providers (TSP's).* These are commercial agricultural or environmental consultants who have received certification from the NRCS. Civil society organizations were also expected to play an important role in the management of conservation

programs at the local level, in collaboration with other local actors. However, how the input of this sector would be managed was far from clear.

Throughout the documents reviewed, the bulk of the discussion on policy solutions to the challenges facing agricultural stewardship was devoted to considering how best to implement the Conservation Security Program. Elements of this discussion included a consideration of program operation (discussed in 50% of the documents reviewed), technical assistance (32%), program innovation (26%), program evaluation (24%), and future developments (13%)

Discussion of the actual operation and implementation of the program was extensive and focused on eligible practices, compliance requirements, and payment procedures. Most of the decisions regarding the program's implementation stem from the congressional cap on spending introduced for the 2004 financial year. To this end the NRCS issued an interim final rule which gave them the flexibility to implement the CSP *"in an appropriate number of watersheds and enrollment categories according to the program's funding status at the time of sign-up"* (NRCS. 2004. Federal Register 3). The rule also allowed for a staged implementation of the program which further enabled NRCS staff to streamline the program and adapt it to local resource concerns.

A major motivation for restricting the program to particular watersheds, enrollment categories, and sign-up periods was the challenge of providing technical assistance to what is one of the most complex programs introduced under the 2002 farm bill. Apparently, the NRCS is constrained in the amount of funding it can spend on providing technical assistance to its customers:

> *"By law, NRCS cannot incur technical assistance costs for NRCS employees or approved technical assistance providers in excess of 15 percent of the funds expended in a fiscal year…Thus, the statutory cap on technical assistance of 15 percent becomes a primary limiting factor for implementing the CSP."* (NRCS. 2004. Federal Register 3)

Regarding this constraint, numerous requests were made to congress for the full funding of technical assistance for farm bill program:

> *"Fully funding technical assistance for the Farm Bill programs is essential to ensure the environmental benefits that are expected from the significant increase in conservation spending."* (NRCS. 2004. Testimony 3)

The lack of funding for technical assistance was thought to be particularly problematic when it came to providing support for environmental stewardship on smaller farm operations. According to testimony given by the Chief of the NRCS in 2002, it was much more efficient to deliver technical assistance to large-scale livestock operations likely to cause pollution than to smaller

operations which require a good degree of time in the field by NRCS agents (NRCS. 2002. Testimony 2).

There is however innovative aspects of the Conservation Security Program which could help overcome some of the constraints regarding technical assistance. One such component was the self-assessment exercise where producers assess their own conservation performance prior to sign-up. This exercise along with a new water quality tool allows producers to identify in advance whether or not they are eligible for the program, thus cutting down on the amount of time that has to be spent by NRCS agents making this determination.

Another important feature of the CSP is its emphasis on accountability through monitoring and evaluation. This aspect of the program was thought to be particularly challenging:

> *"Typically, measuring environmental and economic benefits is relatively easy when we are fixing resource problems. But, because CSP is more of an enhancement program than a remedial program, we need to look at new ways to measure the benefits of the program"*. (NRCS. 2004. Speech Transcript 7)

Thus, there is a good deal of uncertainty on how to adequately assess the impact of a program designed to improve, rather than protect the environment. This statement points to the fact that the NRCS has limited experience with environmental enhancement programming. In assessing environmental enhancement the challenge is to verify *"…carbon stored, air quality improved, nutrient or pesticide loading avoided and water saved"* (NRCS. 2005. Speech Transcript 12). The NRCS is therefore attempting to develop new performance-based indexes and a corresponding payment structure that can be used to assess and reward these benefits.

Overall it was felt that the Conservation Security Program represented a possible model for conservation programming in the future:

> *"This is why we are saying that CSP is in fact a 'change agent' It is going to cause us to – as they say in the Apple Computer ad – to think different and act different."* (NRCS. 2004. Speech Transcript 7).

Thus, the CSP will not only affect the stewardship practices of its individual participants, but also how the NRCS develops and amends programs such as EQIP and the Conservation Reserve Program. Furthermore, innovative practices such as self-assessment promoted under the CSP will shape how the NRCS conducts its business as a government agency. Finally, the CSP was thought to represent an important step to towards a "*market-based solution to conservation profitability, viability and sustainability"* in the future (NRCS. 2004. Speech Transcript 8).

American Farm Bureau Federation (AFBF)

Conventional concerns associated with agriculture were raised in a number of the documents produced by the Farm Bureau on the subject of conservation programming. For example, agriculture's role in ensuring food security was discussed in four different documents (10%), with one author asserting that *"American agriculture provides food security for this nation and much of the rest of the world"* (AFBF. 2001. Testimony 3). The importance of agriculture to the national economy was also discussed in a number of documents (8%). Agriculture was believed to play a critical role in contributing to national economic security, being one of the few sectors that runs a positive balance of trade. Despite these discussions, most of the documents focused on issues pertaining to environmental quality (51%).

While it may appear strange that the Farm Bureau pays more attention to environmental quality concerns than to food and economic security concerns, this imbalance mostly reflects the nature of the documents reviewed. These documents focused almost exclusively on the Farm Bureau's position on conservation programming. One would obviously expect the focus of such documents to be on environmental quality concerns. The material reviewed thus differed significantly from that reviewed for COPA in the EU, which discussed the Rural Development Regulation, and thus had a much broader scope in terms of the issues addressed.

Under the broad heading of environmental quality a number of more specific environmental concerns were discussed including wildlife habitat (discussed in 13% of documents reviewed), water quality (10%), and soil quality (5.1%). Farming was believed to play a particularly important role in protecting wildlife habitat because "*Farms and ranches comprise much of the privately owned open space in this country"* (AFBF. 2003. Testimony 4). Farmland was believed to provide a key buffer in protecting wildlife habitat from the encroachment of commercial and residential development.

Water quality issues also received a good deal of attention. Most of the discussion of this issue sought to refute accusations about agriculture's role as a polluter of the country's watercourses. One text in particular focused on farming's role in the creation and expansion of the ecological dead zone in the Gulf of Mexico. According to the AFBF there is little evidence to support the assertion that agriculture is contributing excessive amounts of nutrients to national watercourses, and the Mississippi in particular. Indeed they claim that that the opposite is the case

> *"…since 1983, the nitrate trend in the Mississippi River has been just the opposite. In fact, the total mass of nitrate-nitrogen delivered to the Gulf has been decreasing"* (AFBF. Testimony 1)

Soil quality also received some attention among the documents reviewed. Again, it was believed that farming was increasingly playing a positive role in relation to this issue, with *"modern conservation and tillage practices"* leading to reduced soil erosion. Accordingly, because of modern practices and techniques such as *"…global positioning satellites, biotechnology and conservation tillage – farmers and ranchers are producing more food on fewer acres with fewer inputs"* (AFBF. 1999. Press Release 1). Thus, technological advancement in agriculture actually benefits rather than detracts from environmental quality.

Another environmental quality concern which was not discussed widely among the documents reviewed but which was the subject of one of the Bureau's policy backgrounder's was that of climate change. The official position of the Farm Bureau on this issue is one of skepticism:

> *"Although the scientific body of the United Nations recently agreed that human activities appear to have a measurable effect on global temperatures, there is no general agreement on the extent of that effect or how to address it"* (AFBF. 2006. Backgrounder 1).

This skepticism is expressed in the form of opposition to the Kyoto Protocol on climate change which requires substantial reduction on greenhouse gas emissions by industrialized countries such as the USA. It was argued that the reduction in fuel consumption required under the protocol would lead to significant increases in the costs of inputs (e.g. fuel and fertilizer) necessary for agriculture. Thus, if the US signed the protocol it could significantly damage the competitiveness of US agriculture.

Because agriculture was believed to be increasingly playing an ecologically benign role, and because the benefits accruing from this role were attributed to the sector as a whole rather than a specific subset of producers, threats to agriculture's beneficial role were thought to be synonymous with threats to the viability of the sector itself. These threats included regulatory costs (discussed in 31% of documents), the precautionary principle (5.1%), low commodity prices (5.1%), and government budgetary restrictions (3%). By far the most important challenge facing agriculture was the increasing burden of regulatory costs which were thought to place *"…a heavy burden on individual farmers and ranchers as well as distorting the traditional structure of our industry"* (AFBF. 2001. Testimony 2).

These costs were thought to be particularly burdensome for small and medium sized operations that have difficulties competing with larger enterprises who can afford to operate in such a high cost environment. These costs were being imposed at every level of governance:

> *"From local ordnances and lawsuits aimed at livestock farmers in a suburbanizing community, to state enforcement of Environmental Protection Agency air and water regulations, to international agreements that restrict the use of certain domestic support*

> *for agriculture, all have an impact on agricultural life, production and policy."* (AFBF.2004.Testimony 5).

Thus, the complexity of the regulatory environment creates an additional challenge for agricultural operators, and a climate of increasing uncertainty.

Another factor which contributes to uncertainty and which negatively affects the ability of farmers to deliver environmental goods is the decreasing prices received for agricultural commodities. Thus, while regulatory costs are increasing, the return on the investment farmer's make is decreasing. The combination of poor weather and low commodity prices in recent years has been termed *"an equation for disaster"* in this regard. Such pressures obviously distract farmers from the goal of addressing environmental concerns:

> *"Pressures to save the environment when you are worrying how you can save your farm are likely to go unheard."* (AFBF. 2000. Press Release 3).

Another factor related to increasing regulator costs is the use of the precautionary principle. This was thought to be a problem in relation to a number of environmental issues and technological developments in agriculture including climate change, concentrated feeding operations, and genetically engineered foods. Concern was expressed that prohibitions on certain agricultural practices would be based on fear rather than *"sound, verifiable science that is subject to adequate review."* (AFBF. 2003. Press Release 10).

The opportunity to offset declining prices and increasing regulatory costs with federal subsidies is also being eroded. This is largely due to *"diminishing federal resources"*, which presents a challenge to the federal government in their efforts to pursue programs that support farmers in their positive environmental role (AFBF. 2004. Newsletter Article 10).

While farmers themselves were thought to be critical actors in ensuring that farming continues to play a beneficial role in society, other actors including government agencies and environmentalists were also acknowledged as being important in efforts to:

> "*…preserve water quality, promote sustainable ag practices, and head off costly federal regulations, lawsuits or environmental backlash."* (AFBF. 2002. Press Release 8)

This suggests that the Farm Bureau is open to collaborative efforts between these different interests when dealing with environmental challenges. A preference was also expressed for local control over federal conservation programs, with state technical committees being preferred over national decision making structures as mechanisms for setting program goals.

Among the documents reviewed a good deal of attention was paid to policy solutions to the challenges facing agriculture as a sector. These discussions of policy solutions can be grouped into a number of different categories including broad strategies (discussed in 41% of documents),

setting goals for policy endeavors like the Conservation Security Program (28% of documents), the actual content of such programs (31%), and the resources necessary for their implementation (13%).

Possible strategies for the enhancement of agriculture's environmental role include command and control regulation, the provision of incentives, and the use of market signals. Overall, command and control strategies were thought to be of little use compared to incentive and market based approaches which were believed to be complementary:

> *"In order for a conservation incentive program to work well, public policy must recognize the inherent limitations that command and control regulations have in attaining desired public benefits. Efficient public policy is one where the thing demanded by society is the thing that is being produced."* (AFBF. 2001. Testimony 2).

Because society now desires of a variety of ephemeral goods such as *"…open space, wildlife habitat, scenic vistas, diverse landscapes and recreational activities"*, a more sophisticated set of policy instruments are required to deliver these goods (AFBF. 2001. Testimony 3). This means that policy is no longer focused on regulation and policing environmental damage, but on providing incentives *"…for farmers and ranchers to produce things the public wants"* (AFBF. 2001. Testimony 3).

Ultimately it should be possible to sell these environmental goods in the same manner that agricultural commodities are currently sold. To this end *"…agriculture and the government program must come together to create an alternative market for environmental improvements or amenities that the public desires"* (AFBF. 2001. Testimony 3). Thus, incentive based programs can help create a platform for an entirely new market which will enable farmer's to continue production, and to continue providing the environmental amenities society demands.

The Conservation Security Program was believed to represent the model incentive based program which could pave the way for such an alternative market in environmental goods. Not only is the program incentive based, but it is also voluntary. Furthermore, unlike other conservation programs which focus on land retirement, the CSP kept land in production. Such a program was thought to be ideal in achieving the objectives of both farmers and environmentalists as it provides:

> *"…farmers and ranchers the opportunity to enhance profitability while preventing soil erosion, conserving and restoring wetlands, cleaning the air and water, and enhancing wildlife."* (AFBF. 2005. Newsletter Article 16)

While the Farm Bureau was largely supportive of the goals of the CSP, they did raise some serious concerns regarding the programs design and the level of resources committed to it. In relation to the design of the program there was significant concern expressed about limiting its

implementation to specific watersheds rather than opening it up to all agricultural producers. It was felt that this represented a significant departure from the intent of the act drawn up by Congress. To this end, it was stated that:

> *"We also believe that the final rule should reflect the mandatory status of the program. If the CSP is implemented consistent with the law and congressional intent, it will deliver enormous environmental and economic dividends to agricultural producers, rural communities and all Americans"* (AFBF. 2004. Testimony 5)

It was also recommended that the program should be pursued through flexible contracts tailored to individual farmers, and that education and training play a key role in promoting the program's environmental goals. The restrictions placed on the program were largely thought to be a result of the limited resources being made available for its implementation. Particular attention was paid to the limits placed on the amount of money that USDA agencies could spend on technical assistance to support the program implementation. This presented as being an important factor in deciding to restrict the CSP to certain watersheds.

Environmental Defense Fund (EDF)

For the most part the issues discussed by EDF in the documents reviewed were focused on environmental quality concerns. These concerns were mostly put forward in discussions of farmers' potential role in addressing *"many of America's most pressing environmental problems"* (EDF. 2004. Fact Sheet 1). This potential depends on the willingness of farmers' to act as stewards (protecting, restoring, and conserving) of the nation's natural resources, including forests, grasslands, croplands, wetlands. This stewardship role was discussed in over one quarter of the documents reviewed. The importance assigned to farmers as stewards of the land stems from the fact that agriculture occupies over 50% of the land of the contiguous United States, and that

> *"…no single economic activity has as great an impact on the quality of our drinking water, the character of our landscape, and the future of imperiled wildlife as agriculture, and few have the same capacity to affect global warming and public health."* (EDF. 2001. Report 1)

However, the positive stewardship role of farmers is not believed to be simply the result of agriculture occupying such a large block of land. Instead, it is argued that this role is contingent on particular practices which serve to "*protect and enhance the environment"* (EDF. 2001. Report 1). Such practices include the installation of buffer strips, reduction in fertilizer and pesticide use, improving native grasslands, and reusing manure.

In discussing the stewardship role of farmers, particular attention was paid to a number of specific resource concerns including wildlife habitats and ecosystems (discussed in 40% of documents reviewed), and water quality (20%). The discussion of wildlife habitats focused on the importance of farming and ranching in the protection of species rich tallgrass and shortgrass prairie, wetlands, and woodlands. Farming was thought important for the protection of these various ecosystems largely because of its position as one of the major land uses in the country. Indeed, the General Accounting Office estimated that most endangered species (80%) occurred on privately owned land, the majority of which is farm or ranchland (EDF. 2004. Fact Sheet 1).

Again, the protection of the habitats for these species was contingent on a range of practices including *"…enhancing woodlands and grasslands, planting trees to shade streams, controlling invasive weeds, reducing the drift of pesticides, and improving irrigation techniques to leave more water for fish."* (EDF. 2001. Report 1). Thus, farming as an activity does not automatically benefit wildlife habitats and the diverse ecosystems they depend on. Rather, farming's beneficial impact can be enhanced through good practice in agri-environmental stewardship.

Water quality was also discussed in a number of different documents. Agriculture was presented as having a significant negative impact on water quality nationwide. This was largely thought to result from the fact that more than "*half of the country's rain and snow falls on farmland"* (EDF. 2001. Report 1). This means agriculture is a major contributor of polluted (with pesticides and nutrients) run-off to the nation's watercourses. Thus, agriculture has a largely negative impact on water quality. This impact can however be mitigated through a number of different practices, particularly a reduction in the amount of nutrients and pesticides applied to the land. Other resource related concerns discussed by EDF included agriculture's impact on public health and climate change. Public health concerns related the negative impact of pesticides, livestock manure, and the overuse of antibiotics in livestock production on both rural residents and food consumers. Farming was thought to possibly play a positive role in dealing with climate change by providing alternative renewable energy sources and increasing the sequestration of greenhouse gases absorbed by plants and the soil.

Overall, the potential for agriculture to play a positive stewardship role over the nation's natural resources was largely thought to be contingent on the adoption of certain agri-environmental practices. However, it was acknowledged that farmers could only adopt such practices with the active support of the federal government – i.e. they need financial incentives to offset the potential loss in productivity. Therefore, agriculture does not actually have a beneficial

relationship with the environment, but rather has the potential to play such a role in the future if government support is forthcoming.

The major threat to the realization of this potential is the structure of the contemporary government policy. This problem was discussed in 27% of the documents reviewed. Accordingly, government policy as it stands actually promotes the exact opposite of stewardship on working lands. In the first instance, most farm programs are highly selective and unequal in terms of who receives support:

> *"According to the most recent farm census in 1997, nearly two thirds of all farmers do not receive government payments. Much of the reason is that most payment programs only support growing a few animal feed grains, wheat and cotton and do not support other kinds of agriculture"* (EDF. 2001. Report 1).

Ironically, the type of production which is supported is the most ecologically damaging (e.g. cotton or grain fields), while systems that have the potential to be more ecologically benign, such as livestock grazing and organic vegetable production, receive little support.

Even programs and policies which were supposed to help the environment were thought to have perverse effects. Firstly, most farmers seeking to mitigate their impact on the environment and public health are turned away by the agencies responsible (EDF. 2001. Report 1). Furthermore, legislation such as the endangered species act actually encourages farmers to make land inhospitable to rare wildlife, because the presence of such species on their land would actually result in restrictions on its use.

The Conservation Security Program was supposed to represent a positive alternative to these contradictory policies, rewarding farmers for good environmental stewardship. However, EDF also raised concerns about this program. Most of these concerns focused on the inability of the agency responsible for the program's implementation, the NRCS, to come up with workable regulations. This is largely because the NRCS has little experience in promoting programs that encourage management intensive conservation, having traditionally focused on land retirement programs. As a result they decided to limit the program to high priority watersheds and restrict program enrollment to very short time periods in any given year.

The restrictions placed on the Conservation Security Program also reflected rising public deficits. Budgetary limitations were mentioned as a challenge to conservation programming in close to one third of the documents reviewed. These restrictions came into force during the FY2005 appropriations process.

Among the documents reviewed the socio-political actors which received the most attention as those responsible for promoting agriculture's stewardship role included state (discussed in 20% of documents), and federal (13%) agencies. Government agencies identified as

having an important role to play include the Natural Resource Conservation Service, local Soil and Water Conservation Districts and the Cooperative Extension Service. However, it wasn't just government agencies that were believed to have responsibility for conservation. In describing a model land stewardship program being implemented in California it was stated that:

> *"Partnerships with farmers, ranchers, local organizations and community are essential to the long-term success of agriculture, conservation and community in the region,"* (EDF. 2005. Newsletter Article 9).

This suggests that EDF is positively oriented towards collaborative approaches to conservation, and believes that the interests of agriculture and the environment can be reconciled. Thus, even though EDF is an environmental organization, it is not necessarily an advocate of a command and control environmental policy (in some cases these policies are presented as being environmentally harmful e.g. certain provisions of the endangered species act).

Even though EDF raised some serious concerns regarding the potential impact of the Conservation Security Program, it was thought to represent the ideal solution to the challenge of promoting environmental stewardship on working lands. To this end EDF put forward a range of recommendations on the objectives (discussed in 20% of the documents reviewed), design (33%), resources (20%), and evaluation (13%), of the program.

The recommendations pertaining to the program objectives focused on balancing environmental goals with the need to protect farm viability. It was argued that programs should aim to "*reward achievements other than volume—such as environmental performance"* (EDF. 2001. Report 1). It was further stressed that achieving environmental goals meant going beyond *prohibiting landowners from doing harmful things* (EDF. 2003. Report 2) and encouraging them to engage in environmentally beneficial land management practices. These practices might include a diverse range of activities, including:

> *"…restoring natural vegetation, controlling invasive species, altering grazing activities, using prescribed fire, reintroducing rare species or carrying out other beneficial management actions."* (EDF. 2004. Fact Sheet 1)

This suggests that the program should be designed to take account of differing management intensity levels required on different farms in order to deliver the desired environmental goods. The identification of appropriate management intensity levels was thought to also provide

> *"…producer's maximum flexibility and the entire agricultural sector incentives for innovation. To the extent management intensity levels can reflect actual performance; producers are free to find their own, innovative ways of reaching that performance."* (EDF. 2004. Comment 1)

Other recommendations regarding program design included the removal of the restrictions on the program regarding priority watersheds and enrollment categories. It was argued that the program was established as an entitlement program and it should be continued as such. A crucial step in ensuring that the program continues to be treated as an entitlement program is the appropriation of sufficient resources for its implementation:

> *"Only without funding caps will this program be available to all producers in all watersheds in every state."* (EDF. 2004. Newsletter Article 7).

It was argued that this approach to program funding was in line with the intent of Congress when the Conservation Security Act was passed as part of the 2002 Farm Bill.

Finally, a number of recommendations were made regarding the monitoring and evaluation of the program. Among these recommendations, the most important was that clear:

> *"Indices to measure environmental performance should be used to establish both eligibility criteria and payment levels"* (EDF. 2004. Comment 2).

This suggests that a baseline from which improvements in the priority resource concerns can be measured should be established. Furthermore, an instrument for the measurement of the management intensity levels necessary for the delivery of the desired environmental improvements also needed to be developed.

National Campaign for Sustainable Agriculture (NCSA)

One of the most important issues raised in the documents reviewed for NCSA was the potential for agriculture to play a stewardship role on working lands. This issue was discussed in over one quarter (28%) of the documents reviewed. Playing such a role would involve addressing a range of different natural resource concerns and pursuing a number of different management practices. The natural resource priorities identified in the documents reviewed included:

> *"…healthy and stable soils, cleaner water and air, greater biodiversity, better wildlife habitat, increased carbon storage, and restored and enhanced wetlands and prairie."* (NCSA. 2004. Open Letter 5)

Among the texts reviewed it was further acknowledged that agricultural practices need to be changed significantly in order to address these concerns. Indeed, in one document it was argued that agriculture is in fact a major threat to natural resource protection:

> *"Agriculture currently contributes to soil erosion, flooding, depletion and pollution of groundwater, air pollution, climate change, loss of wildlife habitat, and declining biodiversity.* (NCSA. 2005. Open Letter 6: 32 – 40)

Particular attention was paid to agriculture's negative effect on water quality, with claims being made that agriculture was the main cause of water pollution in the US. Another resource concern

that received a good degree of attention was that of wildlife habitats and sensitive ecosystems which were discussed in 14% of the documents reviewed. In order to address these different natural resource concerns a variety of management practices were suggested including crop rotations and rotational grazing.

The major threats to agriculture's potential to play a positive stewardship role over key natural resources are thought to lie within the legislative and bureaucratic arenas. According to one document the ongoing battle between the environment and agriculture "*…is perpetuated because we have an administration that simply won't listen to its own citizens and agricultural and environmental leaders, let alone follow the very legislative solutions it enacts* (NCSA. 2004. News Article 1). Thus, government support is essential if agriculture's stewardship potential is to be realized. However, the current political environment does not lend itself to the development and implementation of effective programs for the provision of this support. The lack of political will on this issue means that any progressive attempts to enhance the relationship between agriculture and the natural environment is blocked by bureaucratic inertia. Regarding the Bureaucracy of the USDA, the NCSA claimed

> *"This "fourth branch" is just as "political" as the other three branches, but is missing some necessary checks and balances. The common tactics of this "bureaucratic" branch are obfuscation, delay and outright defiance of the will of Congress and thereby the will of the people."* (NCSA. 2004. News Article 1)

The Conservation Security Program was thought to be a good example of such inertia, where watershed and enrollment restrictions were put in place at the last minute. Furthermore, enrollment was restricted to very short time periods in any given year, which were not necessarily the most convenient for the program target group. Such restrictions were thought to be:

> *"…completely contrary to the law, and result in uncertainty and confusion for farmers and ranchers who wish to participate in the CSP, and also in far less progress in the use of the CSP to solve natural resource and environmental problems."* (NCSA. 2005. Action Alert 6).

These limitations of the Conservation Security Program are also reflective of the budgetary difficulties currently being experienced at the Federal level of government. This challenge was discussed in over one fifth (22%) of the documents reviewed with concern being experienced over proposed funding caps and limited financial assistance for individual farmers.

A range of different socio-political actors were thought to be responsible for promoting agriculture's stewardship role, and overcoming the challenges to the realization of that goal. These actors included state and local government agencies (discussed in 8.3% of the documents reviewed), civil society (5.6%), family farmers (5.6%), and federal agencies (2.8%). State and

local agencies received the most attention in the documents produced by NCSA, as it was felt that conservation priorities should be: *"…set at the state level so the program can be as responsive as possible to the major resource issues in each region of the country."* (NCSA. 2004. Action Alert 3).

While priorities should be identified at the state level, implementation should largely be the responsibility of local agencies, particularly branch officers of the NRCS as well as the Soil and Water Conservation Districts. It was further argued that functions such as *"Conservation planning, conservation practice survey, layout, and design"* could be carried out by certified private "Technical Service Providers", while the NRCS and Conservation Districts should largely focus on the installation and certification of conservation practices (NCSA. 2004. Fact Sheet 1). Thus, the NCSA envisages a good deal of the functions of the various conservation programs being outsourced to the private sector, while the official actors take responsibility for program monitoring and verification.

The Farm lobby and other organizations were believed to have an important role to play, but mostly as advocates for change rather than partners in the implementation of programs. Despite this tendency to focus mostly on the responsibility of government agencies at the sub-national level, a recommendation was also made regarding the potential for *"collaboration among conservation programs"* using the NRCS partnership and cooperative provision:

> *"This initiative specifically calls for collaboration among state and local agencies, Indian tribes, and nongovernmental organizations to encourage cumulative conservation benefits through cooperation of producers spanning multiple agricultural operations"*. (NCSA. 2004. Fact Sheet 1)

Thus, the NCSA is supportive of collaborative management arrangements for resource conservation, and believes that the current legislation enables such arrangements.

Overall, there was strong support among the documents reviewed for the provisions of the Conservation Security Program. Indeed most of the texts reviewed were focused on lobbying Congress and the NRCS to ensure the potential of this program is fully realized. To this end a range of different recommendations were put forward regarding the design of program (discussed in 33% of the documents reviewed), program objectives (14%), program activities (19%), program resources (25%), and program evaluation.

By far the most attention was paid to program design. The recommendations on this aspect of the program included dropping the rotational watershed approach, and limited sign up period for enrollment. Instead the program should be "*nationwide ….available to all types of producers in all regions of the country"*, with enrollment occurring on a continuous basis throughout the year. This would reflect the entitlement status of the program. It was also felt that

the program should encourage a systems approach to planning "…*with integrated consideration of the entire farm and its relation to the ecological system of which it is a part.* (NCSA. 2006. Policy Statement 4). Such comprehensive plans should serve as an entry requirement for all conservation programs.

A number of recommendations were also made regarding the program's objectives. Firstly it was suggested that the focus of the program be broadened beyond the official natural resource priorities of *"soil, water, air, energy, plants, and animals"*, which were considered basic concerns, to include items such as

> *"…biodiversity, on-farm conservation, screening, and evaluation of plant germplasm and other biological resources, nutrient and pesticide reduction, energy conservation, wildlife habitat management, greenhouse gas emission reductions, and carbon sequestration* (NCSA. 2002. Open Letter 1).

It was also suggested that clear national and regional objectives for natural resource and environmental improvement be established, which would act as a framework for all agencies (at both the state and federal level) operating in this arena.

In order to address these objectives a number of additional activities were recommended for the program, in addition to those already prescribed under the program provisions. These activities included outreach efforts to underserved farmer groups, on site research and demonstration in order to pilot test innovative practices, as well as extensive training and outreach to agency staff and partners in order promote greater understanding of sustainable and organic agricultural systems.

The existing activities, as well as the additional ones recommended would of course require an adequate level of funding for the program. This means that the funding cap recommended for the Conservation Security Program should be removed, and that funds cut from the program should be restored.

Finally a number of recommendations were made regarding the evaluation of the program. These included basing the enhancement payments farmers receive on specific performance outcomes. This recommendation stems from the idea of on-farm research and demonstration, which could also serve as instruments for on-farm monitoring and evaluation of program outcomes.

The Discursive Field Of the Conservation Security Program

The following provides a summary of how each organization framed agriculture's multifunctional role. The issues, threats, actors and solutions identified by these different actors represent the boundaries of the discursive field of the Conservation Security Program.

Table 18: The Discursive Field of the Conservation Security Program

	NRCS	*AFBF*	*EDF*	*NCSA*
Issues	Stewardship on Working Lands, Water Quality and Quantity, Soil Quality, Plant Protection, Wildlife and Habitat Protection, Economic Sustainability, Food Security, Air Quality, Alternative Energy	Economic Sustainability, Food Security, Water Quality, Wildlife Habitat, Soil Quality, Climate Change	Stewardship on Working Lands, Wildlife Habitats and Ecosystems Protection, Water Quality, Public Health, Climate Change	Stewardship on Working Lands, Soil Quality, Water Quality, Air Quality, Habitat Protection, Climate Change, Biodiversity
Threats	Command and Control Environmental Regulation, Low Commodity Prices	Command and Control Environmental Regulation, The Precautionary Principle, Low Commodity Prices, Government Budgetary Restrictions	Federal Commodity Subsidies, Command and Control Environmental Regulation, Funding and Bureaucratic Restrictions on Incentive Programs	Bureaucratic Inertia, Budgetary Restrictions
Actors	Farmers and Ranchers, Local Conservation Agencies, Federal Agencies, Private Planning Consultants, Civil Society	Federal Agencies, Environmentalists, State Technical Committees	Federal Agencies, State Agencies, Local Conservation Districts, Cooperative Extension.	Federal Agencies, State Agencies, Local Conservation Districts, Family Farmers, Civil Society, Private Planners
Solutions	Watershed Restrictions, Enrollment Categories, Technical Assistance Funding, Self-Assessment, Performance Indices, Market Based Solutions	Incentives Based Solutions, Market Based Solutions, Voluntary Programs, Adequate CSP Financing, Removing CSP Restrictions, Funding Technical Assistance	Incentive Based Solutions, Active Management, Removing CSP Restrictions, Monitoring and Evaluation	Removing CSP Restrictions, Holistic Planning Approaches, Incorporating Broader Resource Concerns, Localization of Planning, Outreach, Research and Demonstration, Funding Increase, Monitoring and Evaluation

Rather than multifunctionality of agriculture, the issue of stewardship on working lands was discussed in lieu of the concept of multifunctionality. Otherwise, the multiple functions agriculture identified are quite similar to those named by the European actors considered earlier. Most of the concerns addressed were material in nature, focusing on national resource priorities and socio-economic well being concerns such as economic development, food security and public health. The threats to these functions were largely attributed to the realm of public administration and the national agricultural economy, with little consideration given to global pressures for trade liberalization or competing land uses. The actors discussed include government agencies at different scales of governance, farmers, planning consultants, environmentalists and other civil society actors. There was little consideration of the role of consumers, processors, retailers or waged labor in the agri-food chain. The solutions proposed were all focused on supporting and enhancing the Conservation Security Program, with no group actively proposing to overhaul the program or take an alternative approach. However, this is likely to reflect the fact that many of the documents analyzed focused exclusively on the Conservation Security Program.

Ideological Orientations and Master-Frames

The NRCS adopted an ideological position which combined elements of both neoliberalism and eco-modernization. On the one hand the agency was advocating an approach which involved an active role for the state in managing conservation concerns, albeit in a manner which departed from the conventional command and control and land retirement approach taken to date. There was an emphasis placed on program innovation, performance monitoring as well as collaborative multi-actor approaches to natural resource management. However, it appears that this eco-modernization approach involved laying the ground for more market based solutions in the future, with the NRCS playing a role in constructing a market for environmental goods and outsourcing responsibility for promoting good conservation practice to the private sector. Thus, the ultimate goal would appear to involve removing the state from the agri-environmental arena. The Conservation Security Program was expected to play a vital role in this regard.

The AFBF largely reflected the ideological orientation of the NRCS, but placed a stronger emphasis on rolling back the state, particularly in relation to its command and control approach to environmental regulation. Market based solutions to conservation were thus envisioned as a desirable endpoint. For their part, the EDF adopted an eco-modernization orientation arguing in favor of incentive based approaches and in some instances (such as the endangered species act) against the command and control approach to environmental regulation. Most of the criticisms of the CSP focused on bureaucratic inertia while the solutions advocated were largely technocratic in nature and included enhanced performance monitoring as well as collaborative natural resource management. However, even though the EDF advocated solutions based on the principles of eco-modernization, they defined the issues surrounding the need for environmental stewardship largely in hygienic terms. Thus, it could be said that the EDF largely advocated a hybrid hygienic-eco-modernization perspective.

Two different ideological orientations emerged as important when the material produced by the NCSA on this issue was examined. On the one hand the organization expressed a hygienic orientation by focusing on the negative effects of agriculture as a sector, claiming that farming was a major contributor to water pollution and arguing that the sector needed to be transformed in order to realize its potential stewardship role. However, there was also evidence of an eco-modernization orientation with arguments being made for a re-negotiated role for government agencies in relation to conservation programs, whereby the NRCS is responsible for program design, monitoring and evaluation, while implementation becomes the responsibility of private sector operators.

In terms of master-frames, it appears to be the case that the NRCS and AFBF drew mostly on the constituent ideologies of the neoliberal master-frame. The NCSA and EDF also drew on the neoliberal master-frame, however, the hygienic position they adopted, in relation to certain resource concerns, involved drawing on the discursive resources of the sustainability master-frame.

Hegemony and Resistance

Based on the analysis conducted, and on the fact that each of the socio-political actors was supportive of the Conservation Security Program, at first glance, one might be tempted to classify eco-modernization as the hegemonic ideology in this discursive field. However, if we look closely at the positions articulated, one can see two different versions of eco-modernization emerging. On the one hand, there is a vision of eco-modernization as a means of moving towards market based solutions, which suggests a hybrid neoliberal – eco-modernization orientation. This is the role the NRCS envisions for the Conservation Security Program. Instead of promoting a more socially and environmentally just alternative to commodity payments, what is envisioned is a program that will facilitate a transition to a market based system of environmental credits. The free-market ambitions for the program reflect the current political climate in the United States, with the Republican party controlling both houses of Congress and the Executive Branch of the Government.

The Farm Bureau was largely supportive of the NRCS position as it represents an alternative to command control environmental regulation and the land retirement programs which have increased the price of rented land in some parts of the country. The Farm Bureau has historically had close ties with the Republican party, and is therefore likely to find policy programs promoted under the administration of this political party acceptable (Coleman 2001). The Conservation Security Program is also largely compatible with the continuation of payments for particular commodities as it allows land to be kept in production.

On the other hand it would appear that the EDF and NCSA, view eco-modernization primarily as a practical solution to hygienic concerns, in a sector that is not amenable to command and control regulation. They do not necessarily advocate a complete transition to a market based approach, but rather that the state should continue to support agriculture's multifunctional role using an incentive based and collaborative management approach. The support of the EDF for this position reflected a desire to see viable alternatives emerge to the current system of commodity payments which are thought to be environmentally destructive.

Thus, a program which encourages pro-active ecological management on almost half of the nation's private lands is to be welcomed regardless of its ideological orientation.

The fact that the National Campaign for Sustainable Agriculture adopted a similar orientation to the EDF implies that there is an interest in seeing the state continuing to play a role in the governance of the agri-food system. Such an approach is also reflective of consumer concerns regarding quality food production. According to Goodman (1999) such a consumer orientation privileges technicist and managerialist discourses and fails to challenge the broader structural processes driving agriculture in an unsustainable direction. Thus, sustainable agriculture is increasingly defined in technical terms, while other important social and ecological relationships are ignored.

Overall, one can conclude that combining eco-modernization with different ideological perspectives (roll back the state neoliberalism or the hygienic perspective), creates entirely new orientations which chart different paths for the future of the agrifood system. The hybrid neoliberal - eco-modernization orientation seeks to create an enabling environment for solving environmental problems through market based solutions, while the hygienic – eco-modernization orientation, is focused primarily on pragmatic, uncontroversial solutions to environmental problems. Because, the neoliberal – eco-modernization orientation is advocated by the official actor (the NRCS) and the Farm Bureau, this could be considered as occupying at least a partial hegemonic position in this discursive arena. The partial hegemony of this orientation receives further evidenced from the fact that neither the NCSA nor the EDF sought to directly challenge this argument in the documents reviewed.

CHAPTER 9: THE RURAL ENVIRONMENTAL PROTECTION SCHEME IN IRELAND

In this chapter, different stakeholder interpretations of agriculture's multifunctional role in Ireland are explored through examining the public discourse on the Rural Environmental Protection Scheme (REPS). As part of the analysis, an in-depth case study of agri-environmentalism in the Burren, County Clare is presented. Before proceeding to describe how agriculture's multifunctional role was framed at both the national level, and in the local context of the Burren, it is first necessary to discuss some aspects of agriculture in Ireland.

First of all, it is important to consider the significance of agriculture to the Irish economy and environment. Table 19 provides details on this issue.

Table 19: Economic and Land Use Significance of Agriculture in Ireland*

	Number	% of total	
Agricultural Area (Ha)	4,305,000	64%	Of the land area
Numbers Employed in Agriculture*	192,900	5.9%	Of the workforce
Agriculture's contribution to GDP (million Euro)	2718.6	2.1%	Of total GDP

*Department of Agriculture and Food 2005

From the above table it can be seen that while agriculture makes a relatively minor contribution (just over 2%) to the nations gross domestic product, nearly six percent of the workforce are employed in the sector. Furthermore, most of the country's land area (64%) is covered by agriculture, meaning it has the potential to have a major impact on the nation's environmental quality. This means that a much great proportion of Ireland's land area is under agricultural production than is the case for the EU as a whole (41%). As can be seen from table 20 below, most of the land area covered by agriculture in Ireland is made up of small and medium scale operations. However, a good portion of these farms are operated on a part time basis. The distribution of farms by size category is very different from that for the EU as a whole where the majority of operations are less than five hectares.

Table 20: Structural Characteristics of Agriculture in Ireland*

Structural Feature	*Ireland*		*European Union*	
	Number	*Percent*	*Number*	*Percent*
Numbers of Holdings	135,100		9,870,590	
Holdings with Area under 5ha	10.,500	7.8%	6110070	61.9%
Holdings with Area between 5 and less than 20ha	48,900	36.2%	2268100	23.0%
Holdings with Area between 20 and less than 50ha	51,500	38.1%	823105	8.3%
Holdings with 50 or more hectares	24,200	17.9%	669270	6.8%
Full time Farms	77,900	57.7%		
Part time Farms	57,200	42.3%		

*CEC 2006

A breakdown of the value of agricultural production in Ireland by commodity, presented in table 21, shows that the most important commodities in Ireland are Cattle and Dairy products.

Taken together these commodities account for over half the euro value of production. Commodities such as cereals, fruit and vegetables, among others, accounted for relatively small proportions of the total production value. This is very different from the situation for the EU as a whole where fruit and vegetable production, along with cereal production are among the most important categories.

Table 21: The Value of Agricultural Commodities Produced in Ireland*

Commodity	*Euro Value*	*Percent*
Cattle	1,924,674,600	32.0%
Dairy	1,426,057,400	23.7%
Other	936,582,700	15.6%
Cereals	320,279,900	5.3%
Sheep and Goats	301,803,500	5.0%
Pigs	282,268,000	4.7%
Ag Services	244,456,900	4.1%
Fresh Fruit & Vegetables	233,544,900	3.9%
Poultry & Eggs	165,972,200	2.8%
Potatoes	98,669,900	1.6%
Sugar beet	72,115,000	1.2%
Total	6,006,425,000	100.0%

*CEC 2006

Another important feature of agriculture in Ireland is its relationship with the natural environment. One way of looking at this relationship is through tracking over time (1997 – 2002) the consumption of potential pollutants (fertilizer and pesticides) along with the percentage of the agricultural land area certified as organic. Information on these trends is presented below in table 22. What this analysis shows is that the amount of pesticide consumed in Ireland was always relatively small (probably owing to the small amount of land used for tillage), and tended to fluctuate between 1300 and 1400 tons in any given year.

It also appeared to be the case that only a small amount of the agricultural area (0.7%) was under organic production during this time and that this did not appear to vary to any significant degree. This differed greatly from the situation for the EU as whole, where the amount of land under organic production increased greatly during the same period. There was however some progress in the amount of chemical fertilizer consumed which has been progressively reduced an annual basis since 1997.

Table 22: Environmental Indicators for Ireland

Environmental Indicator	*……Years Covered……*					
	1997	*1998*	*1999*	*2000*	*2001*	*2002*
Tons of Pesticide Consumed	1,312	1,493	1,383	1,342	1,470	1,312
Tons of Chemical Fertilizer Consumed	660,000	712,000	692,000	599,410	589,717	587,000
Total Agricultural Area Under Organic	NA	0.6	0.7	0.6	0.7	0.7

*Source: Eurostat 2006

Another important aspect of agriculture in Ireland is the distribution of public expenditure to support different commodity categories and rural development goals. Most of this expenditure is financed under the EU Common Agricultural Policy (CAP). From table 23 presented below it can be seen that nearly two billion euros were expended under the CAP in 2004, and over half of this expenditure was made in the form of direct payments to specialist producers of animal products. The next most important payment category was that of export refunds. What is interesting is that the Rural Environmental Protection Scheme (REPS), although achieving nowhere near the levels of expenditure on animal product payments, was among the highest expenditure categories for that year, representing close to ten percent of total expenditure.

Table 23: Common Agricultural Expenditure 2004 by Budget Category

	2004 Budget	**Percent**
Animal Product Payments	959,615,949	53.7
Export Refunds	214,147,160	12.0
Rural Environmental Protection Scheme	143,176,654	8.0
Plant Product Payments	139,926,261	7.8
Compensatory Allowances	123,913,627	6.9
Other Payments	95,537,441	5.3
Afforestation	51,119,427	2.9
Early Retirement	39,189,669	2.2
Intervention	21,510,428	1.2
Total	1,788,136,616	100.0

*CEC 2006

Overall, it can be said that while agriculture in Ireland, has a relatively modest economic impact, its role as the major land use in the country means its potential environmental impact is significant. For the most part agriculture in Ireland is characterized by small to medium scale dairy and beef operations. Over the last number of years the sector has been successful in reducing the consumption of chemical fertilizer use. This may in part be due to the significant amount of expenditure on the Rural Environmental Protection Scheme.

Having provided some facts about agriculture in Ireland, let us now turn our attention to how agriculture's multifunctional role was interpreted by a range of different policy actors in the debate surrounding the introduction and implementation of the Rural Environmental Protection Scheme between 1999 and 2005. The actors involved in shaping this debate whose contributions are the focus of this chapter include the Department of Agriculture and Food, along with Teagasc (as the official mainstream actors), the Irish Farmer's Association (representing the commercial farm lobby), the Irish Organic Farmer's and Growers Association, (IOFGA - representing

alternative farm interests), and An Taisce (representing the environmental movement). The following table provides summary information on the texts reviewed:

Table 24: Number of Documents reviewed relating to the Rural Environmental Protection Scheme

Organization	*Documents*	*Pages*
Department of Agriculture and Food	20	759
Teagasc	12	124
Irish Farmers Association	27	76
Irish Organic Farmer's and Growers Association	8	24
An Taisce	10	46
Burren Documents	25	96
Total	102	1125

From the above table it can be seen that over 100 documents were reviewed for the purposes of this study. These documents included press releases, speech transcripts, newspaper articles, official reports, and policy submissions. The data drawn from this documentary evidence was reinforced with information garnered from semi-structured interviews conducted with representatives of each key policy actor at the national level, and with grass-roots activists and street level bureaucrats in the Burren. In total, fifteen interviews were conducted.

The findings from this research are presented in this chapter in three sections. The first section deals with the mainstream and challenging frames dealing with agriculture's multifunctional role offered by different socio-political actors at both the national level, and at the local level in the Burren. This is followed by a discussion of the discursive boundaries of the debate on REPS. The final section seeks to identify and compare the ideological orientations of these actor discourses at both the national and local level.

Mainstream & Challenging Frames

For each actor, the manner in which they framed agriculture's multifunctional role in their contributions to the debate on the Rural Environmental Protection Scheme is discussed. This involves describing the key issues and concerns addressed in these contributions, the threats, challenges and causal factors underpinning these concerns, the actors responsible for dealing with these challenges, and potential solutions.

The Department of Agriculture and Food (DAF)

The multifunctional role of agriculture in Ireland was explicitly mentioned in a number of the department documents reviewed, and during the interview conducted with a representative of

the department. The official interpretation of agriculture's multifunctional role was articulated in a departmental strategy document as follows:

> *"Its main elements include a strong competitive focus…high animal health and welfare standards, environmentally sustainable production methods, the provision of public goods such as clean water, retention of rural amenities and landscape, wild life habitats, and biodiversity, as well as the maintenance of vibrant and active rural communities*." (DAF. 2006. Strategy 2).

This vision of multifunctional agriculture focuses both on agricultural practices which are conducive to the production of the positive functions of agriculture, as well as the functions themselves. There was further discussion of some of the more important social and environmental impacts of agriculture in Ireland.

Environmental impacts discussed included biodiversity (discussed in 24% of documents), water quality, (14%) and landscape quality (14%). The relationship between agriculture and biodiversity in Ireland was largely believed to be positive with much of the nations wildlife believed to be *"dependent on agriculture and the continued existence or management of semi natural habitats"* (DAF. 2001. Speech 2). Agriculture was believed to play a key role in creating species rich grasslands, where "*wader birds or field nesting birds can live and survive, in terms of their nesting, breeding season"* (Re: DAF Official Interview 2006).

The relationship between agriculture and water quality was not seen in such a positive light. During the interview conducted it was suggested that agriculture was bound to have some impact on water "*because farmers manage so much of the land"* (Re: DAF Official Interview 2006). It was further suggested in one of the departmental reports reviewed that the water quality problem caused by agriculture varies significantly between farms, and that a number of factors account for this:

> *"The Millennium Report identifies animal wastes and other byproducts as the main source of pollution of surface waters. The nutrient content of manure is very variable, and nutrient uptake by plants depends on the manner in which it is applied"* (DAF. 2001. Report 2).

Overall, the tone of these discussions was sympathetic to the plight of farmers, and sought to articulate the complexity of the relationship between agriculture and water quality. Furthermore, there was a good deal of optimism expressed about the potential to improve the relationship between agriculture and water quality through reductions in the size of the national cattle herd and increased participation in the Rural Environmental Protection Scheme.

Agriculture's impact on the visual landscape was believed to have both positive and negative aspects. On the one hand, agriculture has helped create *"a semi-natural and, in the main,*

*beautiful physical environment" (*DAF. 2002. Report 4). However, it was also acknowledged that modern farming structures could obstruct the landscape:

> *Farmyards can often by their nature be exposed and visually obtrusive in the landscape, and can be a less than friendly environment for birds and other wildlife due to their size and location* (DAF. 2004. Speech 4).

This is an example of an aspect of modern farming which negatively affects both the visual quality of the landscape and biodiversity.

A number of social and cultural impacts of agriculture were also identified, the most important of which was its role in food provision (discussed in 19% of documents). A particular emphasis was placed on the importance of the production of quality food in Ireland which could satisfy growing niche market demands. It was suggested that this function complemented environmental quality objectives as the production of quality food products involved exploiting the land in an "*extensive and environmentally friendly manner"* (DAF. 2004. Speech 4).

Other socio-cultural benefits discussed included agriculture's impact social cohesion in rural areas, with farming thought to contribute positively to a sense of community:

> *"The community spirit I guess of looking after neighbors, if there was a cow calving on a neighboring farm, you went in and helped the neighbor, you know sharing farm machinery in the past and all that."* (Re: DAF Official Interview 2006).

Agriculture was also believed to have made a significant contribution to the nation's heritage, providing not only a physical reminder of the past in the form of traditional structures such as stonewalls, but also a continuation of the traditional knowledge necessary for the maintenance of these structures (e.g. thatching roofs, repairing stone walls, managing hedgerows etc).

Agriculture's multifunctional role in Ireland was presented as being challenged on two fronts. On the one hand, the process of intensification undermines agriculture's positive impact on biodiversity and the visual landscape, while further exacerbating the pollution of watercourses. On the other hand, the very existence of agriculture in Ireland is threatened by a combination of factors.

The intensification of agriculture was said to have resulted in a range of negative consequences for Ireland's natural and cultural environment including "*polluted rivers and lakes, miles of hedgerow have been lost as well as archaeological sites have been destroyed"* (DAF. 2001. Speech 2). A combination of technological developments in agricultural science (discussed in 14% of documents) and policy incentives (10%) are thought to have underpinned this process. Changes in the technical means of production such as chemical fertilizer and animal housing were thought to not only present threats to the natural environment but also food quality. Furthermore, the political emphasis placed on cheap food following the Second World War led to a policy

regime which damaged the *"viability of smaller farmers and small rural communities"* (DAF. 2001. Speech 1).

There were a number of contemporary challenges facing the overall viability of agriculture in Ireland. These challenges included natural and disease events (discussed in 14% of documents reviewed), and the liberalization of trade in agricultural produce. The threat of Foot and Mouth disease was thought to be particularly challenging, and was only narrowly averted in 2001. However, the very existence of the threat interfered with efforts to implement agri-environmental programs in the countryside as farm-visits by planners and department officials were severely cut back.

The challenge posed by the liberalization of global trade in agricultural commodities was also discussed. Farmers still have to earn a living and there

> *"…are only so many efficiency measures a farmer can put in place…unless the price for his output is right, then he has problems We're dependent on the world prices so what can we do"* (Re: DAF Official Interview 2006).

The price squeeze facing farmers in Ireland is thought to have a negative impact on good agricultural and environmental practice. This is so, as farmers may be obliged to look for off-farm employment, and have less time to devote to the proper maintenance of their operation. For example, in the case of animal welfare, people working another job may not have time to dose animals or to spot animals that might be sick while checking early in the morning or late in the evening. Furthermore, the downward pressure on world prices may have a negative impact on global environmental quality:

> *"But if we ask for all our food to be produced in underdeveloped countries such as West Africa, Brazil or wherever, the environmental cost that they have is still going to cost us. They're cutting down the rain forest, they're polluting the watercourses, there are intensive farmers, there's poor labor standards. So, you know, it's a cost, we're either going to pay for it, or they're going to pay for it."* (Re: DAF Official Interview 2006).

This implies that even though we are paying farmers for environmental services in Ireland, such payments are futile if there is environmental degradation taking place elsewhere in the world.

Socio-political actors which were thought to play a key role in dealing with these challenges include farmers, consumers, government departments, private consultants, and civil society Overall consumer concerns are becoming more important, meaning a greater array of state and non-state actors are becoming engaged in agricultural policy making. Evidence of this can be seen from the consultation process for the fourth iteration of the Rural Environmental Protection scheme. This process engaged not only farmers and the Department of Agriculture and Food, but

also the Department of Community, Rural and Gaelteacht affairs, the Department of Environment and Local Government, Environmental NGOs, and private agri-environmental planners.

The recommendations made for promoting agriculture's multifunctional role included an extensive discussion of the Rural Environmental Protection Scheme. Overall, this scheme was viewed positively, as having been instrumental in the reduction of chemical and organic fertilizer use and helping to double the incomes of participant farmers. Innovative aspects of the scheme included the use of private planners as opposed to relying exclusively on the state extension system. This was thought to deliver better value to the taxpayer. Another innovative feature of the scheme was its broad and shallow nature at the outset, whereby farmers had to address a range of different environmental concerns, without being overburdened by the requirements. This provided farmers with an opportunity to "*look at it, and not see it as being over-burdensome. And then, once you have them in, you can start building with them, and getting them to do the more detailed prescriptions that you would like*" (Re: DAF Official Interview 2006).

There were also a number of problems identified with the scheme. One problem related to difficulties in adapting the program to the localized agro-ecosystems in the West of Ireland, in Mountainous Zones, and in the wet grasslands of the Shannon Callows (the lower floodplain of the river Shannon). For example, farmers in the West of Ireland have difficulties with the Hedgerow requirement, as the soil and weather conditions there are simply not conducive to these structures. A compromise solution required the creation of habitats instead of hedgerows:

> *"…we're asking farmers to fence off an area, and allow it to develop naturally, whether it be scrub or rough grass that develops in that area, and when you say that to a farmer in the west of Ireland, their eyes go to the sky, "what are you at – its already rough", "don't be asking us to fence off our only good field that we have"*. (Re: DAF Official Interview 2006).

Thus, even the compromise solution can be problematic. This example also highlights the difficulties experienced in adjusting the scheme to extensive production systems west of the Shannon.

Another, overall problem with the scheme is the fact that, under EU and WTO regulations, it is becoming increasingly difficult to offer real income incentives to farmers. This is so, as the WTO agreement on agriculture specifies that farmers can only be compensated for the value of production forgone as a result of implementing agri-environmental measures – e.g. the output from land turned into a stream buffer. It is believed there is a lack of understanding on how this principle is applied to REPS:

> *"We're trying to say multifunctional agriculture, and we're paying you for biodiversity and water quality protection, but we're not, we're only paying you his loss of commercial*

> *production, because of extra restrictions we're putting on"* (Re: DAF Official Interview 2006).

Previous iterations of the program allowed for the provision of extra payments in order to encourage people to enroll, but under the next iteration it is expected that this will only be possible in particularly sensitive areas.

A range of different recommendations on possible improvements to the scheme were discussed. These included the simplification of procedures for enrollment, emphasizing compliance rather than penalties, re-introducing public access payments, and establishing a permanent REPS forum. Other recommendations made focused on the cross compliance requirements for the newly introduced Single Farm Payment and the implementation of regulatory restrictions on the use of nitrates.

Teagasc – The Agriculture & Food Development Authority

Agriculture's multifunctional role in Irish society was acknowledged in a number of documents produced by Teagasc. In one report on the future direction of agriculture in Ireland it was stated that:

> *"The preferred vision of Irish agriculture in 2025 is one where the wider industry fully achieves a multi-functional role as both the supplier of safe and high quality food and the means of fulfilling a complimentary range of environmental and public goods objectives in order to sustain rural viability in both an economic and environmental sense"* (Teagasc. *2005. Report 4)*

The pursuit of multifunctionality in agriculture is believed to complement the increasing demands of consumers for high quality food produce. This is so, as the farming practices which produce environmental and other public goods, are also necessary for the production of safe and high quality food. The kind of public goods which were discussed in the documents reviewed, and during the interviews conducted included biodiversity (discussed in 36% of the texts), water quality (36%), landscape quality (21%), employment (14%), and cultural benefits (14%).

Among these benefits, by far the greatest amount of attention was paid to the issues of biodiversity and water quality. The discussion of the biodiversity effects of agriculture focused mainly on the sector's role in preserving wildlife habitat, especially bird habitats. Grassland production systems were thought to be particularly important in this regard, especially for:

> *"Wetland, and Wader birds, or any of the birds that depend on open grassland, say for instance the lapwing, snipe, they wont live in Forestry or Scrubland, they need grassland"* (Re: Teagasc Representative Interview # 1, 2006)

The maintenance of these species rich grasslands, as well as other crucial sites for native flora and fauna, is said to depend on the continuation of "*traditional farming practices, and less intensive*

farming" (Teagasc. 2005. Report 4). These systems of agriculture are thought to be characteristic of the West of Ireland and upland regions across the country.

While traditional agriculture systems were thought to play a positive role in protecting biodiversity, the impact of agriculture in general on water quality was thought to be largely negative. For example:

> *"Even this summer, and every summer, you get towns throughout the midlands that get their water supply closed for a number of weeks or months. Now it's never clear from the media reports as to whether it's due to agriculture or a sewage system or whatever, but I've no doubt that agriculture is responsible for some of these cases."* (Re: Teagasc Official Interview # 2, 2006).

Most of the water quality problems attributed to agriculture related to the over use of certain fertilizer products, especially nitrate based products. In some parts of the country severe restrictions have been placed on the use of these products due to their designation as *"nitrate vulnerable zones"* (Teagasc. 2000. Press Release 2). However, overall the risk posed to water quality by agriculture is decreasing, with Teagasc researchers finding an overall decrease in Fertilizer usage by Irish farmers. However, there are discrepancies between fertilizer usage in different systems, with dairy farmers using almost "*four times as much nitrogen and nearly twice as much phosphorus and potash per hectare as cattle and sheep farmers"* (Teagasc. 2002. Press Release 5).

The main threats to agriculture's multifunctional role in Ireland were thought to include the process of the intensification of commercial systems (discussed in 29% of documents reviewed), and the marginalization of more traditional systems (21%). In terms of agricultural intensification, this is thought to be a problem for the most agriculturally productive areas of the country, especially in the South East and South West. In *"…commercial farming areas the growing competition for land combines with increasingly intensive agricultural production systems… lead to greater levels of habitat loss and decline in natural population."* (Teagasc. 2005. Report 4). Agricultural practices thought to be characteristic of the intensification process include *"monoculture", "grassland or cropping with large fields and non hedgerows or margins",* and dairy operations with a large number of livestock units per acre (Teagasc representative, Interview #2, 2006). Many of these practices were encouraged under early versions of the Common Agricultural Policy, until the reform of that Policy in the early 1990s. Apparently there was even some overlap between the previous productivist regime which financed intensification, and the current regime which encourages extensification and environmental enhancement:

> *"For example the Farm Improvement Scheme used to provide funding for the removal of hedgerows – some farmers were still receiving this grant when the Rural Environmental Protection Scheme was introduce (which paid for the maintenance of hedgerows)".* (Re: Teagasc Representative Interview #1, 2006).

This means that while some farmers were receiving money to remove hedgerows and expand their operations, other farmers were receiving payments to preserve their hedgerows. In some cases an individual farmer could have received the removal grant one year, and the preservation payment the following year. Another process which was thought to underpin the intensification of agriculture in Ireland was the increased uptake of off-farm work, meaning farming is more and more becoming a part time occupation. This results in:

> *"…the concentration of the enterprise to those parts of the farm that are most economically viable, or using a high input – high output system which can happen in a smaller land area"* (Re: Teagasc Representative Interview # 2, 2006)

This suggests that in order to farm in a more time efficient manner, part-time operators may choose to intensively farm a smaller parcel of land, rather than extensively farm the whole operation. This development combines the two major threats to agriculture's multifunctional role in one operation with some parts of the farm, and the more labor intensive practices being marginalized, while other parts of the operation are intensified.

Overall, the discussion of marginalization as a threat to agriculture's multifunctional role focused on the abandonment of traditional and extensive systems of production. Because land with the highest nature value, is also likely to be the least productive, it is these areas which will be abandoned first. This process will have serious consequences for the nation's biodiversity:

> *"…much of the country would turn into scrubland which is our climax vegetation for much of the country, then we would have different biodiversity"* (Re: Teagasc Representative Interview # 1, 2006)

Aside from the growth of part time farming, a number of factors were believed to be driving the marginalization of certain types of agriculture. One factor is the transformation of the Common Agricultural Policy from a regime that encouraged production through price incentives, to a regime that provides farmers with a single payment, regardless of their level of production. This means that:

> *"…farming is no longer linked to production it's linked to historical payments. And that's going to make farmer's have a rethink about what exactly they are farming for"* (Re: Teagasc Representative Interview # 2)

The liberalization of global trade in agricultural products was also thought to pose a threat to continuation of agricultural production in Ireland, along with land use competition from housing and tourism development in high amenity areas.

The types of actors identified as playing a role in combating the threats to agriculture's multifunctional role in Ireland include the farmer's organizations, Teagasc, civil society, and researchers. The farmer's organizations were thought to be problematic as participants in the policy making process largely because the Irish Farmer's Association is not:

> *"…necessarily representative of the general farming community. It has a biased representation of the type of farmers that exist in the country. This is becoming more and more obvious."* (Re: Teagasc Representative Interview # 2, 2006)

It was argued that participation in the policy making process needed to be broadened beyond these groups and include a multitude of different actors, including:

> *"…policy makers, the farming community, farming representatives, NGOs, Researchers – who can provide technical expertise, and also maybe assist in defining objectives and information on how to implement them"* (Re: Teagasc Representative Interview # 2, 2006).

Academic and government appointed researchers were thought to have a particularly important role in the design of programs such as REPS. To date, there appears to have been little engagement with the research community in Ireland when such programs are at the design phase.

Most of the practical recommendations on how to enhance agriculture's multifunctional role in Ireland focused on the Rural Environmental Protection Scheme (REPS). This program was believed to have a number of positive features including "*farm scale tailoring in the form of the REPS plan"*, its success in *"changing farmer attitudes"* to the environment, and the *"broad but shallow nature"* of the program which required farmers to simultaneously address a number of resource concerns (Re: Teagasc Official Interview # 2, 2006). The major positive effect of the scheme on the natural environment in Ireland was its success in reducing fertilizer usage with REPS farmers spending 30% less on fertilizer than extensive non-REPS operations (Teagasc. 2000. Press Release 3).

However, despite these successes there were also a number of practical problems associated with the scheme. Firstly, large numbers of participants were never subject to inspections. This was due to the nature of the inspection system which functioned in the same way as the tax system where the chances of getting inspected are low but the penalties are high. Another problem identified with the scheme was the absence of any serious effort to monitor its environmental impact.

Thus, even though there have been improvements in water quality, the absence of clear environmental objectives for the scheme, as well as a baseline and environmental monitoring system means *it is difficult to disentangle how much of that cause and effect is due to REPS, and*

REPS alone, and how much is due to other policy measures (Re: Teagasc Official Interview # 2, 2006).

Concern was also expressed over the quality of the environmental plans produced. This concern related to the use of private planning consultants who have "*a vested financial interest"*, in not designating farms as having high ecological value. Accordingly:

> *"There is actually then a kind of a competition for the race to the bottom, whereby a planner who gets a reputation for not finding habitats on his farm, actually benefits the farmer."* (Re: Teagasc Representative Interview # 2, 2006)

Furthermore, many such planners had little knowledge of basic ecology, being primarily agricultural scientists, and thus did not possess the ability to even identify a habitat.

A range of different recommendations were made on how to improve the scheme including increasing the number of inspections, defining specific measurable objectives, and implementing an environmental monitoring program. One of the more innovative suggestions made included the introduction of "*spatial targeting for the program"* (Re: Teagasc Representative Interview # 2, 2006).

This was thought to be necessary as the scheme was viewed in a negative light by farmers in the western half of the country who occupied more marginal land and believed the scheme was designed in the interests of farmer's in the more productive east and south-east. Other innovative suggestions included the establishment of a national *"REPS Forum"* involving the relevant stakeholders, and the provision of *"Public Access Payments"*, which would reward farmers for allowing members of the public onto their land for recreational purposes (Teagasc. 2003. Report 2).

The Irish Farmer's Association (IFA)

While there was no specific reference made to agriculture's multifunctional role either in the documents reviewed for the Irish Farmer's Association or during the interviews conducted with its representatives, there was significant discussion of the sector's diverse effects on Irish society. These impacts included environmental quality (discussed in 17% of texts), culture and tradition (7%), economic benefits (7%), and food provision (7%).

A significant amount of attention was paid to agriculture's positive and negative environmental effects. According to the IFA, farmers play an important role in environmental management and help prevent rural areas from going wild. In one of the interviews conducted a range of different environmental benefits associated with agriculture were identified:

> *"Farming in Ireland provides the landscape, the environment, the archeological sites - preservation of those, maintenance of watercourses, clean water, general upkeep of the countryside "* (Re: IFA Representative 1 Interview, 2006)

Similar benefits were mentioned by the other representative interviewed, where it was claimed that "*Farmers maintain the countryside…it is a prettier, more attractive place, because farmers live there"* (Re: IFA Representative 2 Interview, 2006). In discussing these benefits during both of the interviews, and in the documents produced, it was assumed that such benefits derived from the agricultural sector as a whole, rather than any specific type of agricultural operation.

Other more traditional benefits associated with agriculture which were discussed included economic multipliers and food provision. Despite the declining economic significance of the primary food producing sector in Ireland it is still thought to be vital in ensuring the continued viability of the food processing sector, as well as the prosperous drinks industry. Furthermore, the visual impact of agriculture is believed to have a "*…knock on effect, not as economically tangible – but a good selling point… a lot of industries can piggy back on it through marketing the imagery of Ireland"* (Re: IFA Representative 1 2006). This was especially thought to be the case with the tourist industry, which depends on the maintenance of an agrarian landscape.

Another issue that was mentioned in both of the interviews conducted was the importance of agriculture to the culture and fabric of rural society:

> *"Farmers belong to Rural Society…we don't have in Ireland, what you have in America, or in parts of France, this issue of desertification, where there are vast tracks of land that nobody uses…". (Re: IFA Representative 1 2006)*

Thus, agriculture is believed to be essential for the continuation of a living countryside and the maintenance of a traditional way of life in Irish society. It was also thought to make a unique contribution to the continued sense of community in rural Ireland.

Agriculture's continued viability in Ireland, along with its ability to provide multiple benefits to Irish society, was thought to be threatened by range of different factors. The primary threat to agriculture's multifunctional role was thought to be the marginalization of agriculture in particular parts of the country, and in particular sectors (7%). One sector which was believed to be especially at risk of marginalization was sheep farming in upland areas. The vulnerability of this sector was attributed to the removal of price subsidies and the introduction of regulations designed to combat overgrazing. While it was acknowledged that overgrazing was a problem, the restrictions implemented were believed to be excessive, with one farmer quoted in the organizations journal as saying:

> *"We are 100% in favor of eliminating overgrazing but the letters that we have been hit with will eliminate farmers from this area as well,"*(IFJ. 2002. Newsletter Article 3).

Thus, environmental regulations introduced to combat a problem encouraged by price subsidies, combined with the price volatility resulting from the removal of subsidies, may run the risk of pushing farmers off the land. This combination of price instability and increased regulatory costs was believed to represent a problem for the entire agricultural sector, and was becoming more and more of a problem due to the liberalization of agricultural trade:

> *"The downside of Irish farming now is that we're obliged to compete with very cheaply produced product with less traceability and less controls, and an unsafer food product from my point of view…I think the EU - having invested so substantially in quality, traceability and controls…have to insist that imports are regulated to the same extent".* (Re: IFA Representative 2 Interview, 2006)

This suggests there is a concern about the inherent contradiction in introducing stringent environmental and food quality regulations, while opening up domestic markets to cheap foreign imports not subject to these regulations. This has the potential to severely restrict the ability of Irish producers to compete not only on the global market but also in the domestic market:

> *"It is not possible for a farmer in a high cost, highly regulated, food market in Ireland to compete, with a ranch in Brazil or Argentina, producing on a 1000 times the scale, and 50 – 100% less cost. In the long term, its actually price of product, we're in an extensive production system, because of our small scale, with all of the regulations we have to comply with…"* (Re: IFA Representative 2 Interview, 2006).

One piece of regulation which was believed to pose significant problems was the Nitrates directive which was scheduled for implementation in 2006. This directive sought to restrict the application chemical fertilizer and animal waste to the land, in order to ensure that Ireland was in compliance with the European Commission requirements on nitrates. However, the Irish Farmers Association strongly believed the directive was way too restrictive and protested against its implementation.

Overall, it was acknowledged that while processes of agricultural intensification and modernization created environmental problems in the past, this was no longer thought to be the case:

> *"I'm not so sure are there costs anymore; there may have been some problems in the 70s and 80s when you had land reclamation, hedgerows taken out…practically none of that now because we've had quotas on all our commodities…"* (Re: IFA Representative Interview 1, 2006).

Thus, even though it was understood that intensive agriculture was a problem in previous decades, it was felt that contemporary environmental restrictions were unnecessary. This was so, as the incentives for intensifying production (e.g. guaranteed prices) had largely been removed,

and replaced, first of all with production limiting programs such as the Milk Quota or Set-Aside Scheme, and subsequently with the Single Farm Payment.

The policy actors thought to play a key role in promoting multifunctional agriculture were those associated with the implementation of the Rural Environmental Protection Scheme. These actors included the farmers themselves (represented by the IFA and the other farmer organizations), private sector planning consultants, and the Department of Agriculture and Food who has ultimate responsibility for the design and monitoring of the program.

These stakeholders were highlighted as being important in two of documents reviewed (IFA. 2005. Newsletter Article 14 & IFA. 2006. Submission 1). There was virtually no mention made of environmental interests, except for a vague and pejorative reference to *"those who had nothing to do with farming"*, when discussing who benefited from the controversial nitrates directive.

The documents reviewed and the interviews conducted helped identify a wide variety of recommendations regarding how to protect and enhance agriculture's multifunctional role. In discussing policy solutions, by far the greatest amount of attention was paid to the Rural Environmental Protection Scheme (discussed in 76% of the documents reviewed). This is no surprise, as REPS was designed as a mechanism for promoting agriculture's multifunctional role in Ireland. However, there was also some discussion of command and control regulatory initiatives, including cross compliance and the nitrates directive.

Looking first at the Rural Environmental Protection Scheme, it was clear from the documents reviewed and interviews conducted that the IFA was largely supportive of this program:

> *"…the Association strongly supports REPS 3 as a farm support mechanism that rewards farmers for their role in protecting the environment and in the provision of public goods. Furthermore, the introduction of the Single Farm Payment and the imposition of environmental legislation make REPS a viable option for farmers in the future."* (IFA. 2005. Newsletter Article 11)

This suggests that the scheme is supported, not because it encourages good agri-environmental practice, but rather because it supports farmers in a role they were already performing. It also suggests that the scheme is advantageous in preparing farmers for the onset of environmental regulations and the cross compliance requirements of the Single Farm Payment. There were also aspects of the scheme's design, such as the adoption of a *"whole farm approach"* and the use of private planning professionals for the development of farm scale plans that were believed to be positive for both the farmer and the environment, and unique to the Irish situation (Re: IFA Representative Interview 1, 2006).

However, this support for REPS was not unqualified as there were also a number of problems identified with the scheme. One of the major problems identified was the stringent requirements it placed on farmers and the severity of the sanctions imposed:

> *"One of the issues is that it is quite pernicidity with regards to the rules…if you're obliged to put a fence, a meter away from your watercourse, or whatever…the penalties are quite severe…if a worker in a job makes a mistake he might get a reprimand but he is very unlikely to lose a weeks salary"* (Re: IFA Representative Interview 2, 2006).

This concern was given further expression in a national survey of farmers where over one third of farmers not in REPS stated they would not join because the scheme was too restrictive (IFJ. 2006. Newsletter Article 21). Other problems associated with the scheme included the high costs associated with paying professional planners, the excessive number of inspections conducted by the department, its poor compatibility with programs operated by the National Parks and Wildlife Service, and the onerous labor requirements on the growing number of part time farmers.

A number of improvements were thought to be necessary in order to address these problems. Most of these improvements relate to increasing payment rates and reducing bureaucracy. One of the more innovative recommendations put forward by the Association was the adoption of a menu type approach to agri-environmental payments, where farmers can opt to receive additional supplementary payments for providing extra environmental value. Currently farmers can only choose one supplementary measure from a list of six. The IFA is suggesting that farmers should be allowed to implement multiple measures from an expanded list of options including:

> *"…increased habitat to boost bird populations, enhancement of streams and river habitats, sand dune protection measures, stocking of areas to avoid under-grazing on commonage, enhancing forestry, maintenance of old woodlands, animal welfare, environmental enhancement o f the Burren, maintenance of old stone buildings, installation of water troughs on farms, vermin control"* (IFA. 2005. Submission 1)

Recommendations were also made regarding the need to provide derogations from the requirements of the scheme in order to account for the *"variability that exists in various farming circumstances"*. Such derogations were thought to be especially important in sensitive agro-ecological areas such as the Burren and the Shannon Callows (wet grasslands bordering the nation's main waterway).

An Taisce

The discussion of agriculture's multifunctional role in Ireland, during the interview conducted with an An Taisce representative, and in the organization's documents, was very much

focused on issues pertaining to environmental quality. This is to be expected considering the organizations role as the premier advocate of the environmental agenda in Ireland.

The two issues which received the most attention in these discussions were water quality and biodiversity. The discussion of water quality focused mostly on how it is negatively affected by agriculture. The major water quality problem attributed to agriculture was the "*eutrophication of our big lakes and water caused by the intensification of nutrient schemes"* in agricultural production (Re: An Taisce Activist Interview, 2006). Other pollution events such as pesticide run-off were not as prevalent because cropland represented such a small portion of the agricultural land area.

However, agriculture's impact on the environment was not viewed exclusively in negative terms. It was also acknowledged that agriculture could serve to enhance the natural environment, with the management of natural resources such as hedgerows playing a key role in maintaining diverse bird and wildlife

> *"Biodiversity in Ireland depends on agriculture…hedgerows are an entirely man-made feature…entirely dependent on intervention management…if you let a hedge grow for thirty years you will have a tree line which doesn't have the same environmental value."* (Re: An Taisce Activist Interview, 2006)

The environmental value of managed hedgerows is the protection afforded to birdlife, with stock-proof hedges, also being predator proof. This means hedgerows are not only crucial for the survival of *"small songbirds"*, but also *"invertebrates - bumblebees and butterflies"*. It is thus argued that the *"whole food chain", and woodland edge ecosystem is entirely dependent on (farmer) management"*.

The main threats to agriculture's multifunctional role in Ireland were believed to include the abandonment of farming in marginal areas due to the liberalization of agricultural trade, and the intensification of commercial agriculture due to volume oriented incentives provided by the European Commission. The latter problem was thought to be driving the intensive use of fertilizer which adversely impacts on water quality, while the former is threatening biodiversity as it could possibly result in the abandonment of spatially extensive and labor intensive management systems.

One of the worst examples of policy driven intensification was said to be the "*overgrazing of hill areas as a result of the headage payments system"* (An Taisce. 1998. Submission 1). These systems of payments resulted in the doubling of the national cattle and sheep herd between the mid 1980s and mid 1990s, meaning there was twice as many sheep and cattle on the island of Ireland than there were people.

Even though these regimes have largely been reversed and scaled back, their effects are still being felt in certain hill areas (such as Connemara) on the west coast of Ireland. Furthermore, while the incentives for volume oriented production have been removed, a new threat has emerged to the very viability of agricultural operations in Ireland. This is the threat posed by the liberalization of global trade in agricultural commodities imposed under the WTO agreement on agriculture:

> *"Ireland is …getting cheaper more intensively produced goods coming in from all over the world, and this threatens farmer livelihoods. It is very difficult for an Irish farmer to compete with beef coming in from Argentina. People are losing sight of quality in agricultural produce…something that is sustained by a false oil based economy. We wouldn't have those cheap imports without the cheap oil.* (Re: An Taisce Activist Interview, 2006).

Thus global trade in agricultural commodities may threaten the very existence of farming in Ireland, and in turn result in the abandonment of active management systems necessary for the protection of biodiversity.

Key actors thought to have a critical role in promoting agriculture's multifunctional role and in dealing with the challenges mentioned above include the Irish Farmer's Association and Teagasc. The Irish Farmer's Association was presented as having an antagonistic relationship with the environmental movement in Ireland and as blocking progressive policy developments. Instead the IFA has used its considerable resources (including proceeds from a 1% levy on all agricultural produce as part of the EU involvement fund) to lobby for continued investment in production incentives. It was argued that the organization directed little effort or resources towards the *"identification and development of forms of agriculture that would be more sustainable"* (An Taisce. 1998. Submission 1).

Another source of division between the environmental movement and the IFA was the issue of one-off housing in the Irish countryside. According to An Taisce over 50% of Irish groundwater is contaminated with fecal matter from faulty septic tanks. The organization frequently voices its objections to the construction of housing on farmland fearing that such developments will exacerbate the groundwater problem. However, the IFA views such objections as a major impediment to rural development and an unnecessary taking of farmer property rights.

It was also however acknowledged that there was significant potential for common ground between the objectives of An Taisce, the IFA, and Irish Farmer's in general. It was even suggested that informal contact between the two organizations had been very positive. Overall, it was felt that the environmental problems associated with farming were not necessarily the fault of farmers:

> *"I think farmers in Ireland had a very hard time…told intensify, rip out your hedges, production, production, production or your off the land – your out of the game…everyone goes massive production, rip out your hedges, increase nutrients…15 years later…all about the environment…they've had a really hard time…they've been manipulated terribly…they've been given very mixed messages in a very short space of time"* (Re: An Taisce Representative Interview, 2006).

It was further suggested that Teagasc - the Agricultural and Food Development Authority had a key role in investigating and piloting innovative agricultural practices that serve to enhance agriculture's multifunctional role. Implicit in most of the discussion was that the European Commission and Irish Government had to take a lead in reshaping agriculture, in consultation with the each of the relevant stakeholders.

> *"I think it should be more cooperative thing… its something that if the farmers are left to do it alone…their left to cheaper production…their not going to compete on the market that we have…so it is the responsibility of everybody"* (Re: An Taisce Representative Interview, 2006).

This suggests that there is a preference for a collaborative approach to dealing with the challenges inherent in encouraging a more sustainable and multifunctional model of agriculture. The relevant stakeholders would include the Department of Agriculture, Teagasc, Civil Society Organizations like An Taisce, Farmer Organizations, and the Environmental Protection Agency, as well as Local and Regional authorities.

It was acknowledged that the key policy mechanism for encouraging multifunctional agriculture in Ireland was the Rural Environmental Protection Scheme (REPS). Overall the scheme is viewed positively, especially in relation to nutrient management. The fact that the scheme is reviewed on a regular basis is also viewed positively. There are however also a number of problems associated with the scheme. Firstly, the scheme is viewed primarily as "*a subsidy… an income support scheme"*, the environmental potential of which has yet to be released (Re: An Taisce Representative Interview, 2006). Secondly, the scheme was believed to be highly prescriptive in nature, failing to take account the diversity of farming systems in Ireland and their differing environmental management concerns. This was especially thought to be the case with hedgerow management:

> *"Each hedge needs different kinds of management…each farm needs different kinds of management…a sheep farmer needs density lower down…whereas a cattle farmer needs density higher up….these kind of blanket requirements were not suitable to every farm. "* (Re: An Taisce Representative Interview, 2006).

This was especially thought to be a problem under the first iteration of REPS where the program paid farmers to manage hedgerows by flat-topping them with a circular saw, which was considered a disaster for biodiversity.

However, a similar problem arose under the latest iteration of REPS where a provision was in place for planting new hedgerows. Because there were not enough native quicks in Ireland, the Department was obliged to import quicks from Holland. This was thought to pose serious problems for biodiversity, as Irish songbirds in particular are adapted very closely to the flowering calendar of native Irish hedgerows, and "*may have difficulties adjusting to the introduction of a couple of thousand Kilometers of Dutch hedging"* (Re: An Taisce Representative Interview, 2006).

Another problem associated with the scheme included the complete lack of environmental monitoring or any understanding of whether or not it was offering real value for money. Concern was also expressed about the lack of ecological knowledge on the part of private sector REPS planners, most of whom had academic backgrounds in agricultural science. It was further suggested that because these planners were employed by the farmer, they might be inclined to turn a blind eye to bad practice in environmental management.

A number of recommendations were put forward for dealing with these problems. These recommendations focused on implementing proper ecological monitoring, training REPS planners and inspectors in hedgerow management, the provision of native hawthorn quicks, enhancing rural development support to farmers on marginal land, and improved training for planners and participants (An Taisce. 2005. Submission 2). One particular innovative suggestion focused on the introduction of a menu type system:

> *"I think their going more that way, is a Tiered system…like a menu…at the moment you buy into REPS or you can not buy into REPS…it should be a lot more that you can go for basic REPS, or basic REPS plus an a la carte…get additional payments for additional measures…someone who really wants to go all out"* (Re: An Taisce Representative Interview, 2006),

Such an approach was thought to be particularly appropriate for encouraging on-farm biodiversity, with farmers who opt to create additional habitat being eligible for extra payments.

The Irish Organic Farmers and Growers Association (IOFGA)

The functions of agriculture identified by IOFGA during the interview conducted, and in the documents reviewed, included the provision of quality food, environmental quality, and an overall quality of life. By far the greatest amount of attention was paid to the environmental contribution of agriculture. Organic agriculture was thought to be particularly effective in contributing to enhanced water quality. This was largely attributed to the absence of fertilizer, lime or other chemical inputs in organic agriculture. It was further asserted that organic production makes a positive contribution to the visual environment:

> *"Our tourism relies heavily on the green image we portray and organic farming can only add to this idea."* (IOFGA. 2004. Op Ed 2).

Another important environmental benefit of organic agriculture was the role it played protecting biodiversity, with the ideal organic farm serving as a "*nature reserve in its own right"* (IOFGA. 2005. Newsletter Article 1). One organic farm showcased in the organizations publication – "*Organic Matters"* was said to have the following characteristics:

> *"It shows all of the signs of a mature organic holding - hedgerows are abundant and blooming, vegetation and wildlife are diverse and varied"* (IOFGA. 2005. Newsletter Article 1).

Overall, the discussion of the benefits derived from agriculture was presented as being exclusive to organic systems of production. Thus these benefits could not be generalized to the entire agricultural sector. Indeed, aspects of the commercial sector of agricultural production in Ireland were thought to pose a major threat to these benefits.

Major threats to the potential of organic agriculture to deliver environmental benefits were thought to include intensification in mainstream agriculture, genetically modified organisms, cheap imports from overseas, and changes in agricultural policy. Among these challenges the intensification of agriculture was thought to be one of the greatest threats. Aspects of this process believed to be particularly problematic include "*spraying with Round Up"*, along with *"herbicides and pesticides"*, the *"out wintering of animals"*, and the failure to apply *"minimum stocking rates"* in animal agriculture (Re: IOFGA Representative Interview, 2006). These practices compromise not only the quality of the natural environment, but also the quality of the food produced.

Such practices were largely encouraged by the price incentives provided under the European Union's Common Agricultural Policy. These incentives were especially effective in the early days of the CAP, which sought to encourage farmers to produce more. However, the impacts of this policy program were believed to be highly unequal, and did nothing to stop the marginalization of farming in economic terms.

> *"…the lion's share of EU subsidies goes to the big farmers and agribusiness corporations. Since 1970 the number of farmers in Ireland has halved. 'The Common Agricultural Policy hasn't stopped the flight from the land"* (IOFGA 2005. Newsletter Article 2)

The flight from the land is further being encouraged by the liberalization of agricultural trade, with farmers being unable to *"compete on price with goods being imported from the likes of Brazil and Argentina"* (Re: IOFGA representative interview, 2006).

Another factor underpinning the marginalization of agriculture as a sector in Ireland is the policy of decoupling agricultural payments from production which was recently adopted by the EU. This concern relates to the possibility that because the Single Farm Payment requires "*no minimum stocking rate going forward…farmers may just sit back*" and let the land go wild (Re: IOFGA Representative Interview, 2006). However, decoupling also represented an opportunity for the expansion of environmentally benign organic agriculture. According to IOFGA's national office interest in organic agriculture has increased twofold since the reform was implemented.

A number of socio-political actors were identified as playing an important part in promoting agriculture's multifunctional role in Ireland. According to IOFGA, organic agriculture is a crucial component in the pursuit of multifunctional agriculture. Actors who were thought to play a key role in promoting organic production were believed to include the certification bodies, private planners, and the extension service. However, if the sector is to be successful in the long run, then organic producers themselves have to cooperate in order to negotiate better prices and contracts with product purchasers and processors.

A number of recommendations were made regarding the operation of the Rural Environmental Protection Scheme as a means for promoting agriculture's multifunctional role. In overall terms the scheme has been viewed positively, especially the supplementary organic measure which provided a "*welcome boost to the sector*", and brought organic production into the mainstream (IOFGA. 2000. Op Ed 1). The scheme is also believed to be instrumental in helping the government move towards its target of increasing the percent of farmland in organic production to 3%.

Despite these positive features, there have also been a number of problems identified with the scheme. Firstly, it was felt that "*REPS planning agents and agricultural advisers have not been well briefed in the subject have thus discouraged farmers from converting to organic farming*" (IOFGA. 1999. Submission 1). It was further the case that while the program was successful in encouraging organic production in the livestock sector there was little uptake of horticultural production. Other problems associated with the scheme included it's initial neglect of biodiversity, bureaucratic restrictions on enrollment, and the fact that organic production on commonage was ineligible for support.

A range of different suggestions were made on how the program might be improved so that it is more effective in promoting agriculture's multifunctional role through organic agriculture. These suggestions included the establishment of a common organic certification body, targeting part time farmers for organic incentives, compulsory training for REPS planners

and farmers in organic production, increased payments for horticultural producers, and the promotion of eco-tourism.

A good deal of attention was paid to necessary changes in the inspection process. Overall it was felt that organic production supported by REPS *"needs to be policed better"* (Re: IOFGA Representative Interview, 2006). Accordingly, two annual inspections may be necessary for organic producers in REPS – one to satisfy organic standards and the other confirm adherence to the scheme's requirements. It was further suggested that the use of genetically modified organisms be prohibited on farms participating in REPS.

Case Study of the Burren

The Burren is a unique landscape and agro-ecological complex which is situated on the west coast of Ireland. While the Burren does not have delineated political boundaries, approximately 75% of the land area is in the Ballyvaughan Rural District in Co Clare (Burrenbeo 2006). The Burren is named after the Gaelic for 'Bhoireann', meaning stony place, with the unique Karst geology resulting in a landscape characterized by limestone pavements in the uplands, and rich grasslands in the lowlands. The rocky nature of the limestone pavement actually leads to a unique micro-climate, as it means more heat is retained on the uplands in the winter allowing animals to continue grazing (O'Rourke 2005). The Burren is also known for its floral diversity and the wide range of native orchids and other plant species to be found there. Many of the unique features of the Burren have been attributed to the practice of extensive livestock grazing which has been ongoing for thousands of years. Indeed it has been argued that agriculture in the Burren has co-evolved with the natural landscape (O'Rourke 2005). Given the central role of agriculture in the Burren, it is important to understand certain features of the sector.

The following table summarizes information on the significance of agriculture in the Burren. From this table it can be seen that farms in the Burren are relatively large (almost 100 acres), and that agriculture accounts for approximately one in four jobs in the area. Agriculture also covers most of the land area of the Burren.

Table 25: Aspects of agriculture in the Burren (Ballyvaughan Rural District)

Number of Farms	318*
Average farm size	97ha **
Workforce	559*
Percent of Labor force	25%**
Percent of land area	86%**

*****CSO 2000 **Burrenbeo 2006

Table 26 compares agricultural land use in the Burren (Ballyvaughan Rural District) to land use in County Clare. According to this table agriculture in the Burren is characterized by

pasture and rough grazing, with rough grazing accounting for a much greater proportion of land use than is the case for County Clare as a whole. The importance of rough grazing might explain the relatively large farm size indicated in table 26. Rough grazing, which is pasture in its wild state, suggests a relatively extensive system of production.

Table 26: Land Use in Ballyvaughan Rural District and the County of Clare*

	Ballyvaughan RD		County of Clare	
	Ha	Percent	Ha	Percent
Total Crops, Fruit & Horticulture	95	0.5	1706	0.8
Total Hay	542	3.1	15136	7.2
Total Pasture	6314	36.0	106939	51.1
Total Silage	1806	10.3	52164	24.9
Rough Grazing in use	6950	39.7	25282	12.1
Total Area Farmed	17518	100.0	209342	100.0

* CSO 2000

Another important factor to consider when discussing agriculture in the Burren is the role of agricultural and environmental policy. The two main initiatives which influence agriculture in the Burren include the Rural Environmental Protection Scheme and the Special Areas of Conservation Regulation. The Rural Environmental Protection Scheme plays a key role in County Clare as a whole, with one third of farmers (37%) enrolled in the scheme. The scheme was first introduced in 1994. The unique characteristics of the Burren means there is a separate agreement for the scheme in that part of the county which enables practices such as the out-wintering of cattle on the hills.

Well over half of the Burren has been designated by the Irish Government as a Special Area of Conservation (SAC). This designation sought to address the requirement of the EU Habitats Directive for the identification and protection of “Sites of Community Interest”. Designation as an SAC meant there was a whole range of restrictions on farming activities. If land was designated as being part of the SAC, then a farmer had no choice but to comply with these restrictions and could not choose to opt out, unlike REPS (Heritage Council. 1999. Report 2).

The unique relationship between agriculture and the environment, along with the special arrangements for the governance of this relationship, means that the Burren serves as an excellent site for the investigation of agriculture’s multifunctional role in Ireland. As part of this investigation, an analysis was conducted of local newspaper articles relevant to these issues along with material produced by the farmer’s organizations and local conservation groups. Also, a number of interviews were conducted with different actors represented official, conservation, and

producer interests in the area. The following discussion summarizes the findings of this investigation.

Official Perspectives

Discussions of agriculture's multifunctional role in the Burren during interviews conducted with representatives of Teagasc and the biodiversity unit of the local authority focused primarily on agriculture's contribution to floral diversity in the region. This issue was also a major focus of the reports produced by the Heritage Council on agri-environmentalism in the Burren.

According to the Heritage Council the Burren is unique in its floral diversity, possessing a "*combination of arctic-alpine and Mediterranean plant species found nowhere else in the world"* (Heritage Council. 1999. Burren Report 1). This floral diversity is particularly characteristic of the Burren limestone grasslands where a profusion of orchids can be found. These grasslands, when combined with the other diverse ecosystems that constitute the Burren such as *"limestone pavement, scattered scrub, thermophilous, saum communities...woodland, springs and water-bodies"* also provide critical habitat for a variety of invertebrates, including rare species of moth and Butterfly.

This landscape mosaic can be characterized as semi-natural due to the crucial role agriculture has played in its creation. A case in point is the role extensive grazing has played in the creation of the Burren's species rich grasslands:

> *"For example in the Burren, the Orchid Rich Grasslands there, which are an EU protected habitat, they need to have grazing otherwise they will get overrun with scrub and so on, and they would be lost as habitats, so they need to have farming as part of their management "* (Re: Local Authority Representative Interview, 2006).

Thus, agriculture has to be continued in the Burren in order to ensure that the species rich grasslands, in tandem with other local ecosystems, are not over-run with invasive species of scrub. As such these habitats are as much the product of human endeavor as they are natural phenomena, and the Burren is likely to be characterized by an entirely different set of natural phenomena if agriculture had not been practiced, or was abandoned. This suggests that agriculture plays an irreplaceable ecological role in the Burren:

> *"It would be very hard to envision a situation where these could be properly managed without agriculture…it would mean the state owning or the National Parks and Wildlife Service owning a herd, and then employing people to manage it, the cost would be prohibitive…I don't know how it would work, especially in a situation like Ireland where you have such strong land rights and ownership rights."* (Re: Teagasc Representative Interview, 2006)

This implies that it is impossible for the agencies of the Irish Government to conserve the Burren as an ecological preserve. Instead the Government is obliged to protect this unique semi-natural area through dealing with the challenges facing agriculture in decades to come.

A number of challenges were believed to be facing agriculture in the Burren. These challenges included intensification and modernization of agriculture on the one hand, and the marginalization of more traditional systems of production on the other. Both these processes were thought to be driven by factors in the wider political economy of Ireland and the European Union such as the reform of the Common Agricultural Policy (CAP), and the growth of off farm employment.

The intensification of agriculture has been a process at work in the Burren since the early 1970s with the introduction of price guarantees and incentives for farm modernization under the CAP. The original CAP transformed agriculture across the nation, and impacted the Burren through "*Larger farm sizes, increased stocking densities and shifts towards heavier continental breeds (of Cattle) requiring supplementary winter feeding"* (Heritage Council. 2000. Burren Article 1). This meant that traditional systems of grazing are being displaced in favor of more intensive large scale livestock production.

Such a transformation involves moving from a production system which is ecologically benign to one which potentially threatens the Burren's unique ecosystem. This is so as the management systems necessary for the maintenance of the Burren's floral diversity are very precise, and "*…if areas are grazed at the wrong period, or too high a stocking rate for the conversation goals, then it could damage the area"* (Re: Teagasc Representative Interview, 2006). This was thought to especially be a problem with the Burren's grasslands:

> *"…a lot of farming now is becoming very intensive, and especially from the grassland management point of view where it's being either reseeded or very intensively fertilized and becoming almost monoculture, that obviously has a very negative impact on biodiversity*" (Re: Local Authority Representative Interview, 2006).

It was further the case that bringing extra nutrients onto the land could potentially pose a threat to water quality in the wider region. This is so, as the Burren is a Karst limestone area with a "*very high vulnerability in terms of water pollution and because the soil layer is so thin"* nutrients applied to the land are rapidly transported into the ground water system.

These agricultural practices became commonplace during the 1970s and 1980s, and continue to this day among the more commercially oriented producers in the Burren. However, since the 1990s there has been a shift in policy towards decoupling income support from production. This shift in policy could have both positive and negative consequences for the Burren ecosystem:

> *"…so that's one good thing that's happening is that they've cut the ties with production …however…in trying to fix something, we could go in totally the opposite direction and get abandonment, there is a balance there between the two.* (Re: Teagasc Representative Interview, 2006).

It is thus possible that the decoupling of agricultural payments from production which is a feature of the reformed CAP could potentially encourage the removal of livestock from the landscape. This is so, as farmers will receive financial support regardless of their level of production. The removal of livestock means that large sections of the Burren will no longer be grazed, leading to the encroachment of scrub which will directly threaten the region's floral diversity.

Another factor which may lead to the abandonment of livestock grazing in the Burren is the growth of off-farm economic opportunities.

> *"The economic boom in Ireland is giving an awful lot of opportunities for off farm employment…so a lot of farmers because of this situation are moving more and more away from agriculture…"* (Re: Teagasc Representative Interview, 2006).

Thus, economic growth outside the agriculture sector may lead to the outright abandonment of agriculture itself. Again, this could have disastrous consequences for semi-natural habitats in the Burren.

Any initiative to overcome the challenges facing agriculture in the Burren needs to be based on consultation with the farmers who have a *"a deep and intimate knowledge"* of the regions agro-ecosystem (Heritage Council. 1999. Burren Report 2). It is only through engaging with *"real farmers and land managers, in real places"* that conservationists can come to properly understand the *"Functional relationships between farming practices and nature conservation"* (Heritage Council. 2000. Burren Article 1).

This suggests that a multi-actor collaborative approach to agri-environmental programming in the Burren is necessary. Other potential actors who need to be involved in such an arrangement include the Irish Farmer's Association, Teagasc, the National Parks and Wildlife Service, the local municipal government, the local University, and the local rural development group. These were also the groups who were actively involved in the EU funded Burren LIFE project, which the Teagasc representative claimed was a model of collaborative management.

Discussion of the policy prescriptions for enhancing agriculture's multifunctional role in the Burren for the most part focused on REPS. This scheme was believed to have been successful in at least arresting (if not reversing) the adverse changes implemented through CAP induced intensification on the Burren. The achievements of the project were summarized briefly in a report produced by the Heritage Council:

> *"In general - in the farms visited, REPS has been beneficial in the following way - stopped further land reclamation, restricted further intensification of management harmful to nature conservation, reduced excessive fertilizer inputs, separated summer and winter grazing areas"* (Heritage Council. 1999. Burren Report 2).

REPS was also believed to play a positive role in *"increasing awareness of the natural environment and the importance agriculture plays in this"* among the farming population (Re: Teagasc Representative Interview, 2006).

However, despite the relative success of the project in halting the worst effects of intensification, it has been less successful in preventing the marginalization of traditional agricultural production in the Burren. Part of the problem with REPS is that it does not recognize the need for the active management of semi-natural conservation areas in order to protect biodiversity:

> *"…there is a bit of tendency in REPS Three, that valuable wildlife habitats were seen as areas that had no agricultural production on them. This led to a tendency to fence off wildlife habitats…which in a lot of situations, can be more detrimental than good…The problem is, its managed by the department of agriculture, who have very little experience in management of areas for conservation",* (Re: Teagasc Representative Interview, 2006).

A related problem was the poor fit between the prescriptions of REPS and the diverse agro-ecosystems present in the Burren. This was the case even when the REPS agreement for the Burren was taken into account.

> *"One of the issues around REPS is that it doesn't really recognize the diversity of systems in the Burren…it has down as designating winterage areas that can only be grazed from October to April…maximum stocking rates of one livestock unit per hectare…that doesn't recognize the variety of winterages that are there"* (Re: Re: Teagasc Representative Interview, 2006).

Thus, even though winter grazing is allowed under the Burren agreement (it is prohibited elsewhere in the country), the agreement lacks the flexibility to take account of the diverse grazing regimes within the Burren, each of which have different calendars for grazing cattle on the uplands.

Other criticisms of the scheme focused on the fact that even though it was relatively successful in dealing with pollution control, this really just represented *"day to day normal good farming practice"*, and could in no way be considered an enhancement of the natural environment (Re: Local Authority Representative Interview, 2006). Concern was also expressed about the lack of ecological knowledge on the part of the private sector REPS planners, who *"just aren't aware enough of habitats and biodiversity"* (Re: Local Authority Representative Interview, 2006).

A variety of different recommendations were made in order to address the problems with REPS. One such recommendation included the need to recognize the diversity of winter grazing systems that exist in the Burren, and allow farmers more flexibility in when they take the cattle off the uplands. In terms of creating and protecting semi-natural habitats, it was further recommended that *"farmers who do these more positive measures get paid more, therefore it's an incentive for them, and it's a benefit for the farmers, and its a benefit for biodiversity as well"* (Re: Local Authority Representative Interview, 2006). It was also suggested that the inspection process needed to become less punitive and more cognizant of the challenges each farmer faces in seeking to comply with the scheme.

Producer Perspectives

The producers interviewed believed agriculture affected the economy, natural environment, society, and culture of the Burren. However, most of the discussion of agriculture's impact focused on agriculture's environmental impact. On the one hand it was acknowledged that agriculture had a relatively benign impact on the ecology of the Burren, with extensive grazing helping to enhance the floral diversity on the uplands:

> *"…farming was the very reason that the Burren was as it was, and it was the evolution of farming systems over 7000 years that created the ideal conditions for the unique flora that's here, to grow, and it was the farming practices to maintain the ground in the correct condition that allowed for that to continue"* (Re: Burren IFA Representative Interview, 2006).

Accordingly, the natural environment needs to be actively managed. This reflects the philosophy that the *"land is a living thing...the ground is live, it evolves itself, you can't just do nothing"* (Re: Burren IFA Representative Interview, 2006).

The eco-friendly system of extensive livestock grazing suited the Burren, as the rough nature of the terrain meant that machinery couldn't be used on most of the land in the region. This means that "*70% of the land is organic anyway"*, and that there is a strong community of organic and other extensive producers in the Burren (Re: Burren IOFGA representative interview 2006).

It was however also acknowledged that some recent developments in agriculture had a negative impact on the natural environment in general, and water quality in particular:

> *"In my time, that river (the Fergus) and that Lake Inchiquin has been destroyed. And it's a testament in that 25 years to the way agriculture has gone, and agriculture would have been one of the biggest factors.* (Re: Burren IOFGA representative interview 2006).

The negative effect of agriculture on water quality was largely attributed to the inappropriate use of chemical fertilizer in the Burren. It was argued that the water system of the uplands was

particularly vulnerable to pollution due to its shallow soils, the porous Karst geology, the high levels of rainfall, and the network of underground streams.

Agriculture was also believed to play a key role in preserving the unique culture of the Burren. The cultural impact of agriculture is heavily tied to "*a strong affiliation with the land in Ireland…land was always considered valuable because at least you couldn't lose it"* (Re: Burren IFA representative interview 2006). One of the main cultural contributions of agriculture in the Burren was the creation and perpetuation of intergenerational knowledge on a range of agro-ecological practices:

> *"The world that I grew up in, we'd a name on every cow. We could go back a hundred years with the geneology of that Cow. The same with the horse, there was a name on that horse; everyone knew, the neighbors knew, the traits of that horse. Everyone knew this incredibly rich connection that came through 500 years of performance testing in a way. And twas handed down through to my generation"* (Re: Burren IOFGA representative interview 2006).

It was argued that this intergenerational knowledge could only be perpetuated through people that farmed the land, and that *"there is no university, there is no institution, there's nothing, there's nowhere you could learn that from"* (Re: Burren IOFGA representative interview 2006).

Similar to the positions taken by official and conservation actors, the producers interviewed argued that agriculture's multifunctional role in the Burren was largely being challenged by the related processes of marginalization and intensification. The process of intensification, which was characterized by land reclamation and drainage, constructing animal housing, and the application of excessive levels of chemical fertilizer was thought to have been driven by production oriented CAP regime of the 70s and 80s as well as *"poor advice"*, and *"poor science"* from the Department of Agriculture and Food, and Teagasc.

A range of factors were thought to underpin the marginalization of more traditional agricultural practices and knowledge. These factors were thought to include the off farm job-opportunities, the importation of cheap goods from abroad, and the proliferation of regulations governing food quality and conservation.

The emergence of off farm job opportunities as a result of rapid economic development means there is *"an awful lot of farmers leaving the land and going into other employment"* (Re: IOFGA Representative Interview, 2006). Either farmers exit from farming completely, which many have done, or they chose to maintain the operation as a part time concern, while earning the bulk of their income in an off-farm job. In both instances it means the labor intensive management practices necessary for protecting biodiversity are becoming less and less viable:

> *"Unfortunately that link has been broken and torn, by just people that left the land. We've lost the love of the land; we've lost the appreciation of the land. And, we've lost*

> *the names of the fields, we've lost the names of the cows, they've become numbers and people went into the times"* (Re: Burren IOFGA Member Interview).

While on one level, farmers were leaving the land or abandoning traditional practices and knowledge due to off-farm opportunities, on another level the opportunities to earn a livelihood from farming were decreasing due to increased regulatory costs and the importation of cheap agricultural commodities produced in the third world.

According to one of the producers interviewed, the price he has been getting for his livestock produce is less today than it was thirty years ago. This was largely attributed to the removal of tariffs and other trade barriers to the importation of agricultural produce from abroad. The impact of this process has been described as follows:

> *"For the first seven thousand years, the farmers met the market needs of the time, bearing in mind the market was local, that has all changed in the last 10 years, with the changing of tariffs and barriers Now that's no longer the case, because of the availability of Brazilian Beef, Argentinean beef, Peruvian beef, lamb from Australia and New Zealand…it can be mass produced much cheaper under different conditions…we have a first world economy, therefore cost of production of in the third world is way lower because of lower labor costs. It is no longer viable to produce meat here.*" (Re: Burren IFA representative interview, 2006).

This has represented a major change for farmers in the Burren, and across the country. Where, once there was a guaranteed market for their produce, now there is a race to the bottom in terms of price. According to one of the producers interviewed such a process has negative implications not only in Ireland, but also in the third world:

> *"…the greatest source of concentrates that comes into Ireland comes in the form of Soya you know, everything is sourced from Soya Beans. And that is grown in the poorest countries, Argentina, Brazil, and Peru…these people should be growing food to feed their people not to feed our Beef"* (Re: IOFGA Representative Interview, 2006).

The challenge posed by trade liberalization in agriculture was further compounded by the increased regulatory costs imposed on farmers in the Burren. These costs are associated with traceability and conservation requirements. While farmers in Ireland have to incur costs in order to ensure traceability and quality "*there doesn't have to be traceability in other parts of the food chain"*. Thus farmers in other parts of the world are thought to have an unfair advantage (Re: IFA Representative Interview, 2006).

Farmers in the Burren were also subjected to a unique set of regulations due to the designation of the entire region as an SAC under the EU Habitats directive. This designation was said to have created *"untold problems for farmers in the Burren"*, placing draconian restrictions on production practices (Re: IFA Representative Interview, 2006).

Key actors discussed in relation to the challenge of enhancing agriculture's multifunctional role in the Burren included farmers themselves, a range of government agencies, and to a certain extent conservation interests. It was strongly argued that farmers are the primary actors in maintaining agriculture's multifunctional role of in the Burren:

> *"If you're asking me about the maintenance of the land, the only people that can maintain the land are the farmers themselves"* (Re: IFA Representative Interview, 2006).

This assertion was based on the experience in the national park areas of the Burren, where the government sought to remove large sections of the uplands from agricultural management and create protected conservation areas. This resulted in the encroachment of scrub, destroying the landscape's visual quality and threatening floral diversity. It was therefore felt that farmers had to be part of any land management initiative.

To this end, the farmers in the Burren have successfully organized a Burren branch of the Irish Farmer's Association, in order to strengthen the voice of local farmers in national policy negotiations. This branch is actually empowered within the IFA to negotiate at a national level on behalf of Burren Farmers. This group also seeks to work in partnership with government Stakeholders such as the National Parks and Wildlife Service (responsible for the SAC designation), Teagasc, and the Department of Agriculture and Food (responsible for REPS) in negotiating locally appropriate agri-environmental regulations and prescriptions.

Most of the recommendations made on how to enhance agriculture's multifunctional role in the Burren focused on the Rural Environment Protection Scheme. This scheme was viewed positively for a number of reasons, but mainly because it *"put money in farmer's pockets for things they always wanted to do"*, creating a source of income which *"definitely kept 50% of farmers farming"* (Re: IFA Representative Interview, 2006). The scheme was also thought to have succeeded in raising environmental awareness and in providing *"much needed resources for pollution control"* (IFJ. 2001. Article 3).

Despite the key role played by REPS in keeping farmers on the land, the scheme was also thought to have a number of problems which limited its potential impact on the natural environment. These problems included the blanket ban on grazing the uplands during the spring and summer irrespective of seasonal conditions, inflexible inspections and high penalties, excessive stock proofing requirements, and limits on supplementary feeding. According to one producer REPS may actually have contributed to the degradation of the natural environment:

> *"I've seen people that joined REPS, and were told to build slatted houses, now they've one hundred thousand gallons of slurry to deal with, and that goes out on land where there is only a few inches of surface of clay. Whereas before, there'd have been a little poaching by Cattle, probably a little run off from feeders. The totality of it, you hadn't*

> *that quantity of slurry to put out on the land. And raw slurry, it's not good, it is not sensible to put raw slurry out on the land you know."* (Re: IOFGA Representative Interview, 2006)

According to this respondent REPS was more about the visual aspects of farming, such as cleaning up farmyards and maintaining stonewalls, and was less concerned about improving the relationship between agriculture and the local ecosystem. He also pointed out that the same government officials who had previously promoted land reclamation were now responsible for REPS.

It was further argued that REPS was too inflexible, and failed to take sufficient account of local conditions. A case in point is the maintenance of stone-walls, which under REPS is required on a year round basis. However, during the summer the Burren uplands region are mostly empty of Cattle, yet farmers are still expected to go up on the hills and maintain the walls, even though they have animals to care for in the valleys. One producer interviewed exclaimed

> *"Why should I have those conditions foisted on me…when it's of no benefit either the environment or me"* (Re: IFA Representative Interview, 2006).

A number of different recommendations were made on how to improve the scheme. These included the provision of incentives for farmers to maintain archeological monuments, and paying farmers for allowing the public access to their land. A lot of enthusiasm was shown for the Burren LIFE project, in which the Burren IFA played a key role. This project was believed to have the potential to point REPS in an alternative direction, through researching and monitoring "*how the land can be changed by going back to the old systems with a modern input"* (Re: Burren IFA Representative Interview, 2006). Overall it was felt that the REPS should function as an overarching framework for local agri-environmental programming, with local prerogatives taking priority over national objectives.

Conservation Perspectives

According to conservation activists interviewed agriculture has a number of different functions in the Burren, including the protection of biodiversity, food provision, cultural preservation, animal welfare, and the protection of water quality. Thus, agriculture in the Burren is thought to be *"truly multifunctional"*, providing a variety of quality foods as well as conservation and cultural benefits (Re: Conservationist Interview 1, 2006). According to one of the activists interviewed agriculture plays a key role in the conservation of biodiversity in the Burren. This was a theme that was also discussed in the documentary material produced by different conservation organizations in the Burren, such as Burrenbeo.

The Burren was considered to be an important habitat for a large variety of flowers, containing most of the Irish native floral species, and many species of wild orchid. The value of the Burren as a unique floral habitat was thought to be greatly enhanced by the role of traditional systems of agricultural production.

> *"…this was a whole area of farming that wasn't publicized whereby traditional farming methods that are still going on, still taking place are key to sustaining the biodiversity, particularly floral diversity."* (Re: Conservationist Interview 1, 2006)

One practice which was thought to be especially important for the maintenance of floral diversity was the grazing of cattle on the uplands during the winter months. Normally, Irish Cattle are housed or provided supplementary feeding during the winter. However, in the Burren the limestone uplands are relatively dry in the winter and provide a good supply of calcium rich fodder and water. The opposite is true during the summer months when cattle are mostly moved into the valleys, meaning the limestone grasses are grazed only in the winter. This unique grazing regime helps engender the diverse floral communities in the Burren by:

> *"…facilitating the removal of potentially dominant grasses and decaying vegetation with little damage to the dormant herb species, which subsequently thrive in the low-nutrient, low-disturbance environment."* (Burrenbeo. 2005. Webpage 1)

This means there is "*symbiosis between farming, winter grazing, and floral diversity" in* the Burren that has been ongoing for centuries (Re: Conservationist Interview 1, 2006).

Food provision was the traditional function of Burren agriculture which was famous for the production of high quality beef and lamb. The quality of the region's produce was interlinked with floral diversity, as "*animals are ingesting diverse vegetation"* (Re: Burren Conservation Interview 1, 2006). Another important benefit of Burren agriculture is its role in cultural preservation. Ultimately, the Burren is a cultural landscape, a fact that is often ignored:

> *"The Burren is very well known for its monuments, ecology, geology, but there is never a word about the farmers on the land…It's referred to as a lunar landscape…my whole point is that it is very a living landscape that depends on people."* (Re: Burren Conservation Interview 1, 2006).

There is hardly any portion of the landscape that has been left untouched by humans, and physical evidence of the millennia of human habitation on the Burren abound. This evidence includes a vast array of archeological monuments, most of which were constructed by farmers. However, beyond the physical aspect of agriculture's contribution, there is a less tangible cultural benefit associated with farming and farmers in the Burren:

> *"…the traditions associated with farming, the stories they have about the landscape…their knowledge of the landscape…their management knowledge is absolutely immense"* (Re: Conservationist Interview 1, 2006)

While most of the functions of agriculture discussed focused on its positive contribution, there was also some consideration of its potential negative aspects. For example, while not yet a serious problem in the Burren, it was believed that the overstocking of Cattle could pose a significant threat to the quality of the drinking water in the wider catchment area.

Furthermore, concerns were expressed about the role of some farmers in culling the Burren's population of 4,000 Feral Goats (unmanaged goat herds with domesticated ancestors). While these herds were believed to disrupt normal farming practices, and in some areas pose a risk of overgrazing, the manner in which the cull was carried out was thought by some environmental groups to have been inhumane (CAW. 2004. Report 1).

The beneficial role of agriculture in the Burren in terms of biodiversity and cultural preservation was thought to be threatened by the related processes of intensification and marginalization. These processes were believed to be driven by contradictory public policies and broader societal changes. Other potential threats included the introduction of genetically modified organisms and an overall lack of awareness or appreciation of the relationship between agriculture and environment in the Burren.

Agricultural intensification has been ongoing in the Burren for the last 30 years (since accession to the European Union). The process of intensification involves a number of practical changes including "*extensive reclamation, increased use of chemical fertilizer and slurry (animal waste), the construction of slatted housing units, the massive increase in silage production, and increases in the amount of stock held"* (Burrenbeo. 2005. Webpage 1). A related change was a shift away from diverse production systems reliant on native animal breeds towards monoculture systems using continental breeds of cattle. These practices were encouraged by a number of factors including incentives provided under the CAP, increased exposure to international market conditions and developments in agricultural science.

These processes of intensification have led to the marginalization of traditional agricultural practices such as winter grazing, which in turn has a negative impact on floral diversity. Instead of animals being grazed on the limestone uplands during the winter, they are kept in the lowland areas and provided with supplementary feeding. As a result the more marginal areas in the Burren (e.g. the rocky and damp areas which have some of the highest biodiversity value) are being under-grazed.

Intensification is only one factor contributing to the marginalization of traditional agricultural practices. There have also been important societal and policy changes which

contributed to this process. Many traditional management practices are labor intensive and are no longer viable in a modern social context:

> *"Farming has become increasingly individualistic in recent years: the sense of community, of 'common good', even of 'place', embodied and engendered by traditions like meitheals and cooring, has been superseded by an increasingly individualistic and mechanized approach."* (Burrenbeo. 2005. Webpage 1).

Other important societal changes have included changes in consumer tastes for animal products. This has partly explained the introduction of continental animal breeds into the Burren.

While guaranteed prices under the CAP were believed to have encouraged intensification in the past, the process of de-linking production from agricultural payments is thought to be contributing to the abandonment and under-grazing of marginal land today. This is so, as farmers are no longer required to keep producing on the land in order to receive government support.

> *"The policy framework also poses a threat…particular the Single Farm Payment where farmers don't have to stock to the same level ...this means landscapes with the highest ecological value…marginal lands…are the first areas withdrawn from production"* (Re: Conservationist Interview 1, 2006)

Thus, both past and present policy frames have negative consequences for the Burren's sensitive agro-ecosystem, with the past regime encouraging concentration and overgrazing in some areas of the Burren, while the contemporary regime is encouraging under grazing and possibly abandonment.

The socio-political actors believed to be responsible for dealing with the challenges facing the agriculture-environment relationship in the Burren include farmers, state agencies and conservationists. It was felt that farmers had to be central to resolving these problem as it was this group whose practices were responsible for the creation of the unique natural features of the Burren. It was further acknowledged that farmers and environmentalists do not necessarily have to occupy contradictory positions:

> *"There is an element that, each farmer is an environmentalist whether he acknowledges it or not it's in his interest to be, because the resource that is soil, that is land, has to be treated in such a way that it will be sustained, that it will be around for future generations"* (Re: Conservationist Interview 2, 2006).

It was further acknowledged that government agencies had an important role to play in dealing with these challenges. These agencies included the Department of Agriculture and Food, Teagasc, and the National Parks and Wildlife Service. The ideal scenario would be a multi-actor collaboration between farmers, the relevant state agencies, and conservation interests, working together to address agri-environmental concerns in the Burren.

A large portion of the discussion of the remedies to the challenges facing agriculture in the Burren focused on the role of the Rural Environmental Protection Scheme. There were also a number of alternative solutions proposed for dealing with the challenges facing the Burren. These solutions focused on designing support programs which were based on the indigenous knowledge of farmers, and the development local product brands and local food systems.

The Rural Environmental Protection Scheme was believed to have significant potential as a mechanism for preserving the livelihoods of farmers in the Burren. The scheme was even adapted to the unique circumstances of the Burren under the Burren REPS agreement in order to allow for winter grazing. However, despite the overall positive perception of the scheme as a form of income support, there was strong criticism leveled at its role in conservation.

> *"It's not really delivering much in terms of environmental goods…and there's a number of reasons for that…the background is agricultural not environmental….there hasn't been a lot of environmental concerns written into the project…except for pollution control, but that's also about good farming."* (Re: Conservationist Interview 1).

Even though REPS is supposed to be an incentive based scheme, it was thought to have been particularly weak in encouraging pro-active management. The scheme was essentially encouraging what could be considered simply good agricultural practice and functioned in a highly prescriptive manner. This means that even with the Burren Agreement in place the very design of the program is ill suited to the unique situation in the Burren:

> *"…it tends to be farming according to a calendar…ignoring weather conditions, disease conditions…imposing unnecessary restrictions on farmers…it has a very negative perception for that …in terms of what its asking them to do it doesn't always make sense…it doesn't link in with local knowledge at all…ideas are sort of imposed is the perception among farmers, with other people telling you how to farm your land…which is absurd"* (Re: Conservationist Interview, 2006).

These problems were said to be typified by the inspection process which completely ignores the circumstances facing an individual farmer and imposes harsh fines for non-compliance.

A plethora of recommendations were suggested in order to improve the scheme including on-farm cultural and ecological audits, supplementary payments for maintaining suitable breeds of cattle, field-based training for farmers, and the use of minimum and maximum stocking rates. Overall it was felt that the scheme should be subjected to a complete overhaul, so that it is based on local agro-ecological knowledge as opposed to centrally defined prescriptions.

The Burren Life project was advocated as a model of how the REPS could be embedded in the indigenous knowledge system of the Burren. This is an action research project which is funded under the European Commission's LIFE initiative. The aim of the project is to develop a blueprint for sustainable agriculture by monitoring the implementation of farming practices on

pilot farms which bring together expert ecological knowledge, the indigenous knowledge of the farmers themselves, and certain modern technologies. Such practices include implementing new feeding systems, redeploying existing livestock, and targeted scrub removal.

There are a number of crucial differences between the approach of the Burren LIFE project and the Rural Environmental Protection Scheme. First of all, the LIFE project works "*at the farm level…and comes up with prescriptions suitable for the farmer…not transforming the existing farm system, but working with the existing system…building on local knowledge"* (Re: Conservation Interview, 2006). Furthermore, the LIFE project pays for proactive management, rather than paying farmers to cut back on the management of land as is the case with REPS. Finally, under the LIFE project, the farm environmental plan is developed in co-operation with the farmer, rather than being designed according to a template developed by the department of Agriculture. Thus there is a sense of ownership by the farmer.

Another set of recommendations were put forward regarding the potential localization of the marketing and distribution of agricultural produce. For example, the Burren LIFE project will investigate the possibility of developing a unique brand for Burren livestock produce. This could mean that Burren products could be marketed and sold at a premium due to their high nature value. Another recommendation put forward by one of the conservationists interviewed related to the possibility of developing local markets for produce from places like the Burren.

Table 27: The Discursive Field of the Rural Environmental Protection Scheme

	National Actors				*Local Level (Burren) Actors*		
	DAF & Teagasc	*IFA*	*An Taisce*		*Official Actors*	*Producers*	*Conservationists*
Issues	Multifunctionality – Animal Welfare, Water Quality, Landscape Quality, Biodiversity, Rural Community Vitality and Cohesion, National Heritage, Culture, Income and Employment	Environmental Quality, Culture and Tradition, Economic Benefits, Food Provision	Water Quality, Biodiversity	Water Quality, Food Quality, Quality of Life, Biodiversity	Floral Diversity, Species Rich Grasslands, Water Quality, Extensive Grazing	Floral Diversity, Water Quality, Cultural Preservation,	Multifunctionality-Biodiversity, Food Provision, Cultural Preservation, Animal Welfare, Water Quality,
Threats	Intensification (Price Incentives, Technological Developments, Marginalization, (Trade Liberalization, Off-Farm Employment, Natural and Disease Events, Decoupling)	Marginalization – (Removal Of Price Subsidies, Imposition Of Regulations, Liberalization)	Marginalization of Traditional Systems, (Trade Liberalization), Intensification of Commercial Systems (Price Incentives)	Marginalization, (Trade Liberalization, Intensification, Decoupling Payments) Intensification (Price Incentives, Genetically Modified Organisms)	Intensification and Modernization, (Price Incentives) Marginalization Of Traditional Practices (Off-Farm Employment, Decoupling)	Marginalization (Cheap Imports, Off-Farm Work, Increased Regulatory Costs), Intensification (Poor Science, Poor Advice)	Intensification (Price Incentives, Exposure To International Markets, Technological Developments), Marginalization Of Traditional Systems (Decoupling, Off-Farm Work)
Actors	Consumers, Government Departments, Private Consultants, Civil Society, Farmers, Researchers	Farmers, Private Consultants, DAF.	IFA, Teagasc, DAF, Civil Society, EPA, Local and Regional Authorities.	Certification Bodies, Teagasc, Private Planners, Organic Collectives,	IFA, Teagasc, The NPWS, The Local Authority, Local University, and The Local Rural Development Group.	Farmers, Burren IFA, NPWS, Teagasc, DAF,	Farmers, DAF, Teagasc, NPWS
REPS Solutions	Simplify Scheme, More Inspections, Monitoring, Spatial Targeting, Public Access Payments, National Forum	Increased Payment Rates, Reduce Bureaucracy, Menu System, Flexibility,	Improved Training, Income Support for Marginal Farmers, Menu System, Use of Native Plant Material, Ecological Monitoring	Common Certification, Targeting Part Time Farmers, Improved Training For Planners and Farmers, Eco-Tourism,	Adopt to Diversity Agro-Ecosystem, Menu System, Flexible Inspection Process,	Adapt REPS To Local Circumstances, Incentives for Heritage, More Flexibility for Inspections and Smaller Penalties	Cultural and Ecological Audits, Field Based Training, Menu System, Minimum Stock Rates, Re-Orient to Local Knowledge

The Discursive Field of the Rural Environmental Protection Scheme

The above table provides a summary of how each organization framed agriculture's multifunctional role. The issues, threats, actors and solutions identified by these different actors represent the boundaries of the discursive field of the Rural Environmental Protection Scheme.

Although the term multifunctionality was used infrequently among the socio-political actors which make up this discursive field, many of the issues identified were reflective of concerns discussed at the EU level of governance. While most of these issues focused on agriculture's material impact (in terms of income, water quality, biodiversity), there was also some discussion of more culturally specific benefits. These were especially evident in the interviews conducted in the Burren.

The threats identified to agriculture's multifunctional role were also synonymous with those discussed by the socio-political actors at the EU level. As such, the primary threats to agricultural production were the related processes of intensification and marginalization, which were in-turn driven by diverse political and economic factors. These processes were associated with the external forces of the Common Agricultural Policy and the global market place, which were largely beyond the control of the ordinary farmer, or indeed the Irish government.

For the most part it was anticipated that the actors responsible for promoting agriculture's multifunctional role in the face of these challenges include government, farmer, and civil society actors, Agribusiness and consumer concerns were to a large degree ignored. At the national level it was argued that existing programs could be reformed in order to better meet the challenges of addressing agriculture's multifunctional role, while socio-political actors in the Burren argued for an alternative approach which was based on local knowledge.

Ideological Orientations and Master-frames

The Department of Agriculture and Food, and Teagasc, articulated positions that attempt to reconcile the hygienic concerns of the European Commission (food and water quality) with the neo-mercantilist concerns of Irish farmers (income protection). Thus, the official ideological orientation in Ireland is largely a hybrid hygienic - neo-mercantilist position where the goals of protecting farmer incomes and improving the safety and quality of the food supply and natural environment were thought to be complementary. This resulted in an agri-environmental scheme that initially sought to compensate farmers for what the European Commission termed good agricultural practice. However, in pursuing other goals such as biodiversity, it was acknowledged that such a scheme needed to go beyond these basic measures, and to somehow adapt to the diversity of the country's agro-ecosystems.

This hybrid ideological orientation and the resultant scheme (REPS) were strongly critiqued by official actors working at the grassroots level in the Burren. These actors articulated a vision of agri-environmentalism which could be characterized as agro-ecological in orientation, with agriculture and the natural environment in the Burren presented as co-evolving in a largely symbiotic relationship which was disrupted by external political and economic forces. Because REPS was seen to be a centrally defined scheme reflective of the concerns of commercial farmers and urban consumers its ability to address the unique agro-ecological concerns of the Burren were thought to be quite limited. It was believed that the scheme was successful in halting environmental damage, but had only limited value in promoting agriculture's positive impact on the unique floral diversity in the region.

The Irish Farmer's Association adopted a largely neo-mercantilist position, which also incorporated certain agrarian themes. Agriculture was presented as playing a positive environmental role and as representing a key component of the national economy and food system. The very existence of the sector was threatened by the importation of cheap food products under a liberalized trade regime, as well as excessive regulatory requirements. REPS was viewed in a positive light, as a mechanism for promoting good agricultural practice and as a means of supporting farm incomes. However, the scheme's onerous inspection and penalty system was the subject of much criticism. Agro-ecological concerns were acknowledged when the unique agro-ecosystems of the Burren Uplands and the Shannon Callows (wet grasslands in the floodplain of the river Shannon) were discussed.

The position of IOFGA was reflective of a hygienic orientation, with a strong emphasis being placed on issues of water and food quality, as well as the threats posed by genetically modified organisms. Overall, certified organic production was presented as the only way forward for promoting agriculture's multiple positive functions. Improvements to REPS largely involved better training for producers and planners, as well as improved inspection and certification processes. Agro-ecological concerns were also addressed to a certain degree when the issue of agriculture's impact on biodiversity was discussed, along with the threat posed by decoupled agricultural payments.

Producers interviewed in the Burren appeared to adopt a largely agro-ecological orientation, arguing that agriculture in the region had co-evolved with the environment over millennia and that the active management of the landscape was essential. Thus, they were mostly suspicious of the hygienic vision of agriculture articulated by IOFGA, though not unsympathetic to the neo-mercantilist concerns of the IFA, regarding cheap imports from overseas as a serious threat to the continued viability of farming in the Burren. To this end, REPS was considered a

mixed blessing, being viewed positively due to the income support provided, but heavily criticized because of its inflexible and prescriptive nature. It was even argued that the scheme may have contributed to pollution and scrub encroachment because of its failure to consider the unique geological and ecological conditions of the Burren.

An Taisce articulated a position which reflected both hygienic and agro-ecological orientations. The discussion of water quality largely reflected hygienic concerns, and was a major component of the organizations agenda. This often led to an antagonist relationship with the Irish Farmer's Association. However, the discussion of biodiversity and hedgerow management reflected an agro-ecological orientation, whereby the prescriptive and inflexible approach of REPS was heavily criticized, and the role of farmers in constructing the natural environment recognized. Furthermore, there was some understanding of neo-mercantilist concerns for the survival of agriculture in Ireland in the face of trade liberalization.

While Conservation interests in the Burren acknowledged agriculture's potential to cause environmental damage, its multifunctional role in the region was for the most part articulated in agro-ecological terms. A strong emphasis was placed on the co-evolution of agricultural production and floral diversity in the region, while the negative effects of agriculture were largely attributed to external political and economic forces. The policy recommendations made, focused on completely redesigning REPS on the basis of local agro-ecological knowledge, in collaboration with the relevant government agencies and local authorities.

In terms of master-frames, it appears that each of the socio-political actors included in this study articulated ideological orientations that either drew on the sustainability master-frame (hygienic and agro-ecological) or the protectionist master-frame (neo-mercantilist). There was very little credence given to arguments that drew on the neoliberal master-frame.

Hegemony and Resistance

Identifying a hegemonic ideological orientation for the debate on agriculture's multifunctional role in Ireland is problematic. It would appear that the official position combines both neo-mercantilist and hygienic concerns and that this hybrid position is expressed in material terms through the Rural Environmental Protection Scheme. The hybrid nature of the official position and the resultant scheme reflects the diversity of claims which the Department of Agriculture has to mediate. On the one-hand the European Union is pushing for greater attention to be paid to hygienic concerns such as food safety and water quality. There is also growing pressure from the EU to promote the enhancement of certain aspects of the environment, such as biodiversity, and go beyond simply preventing environmental damage. However, in order to

make the scheme work, the Government needs the support of the powerful and well financed Irish Farmer's Association who wish to protect farmer incomes (reflecting neo-mercantilist concerns). Other hygienic claims on the scheme are emerging from the growing urban segment of the Irish population who are increasingly disconnected from the farming community. These groups are interested in issues such as food safety, water quality, and value for money from public expenditure on agriculture.

For the most part the hybrid scheme that has resulted is accepted by other important socio-political actors such as the IFA, IOFGA, and An Taisce. These groups acknowledge the potential of REPS to address either neo-mercantilist (IFA) or hygienic concerns (IOFGA and An Taisce). Most of their recommendations focus on amending or changing certain aspects of the scheme, rather than subjecting it to a complete overhaul.

On the surface, this suggests that the hybrid neo-mercantilist – hygienic position articulated by the Department has achieved some degree of hegemony within the discursive field of the Rural Environmental Protection Scheme. However, when a similar analysis is conducted at the grassroots level in the Burren, it appears that this position fails to resonate with producers, local conservationists, and street level bureaucrats. Most of these actors articulated an agro-ecological vision of agriculture's multifunctional role in the Burren, arguing strongly for the need to reorient REPS so that it takes account of the area's unique geology, internal ecological and climatic diversity, and local cultural knowledge. This suggests that the hybrid hygienic – neo-mercantilist orientation could be labeled as sub-hegemonic.

One issue on which there was a consensus between official, producer, and conservation actors at both the grassroots and national levels of governance was a suspicion of liberalization. None of the actor's interviewed or documents reviewed displayed any enthusiasm for the possibility of opening up the European market to goods imported from overseas (especially to beef from South America). As a result, most of the debate centered on reconciling the hygienic interests of the EU; urban consumers; and the environmental movement, with the neo-mercantilist interests of the national farmer's movement, and the realities of unique agro-ecosystems such as the Burren.

CHAPTER 10: AGRI-ENVIRONMENTALISM IN PENNSYLVANIA

In this chapter different stakeholder perspectives on agriculture's multifunctional role in Pennsylvania are explored through analyzing the public discourse on agri-environmentalism. As part of the analysis, a case study of agri-environmentalism in Bedford County is presented. Based on the analysis conducted it can be said that the public discourse on agri-environmentalism in Pennsylvania is characterized by a hybrid of hygienic and eco-modernization.

Before proceeding to discuss the contributions of different stakeholders to the public discourse on agriculture's multi-functional role in Pennsylvania, let us first turn our attention to the characteristics of agriculture in the state itself. To begin, there are close to 60,000 farm operations in the state of Pennsylvania. From table 28 we can see that these operations cover 27% of the land area, which is significantly less than the proportion of land under agriculture for the entire United States (41.4%). It also appears that agriculture accounts for just over one percent of employment in the state, which is again lower than the proportion of people working in agriculture in the US as a whole (1.8%).

Table 28: Economic and Land Use Significance of Agriculture in Pennsylvania

Number	Percent	Percent of total
Total number of holdings	58105	
Land area	7745336	27%
Employment	84518	1.2%

*****USDA – ERS: State Facts

The following table describes the structural characteristics of agriculture in Pennsylvania. From this table it can be seen that most of the farm operations in Pennsylvania (60.2%) are less than 100 acres in size, with only a small proportion of operations being over 500 acres. This differs somewhat from the situation at the national level, where just over 50% of farms are under 100 acres in size. The following table also shows that most farmers (60.9%) earned less than $10,000 from their operation, while over 16% earned over $100,000. At the national level most farmers (59.3%) also earned less than $10,000, while a somewhat smaller proportion (14.6%) earned over $100,000.

Table 29: Structural Characteristics of Agriculture in Pennsylvania*

	Pennsylvania		United States	
Farms by size	Number	Percent	Number	Percent
1 to 99 acres	34979	60.2%	1,130,097	51
100 to 499 acres	20685	35.6%	733,455	33.1
500 to 999 acres	1801	3.1%	168,407	7.6
1000 to 1,999 acres	523	0.9%	104,146	4.7
2,000 or more acres	116	0.2%	81,987	3.7
Farms by sales				
Less than $9,999	35386	60.9%	1,314,014	59.3
$10,000 to $49,999	9297	16%	429,880	19.4
$50,000 to $99,999	3835	6.6%	146,248	6.6
$100,000 to $499,999	8193	14.1%	250,394	11.3
More than $500,000	1453	2.5%	73,124	3.3

***USDA – ERS: State Facts

Agriculture in Pennsylvania is largely characterized by dairy production, and the following table shows that milk and dairy products accounted for close to one third of the value of grass farm sales for the state. Dairy products was followed by poultry and egg production (17.52%), as well as nursery and greenhouse production (17.21%) as the next most important commodities. This situation differed from the national picture where Cattle, Grains, and poultry products were the top three commodities.

Table 30: The Value of Agricultural Commodities Produced in Pennsylvania in 2002*

	Dollar value ($100)	*Percent*
Milk & Dairy	1,393,992	32.75
Poultry and Eggs	745,624	17.52
Nursery & Greenhouse	732,709	17.21
Cattle & Calves	441,671	10.38
Hogs and pigs	269,318	6.33
Fruit & Vegetables	235,306	5.53
Grains	203,156	4.77
Other crops	103,136	2.42
Other animal products	85,440	2.01
Christmas Trees & wood crops	31,193	0.73
Tobacco	15,413	0.36
Total	*4,256,958*	*100.00*

*USDA – Census of Agriculture

There was some difficulty experienced in getting data on environmental indicators for agriculture in Pennsylvania. The data which is available is presented in table 31. From this table it can be seen that the amount of land placed in land retirement programs in Pennsylvania has greatly increased between 1992 and 2002. However, the percentage of land in such programs is still less than is the case nationally (3.3% in 2002). The proportion of land in organic production was also relatively small.

Table 31: Environmental Indicators for Agriculture in Pennsylvania*

	…1992…		…1997…		…2002…	
	Number	*Percent of Total*	*Number*	*Percent of Total*	*Number*	*Percent of Total*
Acres in conservation or wetlands reserve programs	60,000	0.8	120,000	1.5	190,000	2.5
Certified organic farms, all commodities (number)	N/A	N/A	N/A	N/A	318	0.6
Land used to raise certified organic crops (acres)	N/A	N/A	N/A	N/A	9,935	0.1

*****USDA – ERS: State Facts

In terms of the expenditure on the US farm bill, table 32 provides summary information on the distribution of payments between conservation, disaster and commodity subsidies. From this table it can be seen that expenditure on conservation payments has increased significantly between 2002 and 2004, unlike the national situation where expenditure remained relatively stable during this period. It is also the case that there were significant shifts in the amount of money allocated to both disaster subsidies and commodity subsidies, both of which peaked in 2003, only to decline again in 2004.

Table 32: 2002 - 2004 Farm Bill Expenditure by Category in Pennsylvania*

Payment Type	*2002 Payments*	*2003 Payments*	*2004 Payments*
Conservation Subsidies	$14,306,592	$18,298,767	$21,287,518
Disaster Subsidies	$20,338,811	$30,082,372	$4,417,046
Commodity Subsidies	$94,870,964	$134,062,900	$61,673,108
Total USDA Subsidies	$129,516,367	$182,444,039	$87,377,671

*EWG 2006

In addition to these federal subsidies there is range of state level initiatives to support agriculture's multifunctional role. These initiatives include watershed grants for installing best management practices in conservation, financial assistance for compliance with the nutrient management act[4], and the Chesapeake Bay Tributary Strategy[5]. These programs are coordinated by the Pennsylvania Department for Environmental Protection and the State Conservation Commission. Another important initiative is the state level Easement Purchase Program, which involves purchasing conservation easements on farmland throughout the state. This program is

[4] The Pennsylvania Nutrient Management program regulates all high-density livestock and poultry operations within the Commonwealth. These regulated operations are designated Concentrated Animal Operations (CAOs). A CAO is defined as an agricultural operation where the animal density (livestock and/or poultry) exceeds two animal equivalent units (AEUs) per acre of land suitable for the application of animal manure (PSU CAS. 2005).

[5] The Chesapeake Bay Tributary Strategy is a catalogue of activities and measures put together by the Department of Environmental Protection that aim to generate significant sediment and nutrient reductions n the Susquehanna and Potomac Watersheds, in order to comply with the expectations of the federal Environmental Protection Agency for the restoration of the health of the Chesapeake Bay. (DEP. 2005).

coordinated by the Farmland Preservation Bureau, and has helped preserve more farmland than any other easement purchase program in the country (PDA 2006).

Overall, it can be argued that agriculture in Pennsylvania makes a relatively small contribution to employment in the state, but remains an important land use. It is a sector characterized by relatively small scale, low income dairy operations, but which also contains an important poultry and greenhouse sector. In recent years there has a growing emphasis on conservation programming with larger acreages being placed in land retirement programs and expenditure steadily increasing. However, the organic sector still appears to be relatively marginal.

Having examined the profile of agriculture in Pennsylvania, it is now time to focus on how agriculture's multifunctional role was interpreted by different socio-political actors in the debate on agri-environmentalism in Pennsylvania. This debate goes beyond the Conservation Security Program (CSP), and includes the wide array of state-wide agri-environmental initiatives, as well as more localized efforts promoted by Conservation Districts. The actors involved in shaping this debate, whose contributions are the focus of this chapter include the Pennsylvania Natural Resource Conservation Service (PANRCS), The Department of Environmental Protection (DEP), and the State Conservation Commission (SCC) as the official mainstream actors. Other socio-political actors included the Pennsylvania Farm Bureau (PFB - representing conventional farmers), Citizens for Pennsylvania's Future (Penn Future – representing the environmental movement), and the Pennsylvania Association for Sustainable Agriculture (PASA – representing alternative producers). The following table provides summary information on the texts reviewed for each of these organizations, as well as the textual data collated in Bedford County.

Table 33: Number of Documents reviewed relating to Agri-environmentalism in Pennsylvania

Organization	*Documents*	*Pages*
The NRCS, DEP, & SCC	24	229
PFB	21	69
Penn Future	16	173
PASA	12	13
Bedford County	2	45
Total	75	529

From the above table it can be seen that 75 documents were reviewed for the purposes of this study, coming to a total of 529 pages. These documents include press releases, testimony transcripts, fact sheets, news letter articles and policy statements. It can also be seen that some groups produced more documentary material than others. For example, there was very little material available for PASA, or on the agri-environmental debate in Bedford County. It was

therefore necessary to supplement this data with information garnered from semi-structured interviews. Interviews were conducted with representatives of each socio-political actor at the state level, and with a range of different producers, activists, and street level bureaucrats at the grassroots level.

The findings from this research are presented in this chapter in three sections. The first section deals with the mainstream and challenging frames on agriculture's multifunctional role offered by different socio-political actors at both the state level, and at the grassroots level. This is followed by a discussion of the discursive boundaries of the debate on agri-environmentalism in Pennsylvania. The final section seeks to identify and compare the ideological orientations of these actor discourses at both the state and local level.

Mainstream and Challenging Frames

For each actor, the manner in which they framed agriculture's multifunctional role in their contributions to the debate on agri-environmentalism in Pennsylvania is discussed. This involves describing the key issues and concerns addressed in these contributions, the threats, challenges and causal factors underpinning these concerns, the actors responsible for dealing with these challenges, and potential solutions.

Official Actors in Pennsylvania

A statement made by the NRCS state conservationist for Pennsylvania in 2000 highlighted the importance of conservation practices on private lands for the provision of *"clean water, healthy soil, food and clothing, wildlife habitat, recreational areas, and healthy green space for everyone to enjoy"* (PANRCS. 2000. Report). Thus, it is not agriculture per se which delivers multiple benefits for society, but particular conservation and stewardship practices, on private working lands, which can also include forested land. The kind of amenities which were highlighted as being associated with conservation on agricultural land included biodiversity (discussed in 44% of texts), water quality (36%), economic development (20%), the provision of quality food products (16%), soil quality (12%), landscape aesthetics (12%), air quality and the production of alternative energy.

The discussion of biodiversity was very much focused on the potential for the preservation of wildlife habitat on farmland in Pennsylvania. Species which were believed to be especially dependent on farmland for their habitat included wild turkey, rabbits, ring necked pheasants, muskrats, eastern meadowlarks, kestrels, and green frogs. Agriculture was believed to contribute to the preservation of these species by creating a diversity of landscape features "*that*

wasn't here when we didn't farm – in land use, habitat, open spaces vs. wooded areas"etc (NRCS Representative Interview 2, 2006). Farmland features which were thought to have significant potential as habitat included hayland and pasture, wooded areas, grass areas, old field habitats, and parts of the farm which were difficult to produce on such as fence rows, field edges, and wetlands. These different landscape features were thought to play a key role in providing *"nesting cover, winter cover, travel lanes, food plots, (and) water sources"* for different species of wildlife (PCP. 1999. Report 1). It is thus essential that these features be maintained by producers in order for wildlife to thrive.

It was however further suggested that the relationship between agriculture and wildlife in Pennsylvania could be problematic. For example, some farmers saw wildlife as a potential threat to productivity:

> *"There's always a contention with deer damage, for the farmers. And with the sportsmen, there is contention the other way, that there aren't enough deer and farmers say there are too many. That's a contentious issue"*. (Re: NRCS Representative Interview 2)

It was further thought to be the case that intensive and mechanized agriculture had played a major role in destroying wildlife habitat through enhancing farmer capacity to extend production to even the most inaccessible parts of the farm. This proved to be particularly problematic for ground nesting birds such as the ring-necked pheasant.

Water quality was another priority concern which was discussed at length. Similar to agriculture's relationship with wildlife in Pennsylvania, the sector's impact on water quality was presented as being both positive and negative. On the one hand, agriculture was presented as being preferable to a landscape covered in concrete and tarmac, "*providing a lot more opportunities for filtration, less runoff into streams and so on"* (Re: NRCS Representative Interview 1, 2005). However, despite the obvious benefit of farmland over other commercial or residential land uses, agriculture still represented a major contributor to nonpoint source pollution in Pennsylvania:

> *"About 90 percent of the nutrients contributing to the pollution of the (Chesapeake) Bay from Pennsylvania come from nonpoint sources such as runoff from farmland and urban areas—not from sources like wastewater treatment plants"*. (DEP. 2002. Fact Sheet 1)

The excessive application of nutrients to farmland (often in the form of animal manure) was thought to pose a particular risk in those parts of the state characterized by limestone geology where you have "*sinkholes and direct fractures right down to your groundwater*" (Re: NRCS Representative Interview 2, 2006). In one area high nitrate levels were believed to have contributed to fetus abortions in cattle, and were thought to pose a significant risk to public health.

The economic impact of agriculture was also believed to be important. On the one hand, it was thought that productive agriculture made a direct contribution to the economy of Pennsylvania through providing jobs, income, and the raw material for other economic sectors. However, it was also believed that agriculture played a key role in developing a strong workforce. One respondent interviewed mentioned the attractiveness of agricultural regions to manufacturing employers because of the strong work ethic that developed over time:

> *"They like those farm-boys because they work right, and that's what they were taught, they had to, to survive, it's kind of bred in them as well. 12hr days, 7 day a week around the clock"*. (Re: PDA/SCC Representative Interview, 2006)

The future viability of agriculture as a livelihood was thought to be heavily dependent on the implementation of a range of different conservation practices. Indeed, in a manual of conservation practices produced for farmers in Pennsylvania, economic viability was persistently mentioned as a reason for adoption (PCP. 1999. Report). Measures to improve or protect soil quality, and prevent erosion were thought to be particularly important in this regard. Such practices were also thought to complement agriculture's role in meeting consumer demands for *"earth friendly food"* (PANRCS. 2005. Press Release 2), as well as its future potential as a producer of alternative sources of energy (Re: PDA Representative Interview, 2006).

A number of factors were thought to be undermining the economic and conservation potential of agriculture in Pennsylvania. These factors included land use change (discussed in 12% of texts), economic changes (8%), lack of producer knowledge, bureaucratic incapacity, and mechanization. Some of these factors (such as economic and land use changes) threatened the very existence of agriculture, while other factors (producer knowledge, bureaucratic capacity and mechanization) were specific to the resource conservation potential of the sector.

One of the most significant challenges thought to be facing agriculture in Pennsylvania was pressure from competing land uses. On the one hand smaller scale family run operations were under pressure to intensify production, while also facing the prospect of having their land converted into residential or commercial uses. Both these challenges had the potential to undermine the viability of the sector as well as specific resource concerns:

> *"Land use conversions to intensive agricultural production and intensive urban and industrial development have led to public concern for water quality, wildlife habitat and other ecological conditions"*. (PCP. 1999. Report 1).

Urban and industrial development pressure was thought to be particularly intense in the eastern part of the state, close to major urban centers such as Philadelphia.

The drive towards agricultural intensification, especially intensive dairy and livestock production, reflects the difficult economic climate facing farmers. As the scale of operations in

other parts of the Country (especially the Western States) increases along with the capacity to transport produce over long distances, the pressure for restructuring agriculture in Pennsylvania also increases. For example the increasing scale of operations nationwide in the Dairy sector is putting huge pressure on smaller producers in the state, with Pennsylvania losing *"259 dairy farms last year, and we're going to lose a lot more this year"*(Re: PDA/SCC Representative Interview, 2006). The replacement of small scale operations with larger concentrated feeding operations was thought to pose a significant challenge to water quality.

A related process which directly affected the potential of farmland to provide wildlife habitat was the mechanization of agriculture. One example of the negative impact of this process was the replacement of the three bottomed plough with the five bottomed plough which "*…is the same width as the tractor, so now I can plough right up to the fencepost, and I have an 18 inch wildlife habitat, compared to the six foot before"*, (Re: PDA/SCC Representative Interview, 2006).

Other factors which undermined the conservation and stewardship value of agriculture included a lack of knowledge or understanding on the part of producers and the incapacity of the USDA bureaucracy to address this knowledge gap. The NRCS in particular has undergone significant restructuring with staffing levels being reduced despite increasing demands for assistance.

A range of different actors were identified as playing an important role in promoting conservation practice in agriculture. These actors included federal agencies such as the NRCS, state agencies such as the State Technical Committee on Conservation, the Department of Environmental Protection and the State Conservation Commission, local stakeholders, and private sector technical consultants. Overall, there was an orientation towards a multi-actor collaborative approach to addressing conservation problems in Pennsylvania. Groups such as the State Technical Committee on Conservation were thought to epitomize this approach, being composed of representatives of both state and federal agencies, as well as farmer representatives. There was also a strong emphasis placed on the efforts of local stakeholders such as watershed groups and the Soil and Water Conservation District. Furthermore, it was suggested that private sector interests were playing an important role in providing conservation services at the grassroots level as technical service providers.

The Conservation Security Program was believed to represent an important vehicle for dealing with some of the challenges to agriculture's conservation role in Pennsylvania. The program was praised because it encourages farmers to improve natural resources and environmental quality as opposed to paying for the prevention of environmental damage. It was

also a program which the state technical committee excerpted a good degree of influence over, especially in the selection of priority watersheds. Other aspects of the program which were thought to be particularly beneficial included the self-assessment process, the broad appeal of the program to all types of farmers, and its use of computerized tools for assessing the eligibility of individual farmers.

Despite these benefits a number of problems with the program were also identified. The most significant problems mentioned included the program's funding shortfall, its overemphasis on record keeping, and the short period of time allowed for signing up participants. A major concern was the potential funding shortfalls for the program

> *"The whole concept of the program is going to depend on the amount of funding, because we are dealing with up to a ten year contract, from when that guy is eligible and he is funded, it can be a ten year contract. And the funds for that contract are appropriated every year. We're in the third year, starting the fourth year, all those contracts we've written the first three years, for next year, have no funds, until that year's funds are appropriated, so it's a massively growing amount of money that's needed"*. (Re: NRCS Representative Interview 2, 2006)

The squeeze on funding was already being felt, with the number of watersheds to be targeted nationally being reduced from 118 to 60 for 2006. It was further argued that the program was overly complex, and placed too great an emphasis on maintaining records on nutrient and pesticide application. The importance of these records meant the program was biased towards producers who have being using crop consultants for a number of years. It was also felt that the program privileged cereal production over livestock production, and that the emphasis on records reflected this. It was further asserted that the sign-up period for the program was way too short, putting the staff of the NRCS under a significant amount of pressure. Most of these problems were attributed to Washington Office of the NRCS and the budgetary difficulties currently being experienced by Congress.

Suggested improvements for the program included an extended, if not open-ended sign up period, simplifying the scheme so that it is more understandable to farmers, and giving more control over the implementation of the program to the local branches of the NRCS as opposed to managing it in a top down manner from Washington. It was also felt that the program could benefit from increased funding for technical assistance, allowing NRCS agents the opportunity to visit the farms that are being enrolled in the program.

Aside from the CSP, a number of other state-wide programs were discussed. These programs included the Environmental Quality Improvement Program (EQIP), which targeted more intensive operations than the CSP (and which received much more funding than CSP), as well as a possible state-wide initiative for the production of bio-fuels. One of the informants

interviewed suggested that land which was retired from production under the Conservation Reserve Enhance Program (CREP) could be utilized for the production of bio-fuels, creating a synergy between conservation objectives, energy security objectives, and farmer livelihoods. However, this initiative was still at the discussion stage.

The Pennsylvania Farm Bureau

According to the Pennsylvania Farm Bureau, agriculture in Pennsylvania performs a variety of different functions including economic development (discussed in 32% of texts), the provision of food (27%), environmental protection (27%), and cultural preservation (9.1%). Despite, the constant reference to agriculture's impact on all these different spheres of life in Pennsylvania, the PFB did not make explicit reference to the concept of multifunctionality.

One of the most important functions discussed in the texts reviewed were the economic benefits associated with agriculture. The sector was constantly referred to as one of, *"if not the leading industry in terms of jobs and property tax contributions"* (Re: PFB Representative Interview 2). Farm Bureau figures for the economic significance of agriculture in Pennsylvania estimate that the sector contributes 800,000 jobs and $45 billion to the State Economy. These figures take into account the significance of agriculture beyond primary production:

> *"Agriculture, in addition to commodity production, also includes support services such as food processing, marketing, transportation, and manufacturers that make products and equipment used on farms* "(PFB. 2005. Fact Sheet 4).

Thus, agriculture serves as both a customer, and a source of raw material for a range of related industries in Pennsylvania.

Agriculture was also said to play in important role in ensuring an adequate food supply, both for consumers in Pennsylvania, and in the nation at large. According to the PFB, Pennsylvania farmers were instrumental in guaranteeing food security and in contributing to the *"to the worlds cheapest food supply"* (Re: PFB Representative Interview 2, 2005). Because agriculture plays such a vital role in this regard, it was argued that protecting agriculture should be considered almost a matter of national security, with *"The future well -being of our nation (being) vitally dependent upon continuation of a safe and readily available food supply"* (PFB . 2005. Fact Sheet 2).

The role of agriculture in the conservation and protection of the environment was also the subject a significant amount of discussion. Discussion of agriculture's positive environmental impact focused both on the inherent advantages of maintaining land in agriculture, and the active stewardship role of farmers. First of all, keeping land in agriculture allowed for better water

filtration than would be the case if the land were in urban usage. This filtration function enables the groundwater to be recharged, providing fresh water.

The negative impact of agriculture on water quality was also acknowledged (especially agriculture's contribution to sediment, phosphorous, and nitrogen levels in the Chesapeake Bay). However, it was argued that farmer's role in this regard was progressively improving with growing number of farmers adopting conservation techniques such as conservation tillage. Such techniques also have the benefit of sequestering carbon, thus making a positive contribution to the fight against global warming. It was further argued that most farmer's *"intentionally provide habitat for wildlife"* and that as a result *"Deer, moose, fowl and other species have shown significant population increases in the past several years"* (PFB . 2005. Fact Sheet 3).

Overall, the PFB argued that *"farmers and ranchers are the first environmentalists"* (PFB. 2005. Fact Sheet 6), and see themselves *"as stewards of the land"* (Re: PFB Representative Interview, 2005). To this end, the PFB was quite optimistic about agriculture's future impact on the environment:

> *"New technology means farmers are more environmentally friendly than ever before. With modern methods, one acre of land in the United States can produce: 42,000 pounds of strawberries, 11,000 heads of lettuce, 25,400 pounds of potatoes or 8,900 pounds of sweet corn"*. (PFB. 2005. Fact Sheet 6).

This suggests that the Farm Bureau views technological developments in agriculture as environmentally beneficial because they allow for production to be concentrated on smaller plots of land. This means there is more land left over for wildlife habitat, recreation etc. The cultural benefits associated with agriculture were also deemed important. It was argued that agriculture played a key role in maintaining family values, because the majority of farms in the United States were owned by families.

A number of factors were identified as undermining agriculture's potential contribution to the economy, food security, natural environment, and cultural heritage of Pennsylvania. These challenges included local ordinances banning factory farms (discussed in 27% of texts), state regulation (23%), government funding cuts (18%), and economic uncertainty (14%).

The main challenge facing farming in the state was the emergence of local ordinances which sought to regulate, and in some cases ban, industrial scale animal production. According to Farm Bureau representatives, producers are operating in an increasingly uncertain regulatory environment, meaning they have to contend with an additional risk, on top of economic and climatic concerns. The emergence of these ordinances was thought to be particularly problematic in the rural-urban interface:

> *"The main way we see the urban-rural interface problem manifest itself is in local ordinances and zoning laws to keep agriculture out, particularly intensive progressive agriculture, everyone is supposed to have a little red barns"* (Re: PFB Representative Interview 2, 2005)

Such ordinances were greatly resented as they go beyond the provisions of existing state legislation. As such, these ordinances are repeatedly labeled illegal. It was also argued in testimony to the state legislature that such ordinances contradict initiatives that attempt to preserve farmland as they unfairly restrict the ability of producers to earn a living from the land preserved (PFB. 2006. Testimony 10).

While objecting to local regulation for going beyond state legislation, the PFB also voiced objections to regulations put forward at the state and federal level. The Farm Bureau was especially concerned about the implementation of legislation governing air quality emissions. These regulations were believed to pose significant problems for small and medium scale producers. Objections were also voiced to provisions of the Chesapeake Bay strategy which could "*change the focus of nutrient regulation from larger animal farms to virtually any small or medium sized farm that uses or stores manure"* (PFB. 2004. Testimony 3). Overall it was felt that with the changing demographic profile of the US (less than 2% of the population involved in agriculture), *"there are fewer people in government have a direct link to the farm… fewer people have an agricultural heritage, who serve in government"* (Re: PFB Representative Interview, 2005).

Serious concerns were expressed over the proposed cutbacks in state and federal funding. Areas which could potentially be subjected to funding cuts by the State legislature included the animal health commission, farmland preservation, and soil and water conservation districts. Concern was also expressed over potential cuts to federal commodity and conservation programs.

Most of these challenges were compounded by the economic uncertainty facing agriculture in Pennsylvania. This uncertainty reflects the fact that "*American farmers are competing in a global market*" (PFB. 2006. Testimony 8). Competition from producers across the globe has led to the integration of agriculture in Pennsylvania where *"independent production, traditional production is made more difficult because of the profit margins or lack thereof (therefore)…large integrators…large food processors…producers of feed, equipment…contract farmers to produce"* (Re: PFB Representative Interview 1, 2005). These changes are thought to pose both challenges and opportunities for producers in Pennsylvania. They also lead to a situation where there are fewer farms and as a result, demand for agricultural support services seriously declines. This serves to further erode the sector's economic impact.

Socio-political actors who were thought to have a key role in ensuring agriculture's continued viability in Pennsylvania included farmers (9.1%), local municipal governments (9.1%), and environmentalists (9.1%). According to one PFB representative most of the organization's *"members would say that the industry itself should solve the problems"* facing agriculture, with the government serving to provide incentives rather than more regulation.

Concern was expressed that representatives of the environmental movement might be lobbying for quite the opposite at both the state and federal level. These groups are becoming increasingly active in lobbying law makers responsible for the Farm Bill. Concern was also expressed that provisions in farmland preservation programs for participation by nonprofits could mean that such programs would be hijacked by environmental interests who would have less interest in "*preserving working farms rather than just preserving open space"* (PFB. 2005. Testimony 6).

The discussion of the role of local government was somewhat mixed. On the one hand the PFB was opposed to the role of local government in actively regulating industrial animal feed operations. It was further argued that the ability of school districts to *"impose real property taxes should be eliminated"* (PFB. 2005. Fact Sheet 2). On the other hand however, the PFB was expecting a more active role on the part of local government, arguing that they should provide additional matching funds for the implementation of farmland preservation, and advocating for a greater role for the Soil and Water Conservation Districts in the proposed nutrient trading program.

Throughout the texts reviewed and during the interviews conducted a significant amount of attention was paid to the role of conservation programs in enhancing agriculture's stewardship role (discussed in 27% of the texts reviewed). It was acknowledged that best management practices in conservation *"cost money, and farmers should not be expected to shoulder the burden by themselves"* (PFB. 2004. Fact Sheet 1). A number of recommendations were therefore made on how this burden might be shared with the government. Suggestions made included additional state funding for the adoption of best management practices (like conservation tillage and cover cropping), research into the nutrient implications of animal diet adjustments, and the development of alternative uses for manure so that it can be treated as a resource rather than waste.

Despite this enthusiasm there was also some suspicion expressed about conservation programming, especially at the federal level:

> *"Many non-farm interests are trying to use the upcoming Farm Bill as a vehicle for advancing their environmental views and interests…However; we must remember that this is a Farm Bill and not a conservation bill"*. (PFB. 2006. Testimony 8).

Part of the concern over conservation programs was the experience with land retirement programs such as the Conservation Reserve and Enhance Program (CREP). These programs are often introduced onto land that should not be classified as marginal or highly erodible, and in some cases have been used to *"set aside whole farms rather than sensitive environmental portions of farms"* (Re: PFB Representative Interview, 2005). By paying for this land to be taken out of production in a state where there is a large land rental market, one gets a situation where "*the government is basically competing with a private market*" (Re: PFB Representative Interview, 2005).

It was therefore argued that conservation programs included in the farm bill *"must be directed toward production agriculture, and must be compatible with farmers' ability to use their lands in farm production."* (PFB. 2006. Testimony 8). The Conservation Security Program was thought to be ideal in this sense. The program was praised because it "*recognizes what farmers are doing and can do to continue to farm in an environmentally sensitive manner"*. Such an approach keeps farmers in the business of farming, allowing them to continue and enhance their environmental stewardship role. However, the promise of the program was undermined by the fact that it was seriously under-funded (Re: PFB Representative Interview 2, 2005).

The lack of funding for the Conservation Security Program was connected to a wider problem of budgetary restrictions for the farm bill. According to one Farm Bureau representative interviewed, programs such as the CSP which could have a positive impact in Pennsylvania are willfully neglected in favor of commodity programs:

> *"Well I think, as I recall, there's a limited amount of resource dollars, and in the end, being very blunt, and we have the same problem the commodity programs the cotton, those lobbies are very strong…..and if it means we are going to steal money out of the CSP program to pay for the Cotton program…that's the way its going to be"* (Re: PFB Representative Interview 2, 2005)

This bias towards commodity programs at the expense of programs such as the CSP was thought to be especially problematic given the requirements of the World Trade Organization for the reduction of trade distorting subsidies. This does not mean that the Pennsylvania Farm Bureau opposed commodity payments, indeed they strongly argued for the maintenance of a *"safety net"*, which was thought to be particularly necessary given increasing fuel costs, and uncertain climatic and market conditions. It was the imbalanced nature of farm bill expenditure in favor of commodities mostly grown in other states which they objected to. Overall it was felt that *"farm program payments are a public investment in the nation's food, environmental, and economic security. They help provide some measure of stability to the volatile business of food production,*

keeping Americans supplied with the safest and most affordable food in the world". (PFB. 2004. Policy Statement 10). Thus, the emphasis was very much on using farm bill expenditure as a stabilizing mechanism that sought to enhance the multiple services agriculture performs for American society.

A range of policy initiatives were supported at the state level. These initiatives ranged from farmland preservation, nutrient trading, and incentives for the production of alternative energy (using methane digesters). These programs either involved incentives or market based solutions to environmental problems (such as nutrient trading). It was further expected that enrollment in farmland preservation, alternative energy, or nutrient trading programs would be strictly voluntary.

Citizens for Pennsylvania's Future (Penn Future)

Penn Future's discussion of agriculture is largely driven by what the organization considers farming not to be i.e. factory farming. Thus, the functions of agriculture which receive the greatest amount of attention are the dis-amenities associated with the sector. These include public health concerns surrounding food quality (discussed in 35% of texts), economic underdevelopment (29%), and problems with water quality (24%). The concerns surrounding the adoption of the factory farm model of production is summarized in the following quote:

> *"They (i.e. farmers) may live to regret that, if public concerns about the safety of the food produced in factory farms continue to grow. What we may be left with will be bankrupt farmers, empty barns, and contaminated groundwater and fields harboring resistant bacteria."* (Penn Future. 2001. Fact Sheet 2)

The discussion of food safety concerns focused on the overuse of antibiotics in animal agriculture. Such products are administered to concentrated livestock herds (as opposed to pastured herds) in Pennsylvania in order help the animals gain weight, prevent disease, and to cure sick animals. The overuse of such products in animal agriculture contaminates both the food and water system contributing to increased resistance among humans to antibiotic treatment. Because this aspect of agricultural production poses a direct threat to public health it is argued that it is a concern for people outside of rural areas:

> *'And all of us, whether we live in the country, suburbs or cities should be concerned about the routine feeding of antibiotics used in human medicine to healthy animals at factory farms. This practice kills most of the germs, but leaves the strong ones — now immune to most antibiotics — to multiply. People can be exposed to these "super-germs" by drinking contaminated water and by handling meat contaminated with the germs"* (Penn Future. 2003. Fact Sheet 8).

Penn Future also expressed a good deal of concern over the negative economic effects of industrial agriculture. In the Hog sector alone, the emergence of factory scale farms was said to have contributed to a massive reduction in the number of producers in the state of Pennsylvania. It was further argued that this type of farming functioned to lower property values in the communities in which they are located. This negative economic impact was directly related to the environmental problems associated with concentrated animal agriculture:

> *"Because of the odors and air pollution, traffic, potential water pollution, and fly problems, factory farms lower the quality of life in communities where they are located. And this, not surprisingly, shows up in dollars and cents"*. (Penn Future. 2003. Fact Sheet 7).

Penn Future also claimed that this style of agriculture contributed very little, in terms of jobs, to local economies. The water quality problems attributed to industrial agriculture were thought to be a major factor underpinning its negative economic impact. The main water quality problems associated with agriculture in general included the erosion of sediment into waterways and the over-application of fertilizer and manure on cropland and grassland. These problems have contributed to the degradation of thousands of miles of streams in the state of Pennsylvania.

Industrial scale animal production was thought to pose a significant threat to the quality of drinking water, especially in areas composed of carbonate rocks such as limestone and dolomite. The threats posed by industrial animal production to water quality result from difficulties in disposing the excessive amounts of manure produced, which is often more than producers *"can agronomically use on their farms"* (Re: Penn Future Representative Interview, 2005). Most of this material is spread on cropland or stored in large waste lagoons. This waste also poses a direct threat to drinking water. Penn Future cited the case of the Octoraro reservoir which often gets overloaded with run-off from manure forcing the authorities "*to pump in water from the Susquehanna to dilute its reservoir water and bring it up to drinking water standards* (Penn Future. 2006. Fact Sheet 11). Another major environmental quality concern associated with industrial animal agriculture is its negative impact on air quality. The confinement of thousands of animals in production facilities produces significant odor problems.

Clearly, Penn Future is highly critical of certain forms of agricultural production, especially industrial scale animal agriculture. There are however some clues as to how the functions of *"normal farming"* and "*normal farming practices*" are interpreted in the material reviewed. In one document reference is made to the *"community based independent farmer"*, invoking the Jeffersonian ideal of an independent yeomanry. They also invoke traditional interpretations of farming by referring to small scale operations and *"family farms"*. Dairy production in Pennsylvania was thought to be a good example of these kinds of operations:

> *"I think it really depends on who you talk to. Dairy production in PA is extremely accepted as part of the landscape and part of the reason is the concentration of the animals is not at the point …You still have relatively speaking small dairies… in PA there's three or four really large dairies"*, (Re: Penn Future Representative Interview, 2005)

It was however acknowledged that even these production units can cause significant environmental problems. These producers are part of what could be referred to as the *"unregulated community"*, and includes small farmers who *"just keep applying the manure"*. Such producers are not a priority for regulators in the State:

> *"Especially the Amish community and Mennonite community who are suspect of government anyway, they may have some knowledge of what works and doesn't work but they are not necessarily the best stewards of the land"* (Re: Penn Future Representative Interview, 2005)

Thus, even those groups who have a reputation as excellent stewards of the land have the potential to cause significant ecological damage.

Some of the more positive functions associated with agriculture which were mentioned in the texts reviewed included its contribution to open space which is not only valuable for its aesthetic qualities, but also in its ability *"to pick up rain water and storm water"*. It was also argued that agriculture had significant *"untapped ability to play into"* sustainable energy production in the form of wind energy or methane digesters (Re: Penn Future Representative Interview).

A number of factors were thought to underpin the dis-amenities associated with industrial scale animal production. Firstly, this sector is undergoing a process of corporatization, whereby agribusiness is increasing its level of control over "*the production side of the food equation*" (Penn Future. 2001. Fact Sheet 2). This process further encourages the intensification and concentration of production and further alienates farmers from their role as stewards of their land.

A lax legislative environment also enabled the emergence of this sector, providing very little oversight for how these operations are run and how they dispose of their waste material. This problem was discussed in a number of different texts (41%). Legislation such as the Nutrient Management Act were thought to be full of loopholes, addressing very narrow water quality concerns while ignoring air pollution, worker protection, and the risks posed by bacteria resistant to antibiotics. Furthermore, the Right To Farm law actually institutionalizes aspects of industrial agriculture which have significant pollution potential, such as manure lagoons, as *"normal farming practice"* (Penn Future. 2002. Fact Sheet 6). This law also discouraged local municipal governments and rural homeowners from trying to prevent the establishment of industrial animal

agriculture operations. Another problem identified with the state legislation on this issue was its failure to account for the circumstances of different localities in Pennsylvania:

> *"The topography of Bedford is different from the topography in Chester. The soils are different. The geology in State College is different to the Geology elsewhere in Pennsylvania. For the state to come in and say this is all you can do here, doesn't really fit with the nuances of all these different places"* (Penn Future. 2001. Fact Sheet 2).

While the legislation itself was thought to be problematic, there was also significant concern expressed over the ability and willingness of state agencies to enforce the laws which were enacted. The enforcement of regulations governing industrial animal production in Pennsylvania "*relies largely on self-inspection and self-reporting by the factory farm operators themselves.*" (Penn Future. 2003. Fact Sheet 8). It was further agued that some state agencies actively encouraged this model of production:

> *"Their mantra is that the only way to survive is to get a contract and get big. The Pennsylvania Department of Agriculture helps to spread this gospel, and many Pennsylvania legislators believe it"* (Penn Future. 2001. Fact Sheet 2).

It would thus appear that state actors play a critical role in enabling this model of agriculture to emerge, and to be in collusion with the corporate actors seeking to extend their control over the production side of the food chain. Overall, it is felt that these corporate actors are conveniently ignored by legislation, even though they are responsible for making the decisions governing where production is located.

Given the difficulties with the state legislature, and the apparent collusion between the enforcement agencies and corporate actors, a strong argument was made for empowering local stakeholders to deal with the challenges posed by industrial animal agriculture. Already local governments are taking charge of the problem through passing local ordinances which seek to address a range of concerns including *"odor control, fly swarms, water supply, and absentee corporate ownership"* (Penn Future. 2002. Fact Sheet 4). Such ordinances are considered necessary in order to protect the rights of people who live in places where factory farms seek to locate. It was also felt that local governments might be more sensitive to the unique features of their territories e.g. the vulnerability of Karst topographies to groundwater pollution. However, Penn Future stopped short of supporting municipalities who sought to completely ban industrial scale agriculture. Instead it was argued that a preferred solution was one which was inclusive of *"farmers, concerned citizens, and regulators"* (Re: Penn Future Representative Interview, 2005).

Throughout the texts reviewed and even during the interview conducted there was little mention of the Conservation Security Program, or conservation programming in general. It

appeared that such federal schemes were not considered part of the overall solution to the challenge posed by industrial agriculture in Pennsylvania. This suggests that federal legislation and programs are not priority for the organization, which prefers to focus on the state and local levels of governance. This means that most of Penn Future's policy recommendations are focused on closing loopholes in the Right to Farm law and the Nutrient Management Act, encouraging the proper enforcement of environmental regulation, and advocating for community control over the location of industrial livestock facilities.

Program's which did receive support included state level initiatives in nutrient trading, farmland preservation, and alternative energy production. Nutrient trading involves matching up large scale facilities with other agricultural operators who have accumulated nutrient credits through switching from conventional tillage to no-till, or who reside in a nutrient deficient zone and are willing to receive extra nutrients. The problem with such programs which was articulated by a Penn Future representative is that it is hard to calculate the amount of nutrients that could be stored through implementing best management practices like no-till. Furthermore it was felt that "*The farms that could do a lot of good aren't ones that are maybe in tune with the trading program or even Qualified to knock on the door of these big companies and say that I'm willing to help you out"* (Re: Penn Future Representative Interview, 2005). While it was agreed that farmland preservation program had significant potential, a number of pitfalls were also identified. One problem in particular is that when enrolling land in a farmland preservation program, producers need to know that someone will be able to take it over when they retire. There was also a good deal of enthusiasm shown for sustainable energy production on farmland, particular the use of wind turbines.

The Pennsylvania Association for Sustainable Agriculture (PASA)

While the mission of the Pennsylvania Association for Sustainable Agriculture is focused on the provision of healthy and nutritious food, in the texts reviewed for this study a good degree of discussion was given over to how agriculture performs multiple functions for society. In one newsletter article it was argued that pursuing multifunctional agriculture could become an important part of PASA's work in the future:

> *"I would argue that PASA's long term goal is a complete transformation of the agricultural system. The new system must provide nutritious food, enhance the environment in which it is produced, provide economic prosperity for all farmers and strengthen human relationships by building strong local communities"* (PASA. 2004. Newsletter Article 6).

While the term multifunctionality is not used, the vision articulated is similar in many aspects to the European multifunctional model of agriculture promoted by the European Commission. Key components of this transformed system of agriculture were discussed at length in the texts reviewed. These components included the provision of food (discussed in 31% of texts), local economic development (31%), environmental stewardship (23%), and cultural preservation (15%).

Among the issues discussed food provision received a significant amount of attention. As was mentioned earlier, the provision of healthy and nutritious food was the stated organizational goal of PASA. Thus, for PASA, agriculture is more than just a means of making a living, but rather a service to society, where *"growing nutritious food is an end in itself"* (PASA. 2005. Newsletter Article 12). This societal obligation of producers represents a response to the obesity crisis in the United States as well as other chronic diseases associated with poor diet. This crisis was in part thought to be the result of the industrial system of agriculture. Sustainable production can play a key role in providing an alternative to this system through offering a diversity of healthy food to consumers.

Agriculture's potential to contribute to local economic development was also discussed at length. This contribution is understood somewhat differently from conventional interpretations of agriculture's economic role in Pennsylvania. These interpretations focus on the processing, input-supply, wood product, and retail sectors as major employers, as opposed to just production agriculture. It was argued that such an analysis was problematic and that we should look at agriculture's economic role differently:

> *"Looked at in another way, I see …the strength of the rural economy, as being….local exchange, of dollars for food, dollars for services that farm's provide, dollars for Christmas trees this time of year"* (Re: PASA Representative Interview, 2005)

These local exchanges taking place between individual farms, local consumers, and local businesses create a multiplier effect in the local economy generating additional jobs and income. More importantly, wealth generated is kept locally and not siphoned off to another location.

The environmental stewardship role of farmers was also discussed. On the one hand it was acknowledged that farmers could potentially play a positive role in the stewardship of natural resources. It was argued that the environmental quality was dependent on the active management of farmers. This argument is based on the concept of a holistic approach to land management put forward by Alan Savory:

> *"I thought he made the point that is key here,…..unused land does not do as well as land that is properly used….and that was an eye opening statement for me to realize, that particular pasturelands if properly managed…can sort of be continuously improving the*

> *quality of the soil and the quality of the rest of the environment around that… however….overuse can be harmful"* (Re: PASA Representative Interview, 2005).

Such a system of active management requires a particular constellation of practices that will enable a farmer to *"leave the farm and community better than they found it"*. Thus, it is not agricultural activity per se which will ensure the protection and improvement of natural resources, but rather a set of particular practices associated with the ideas of sustainable agriculture.

Failure to adhere to such practices has the opposite effect of environmental damage. Chemically intensive agriculture can contribute to water contamination, while mechanization or overexploitation of the land base may lead to soil erosion. These problems are not exclusive to large scale operations:

> *"There may be many small farms that actually do more damage per acre than many large farms…..because many small farms are operated by folks that have one or two jobs off property, and therefore their farming practices reflect their need to save time…and so may be more chemically intensive…may be more mechanized"* (Re: PASA Representative Interview, 2005).

This suggests that how agricultural operations are managed, is just as important as the scale of operation, in terms of environmental impact. Furthermore, the transportation of agricultural commodities over long distances has a significant off-farm impact on the wider natural environment, resulting in the construction of highways and the burning of fossil fuels.

Another important feature of agriculture was its role in cultural preservation. It was argued that agriculture contributes to the identity of the State of Pennsylvania, whereby *"you could probably go anywhere in the country and mention PA and people would think about agriculture"* (Re: PASA Representative Interview, 2005). The agricultural identity of the state was due in no small part to the Dutch and Amish Heritage. It was further argued that farmers themselves represented important repositories of cultural knowledge "*of the land and what it takes – physically, emotionally and financially to live and work on it"*, and that this knowledge has been passed down through multiple generations (PASA. 2004. Newsletter Article 4).

The positive role of agriculture in relation to food provision, economic development, and environmental stewardship is thought to be threatened on a number of fronts. Key factors thought to undermine agriculture's positive multifunctional role included the industrialization of agriculture (discussed in 77% of texts), government policy (23%), and urban development (15%).

By far the greatest perceived threat was that of industrial and intensive agriculture, particularly the establishment of concentrated farming operations in the swine, poultry and dairy sectors. These operations have been encouraged through the provision of funding by big corporations, who also pay people to promote this option among producers across the country.

The effect of this type of production is the complete reverse of sustainable agriculture "*where agriculture is so concentrated that you create a situation where the local environment is threatened, where the local economy is threatened*" (Re: PASA Representative Interview, 2005).

Concentrated animal production was thought to be facilitated through an *"institutional and government bias"* in favor of corporate agribusiness (PASA. 2004. Newsletter Article 7). Overall, there appeared to be some distrust of the government agencies and policies. On the one hand state and federal legislation and policies promoted large scale agriculture through subsidy programs which "*benefit a small select number of farmers* " and boost incomes for agribusiness corporations (Re: PASA Representative Interview, 2005). At the same time, sustainable production practices, such as the production of organic milk, is thought to be over-regulated.

Another important challenge to the continuation and promotion of sustainable and multifunctional agriculture in Pennsylvania was the encroachment of urban land uses on farmland. The irony is that *"as farming succeeds in developing a quality of life, people come out and destroy the farming"* by raising the cost of land and encircling farm operations with residential properties (Re: PASA Representative Interview, 2005).

In the light of the challenges involved in promoting multifunctional agriculture, PASA identified a number of key actors who needed to be involved in the process. Key players in ensuring that PASA's vision of agriculture become's a reality included conventional actors such as *"the politicians, state bureaucracies, and university administrators"* (PASA. 2004. Newsletter Article 1). These actors play a key role in regulating agriculture, as well as providing incentives and scientific knowledge to the sector.

Beyond these conventional actors it was claimed that local stakeholders should have a greater say in the direction agriculture takes, and that overall, "*responsibility really lies more locally"* (Re: PASA Representative Interview, 2005). It was further argued that civil society organizations such as PASA have the potential to fill the gaps left by the conventional actors who have largely chosen to ignore sustainable agriculture. It was expected that there would be an increasing reliance on civil society and local stakeholders in the future, due to the funding shortfalls being experienced by organizations such as Penn State Cooperative Extension and the Pennsylvania Department of Agriculture.

A number of recommendations were made on the type of strategies that might be pursued in order to promote agriculture's multifunctional role. Surprisingly, no mention was made of the Conservation Security Program in the material reviewed. The only mention of the program was during the interview conducted with a representative of the organization. PASA supports the CSP, preferring it to environmentally destructive subsidy programs, and land retirement programs

such as the Conservation Reserve Program which results in a situation where *"farmers are competing with the federal government in the land (rental) market"* (Re: PASA representative interview, 2005).

The CSP was favored because it would keep land in production using sustainable techniques such as cover cropping, crop rotation and intensively managed grazing. Unfortunately, *"the promise of the past farm bill was never implemented"*, with programs such as the CSP being cut significantly (Re: PASA representative interview, 2005). Such programs are also difficult to explain to the general public due to their complex nature, and the misconception that all conservation programs involve paying farmers not to farm.

Overall it appeared that PASA was in favor of self-regulation and self reliance as mechanisms for overcoming the challenges facing sustainable and multifunctional agriculture (discussed in 23% of texts). This approach is articulated in the following quote:

> *"Each member is another sustainable agricultural leader, a person who advocates for better food and healthier people, a person who works on personal as well as societal transformation"* (PASA. 2004. Newsletter Article 6).

Thus, it is expected that the cumulative effects of decisions made by individual farmers will have a positive effect on the whole food system. This reflects the organizations distrust of the conventional agricultural bureaucracy which is thought to be in league with corporate agriculture. It further reflects a disdain for the traditional notion of the *"weeping and wailing farmer"* who bemoans the fact that prices and policies are beyond their control.

The alternative strategy proposed is that sustainable producers foster a strong connection with consumers through quality branding, niche marketing, and innovative arrangements such as subscription farming. Through taking this approach PASA expects to transform the agrifood system *"one farmer and one eater at a time"* (PASA. 2004. Newsletter Article 6).

This does not mean that PASA is completely opposed to government programs, but rather envisions programs which could facilitate this transition. For example, farmland preservation programs were heavily criticized for preserving the farmland without preserving the farmer:

> *"Farmland, if it is to remain farmland, needs a farmer, and farmers are at a far greater risk of extinction than the land they cultivate ….A large number (of farmers) are nearing retirement. Possibly an even larger number are nearing the brink of bankruptcy"*. (PASA. 2004. Newsletter Article 4).

In response to this challenge it was suggested that farmland preservation programs should be accompanied by provisions supporting *"marketing cooperatives, producer cooperatives, farmers markets and sales of locally grown food to institutions"* (PASA. 2004. Newsletter Article 6). It was also suggested that the state of Pennsylvania invest resources in its own version of the

Conservation Security Program which encourages a voluntary *"transition from sustainable to organic farming methods"*, such as grass based farming (PASA. 2004. Newsletter Article 9).

Case Study of Bedford County

Bedford County is located in south-central Pennsylvania, in the foothills of the Southern Alleghenies. The county was chosen as a study site because it makes up most of the Raystown Branch of the Juniata watershed, which was selected as a pioneer location for the Conservation Security Program in 2004. This means it is the Bedford County office of the NRCS which was responsible for pursuing this program in the Raystown watershed. It also means that Bedford County was the first location in Pennsylvania where farmers were enrolled into the CSP. One of the reasons this branch of the Juniata watershed was selected as a pioneer location for the CSP, was because agriculture in the area was thought to contribute to the pollution of the Chesapeake Bay. Watershed assessments conducted in the County identified sediment and nutrient loads as a major problem. Because of the County's ridge and valley terrain, soil erosion and sediment deposition are said to be particularly problematic (Bedford SWCD. 2005. Strategy). Given the key role agriculture appears to be playing in relation to water quality in this watershed, it is important to understand its characteristics in Bedford County.

From table 34 presented below it can be seen that there are just over 1000 farms in the county, covering close to thirty percent of the land area. In fact, most of the land in Bedford is covered by Forestry (Bedford SWCD 2005. Strategy). It also appears to be the case that agriculture accounts for only a small proportion of the workforce in the County (1.6%).

Table 34: Characteristics of Agriculture in Bedford PA*

	Number	Percent
Number of farms	1093	
Average size of farm	176	
Land in farms	192,811	29.7
Workforce	363	1.6

***USDA: 2002 Census of Agriculture.

In terms of commodities produced, table 35 shows that milk and dairy products account for almost two thirds of the gross value of agricultural sales in Bedford County. There was also some cattle production in the county.

Table 35: The Value of Agricultural Commodities Produced in the Bedford, PA in 2002*

Commodity	*Dollar Value ($1000)*	*Percent*
Milk & Dairy	36,836	64.9
Cattle & Calves	6,709	11.8
Hogs & Pigs	3,814	6.7
Fruit & Vegetables	3,166	5.6
Other crops	2,124	3.7
Grains	2,065	3.6
Greenhouse	1,255	2.2
Other animals	580	1.0
Christmas trees	200	0.4
Total	*56,749*	*100.0*

*****USDA: 2002 Census of Agriculture.

In terms of policy programs, the following table shows the distribution of payments under the 2002 Farm Bill by payment category, and year. From these data it can seen that commodity subsidies represent the largest portion of farm bill payments in the county, far outweighing conservation payments. It is however possible that these figures do not reflect the payments made under the Conservation Security Program in 2004, as the scheme was not introduced until the summer of that year. It also appears to be the case that farm bill expenditure under the disaster and commodity subsidy categories were much higher in 2002 and 2003, than in 2004. From looking at the table it appeared that each payment category spiked in 2003, only to decline again in 2004 to levels lower than 2002.

Table 36: 2002 - 2004 Farm Bill Expenditure by Category*

Payment Type	*2002 Payments*	*2003 Payments*	*2004 Payments*
Conservation Subsidies	$624,616	$733,896	$542,212
Disaster Subsidies	$672,586	$547,400	$79,819
Commodity Subsidies	$2,731,197	$3,469,729	$1,337,090
Total USDA Subsidies	$4,028,399	$4,751,025	$1,959,121

*****EWG 2006

In addition to these federal programs the Bedford Conservation District offered several other programs. For example the Conservation District has invested over one million dollars to install best management practices such as waste storage facilities, rotational grazing, and stream crossings in the county as part of the Chesapeake Program (1994 – 2003). Over $200,000 was also made available under the Growing Greener initiative, as part of a cost share program for a similar range of practices. Furthermore, the state-wide nutrient management program provided over a quarter of a million dollars to help with the preparation of farm level nutrient management plans.

However, the flagship program for the district is the equipment rental program, which was initiated in 1984. Currently the district possesses 19 pieces of equipment including no-till drills, no-till corn planters, lime spreaders and manure equipment. Making this equipment available at a low rental price to farmers in Bedford provides the agents of the Conservation District the opportunity to access farmers they may otherwise have had no contact with. The program has been so successful that neighboring counties now rent this equipment from the Bedford Conservation District. Another important initiative, managed in concert with a range of other local agencies, is the promotion of grass based livestock production through Project Grass. This program builds on a 25 year partnership sponsored by the USDA, farmers, and a number of Conservation Districts in South-Western Pennsylvania, and is now statewide.

The existence of a high priority watershed in Bedford, the plethora of initiatives in place to manage agriculture's impact on that watershed, and the selection of the watershed as a pioneer location for the Conservation Security Program indicates that this County is an ideal site to investigate agriculture's multifunctional role in Pennsylvania. To this end, a range of interviews were conducted with producers, conservationists, and officials actors in the county. The following discussion summarizes the findings of these interviews.

Official Perspectives

Within Bedford County interviews were conducted with three representatives of the Soil and Water Conservation District, the Director of the Natural Resource Conservation Service, and the USDA advisor to the Resource Conservation and Development Council. During these interviews a number of positive and negative functions associated with agriculture were discussed included agriculture's environmental, economic, and cultural significance.

Most of the discussion focused on how agriculture impacts natural resources and ecological services including water quality, soil quality, air quality, wildlife habitat, and carbon sequestration. Among these issues, water quality received the greatest amount of attention.

For the most part, agriculture was thought to have had a negative impact on water quality in Bedford County. This was thought to especially be the case in certain parts of the county, such as Morrison's Cove, where there is a heavy concentration of dairy operations:

> *"…in fact in that valley, which is called Morrison's cove and extends up into Blair Co, groundwater through the entire valley – in many areas it's hard to drill a well and not come up with nitrates that are not above the minimal standards. And depending on precipitation and so forth, we had it last year in this county, there was a no-water use warning in effect for one of the communities"* (Re: SWCD Representative Interview 2, 2006).

This area of the county is thought to be particularly vulnerable to nitrate pollution due to its carbonate geology whereby rainwater washes nutrients from the soil, through the porous bedrock, and into the groundwater. In such areas, farmland doesn't function properly as a means of filtering water, as filtration occurs too quickly. Despite these concerns, it was acknowledged that agricultural land is still preferable to developed land as a means of maintaining water quality:

> *"You always hear about how agriculture impacts those streams, but there are streams that are trout fishing streams that are right where the farms are, so if they were near cities and houses, and all this building went on, I mean that too me degrades, water and streams faster than anything farming can do"*. (Re: SWCD Representative Interview 3, 2006).

It was also thought to be the case that even though there were risks associated with nitrate pollution, this problem had not adversely impacted the county's freshwater fisheries. It was further claimed that while "*the diversity of macro-invertebrates is not probably what it could be"*, trout in the local streams appeared to be resilient to increased nutrient levels.

On the contrary, the problem of sediment load in streams was considered to be of greater importance than either nitrogen or phosphorous pollution. This suggests that the problems of water quality and soil erosion are interrelated. Soil erosion was thought to be a continuing problem in Bedford County, and related to the pressure for production intensification and concentration:

> *"There is still some erosion problems out there. Some farmers are doing a good job. There's a lot of farmers do a lot of no-till, no tillage practices. Still there is a lot of people who like to plough. Since these guys are going to bigger herds, they need more corn, they want more corn and soybeans. So if they are not no-tilling you get a lot more corn and soybeans because they need more to feed their dairy herds."* (Re: Bedford Co NRCS Representative Interview, 2006)

Thus, while there is certainly good practice in soil conservation, there is also pressure to grow more animal feed, and bring marginal land into production in order to service larger herds. A related issue discussed was that of air quality, which is thought to be negatively affected by particularly types of agriculture, especially swine and poultry production. This problem received little attention in Bedford County because these facilities are not as common as they are elsewhere. Wildlife habitat was also cited as an issue of concern:

> *"I'd say the dairy farms, there's not much wildlife habitat except what's in the woods. Because everything is corn and alfalfa, and most of the corn is cut for silage, and alfalfa that will take three or four cuttings a year so when winter comes around there's hardly any cover out there at all"* (Re: Bedford Co NRCS Representative Interview, 2006).

Despite the inhospitable nature of dairy operations for wildlife habitat, it was also noted that because Bedford County has plenty of Forested land, agriculture does not act as a major threat to wild animal or bird life in the county.

Agriculture was thought to have a positive role in addressing the challenge of carbon sequestration. This benefit is strongly associated with certain types of production such as no-till cropping and grass-based dairy production. For example, grass based production means the *"…the land is covered in grass year round, you're going to sequester more carbon"* (Re: SWCD Representative Interview 2, 2006).

Other positive features mentioned for agricultural production included the sector's traditional economic, cultural, and aesthetic functions. Agriculture's perceived role as the number one industry (in terms of jobs and income), was mentioned during a number of interviews conducted. It was further argued that agriculture *"…offers someone a tradition like a family tradition… I think it's a very respectable occupation in any community"* (Re: SWCD Representative Interview 2, 2006). The aesthetic value of agriculture, was attributed to its function in preserving open space.

The intensification of agriculture was thought to be one of the main factors underpinning agriculture's negative effects on natural resources and ecological services in Bedford County. In the process of trying to intensify production, individual producers may neglect aspects of their operation which have the potential to pollute:

> *"Worst thing I've seen is all these farms getting bigger, putting up these big barns, and they never think about how to manage the water that comes off the roof and everything. And all this water runs around the barn takes up the nutrients and runs right into the streams. You see that's the last thing they worry about, run-off, surface water control and roof run-off."* (Re: Bedford Co NRCS Representative Interview).

Concern was also expressed over the emergence of concentrated animal feeding operations which were thought to be "*producing a tremendous amount of manure, with no place to put it"* (Re: RC&D Council Representative Interview, 2006). Farmer decisions to intensify can be related to a number of factors including a cost-price squeeze, a lack of knowledge and cultural attitudes, and poor advice from extension and financial institutions.

Part of the pressure to intensify comes from the market place, with dairy producers "*Just trying to get ahead of the cost of producing the milk"* (Re: Bedford Co NRCS Representative Interview, 2006). Most of these producers carry an enormous amount of debt. Farmers therefore are obliged to intensify production in order to service their loans.

The acquisition of the debt burden in the first place was attributed in part to poor advice offered by the extension service and local financial institutions. The cooperative extension service

of the Pennsylvania State University was thought to *"dwell on production too much, they didn't look at the bottom line…It's a whole mindset that's hurting a lot of big farmers, and they are hurting, the big farmers in Bedford Co are probably in a lot worse shape"* (Re: SWCD Representative Interview 2, 2006).

This production orientation was also encouraged by the financial institutions in Bedford County. It was argued that local banks had a vested interest in encouraging farmers to increase herd size to the point where they would require substantial lines of credit:

> *"You start telling farmers in Bedford County that you can't make it on less than three hundred cows. And they buy into and say hey, we got to borrow enough money so we can improve everything and get up to three hundred cows. I got a couple of friends that work for banks, that work with a couple of farmers, I mention no names, and they tell me that these farmers will never see at the end of their life to pay off these loans"* (Re: SWCD Representative Interview 2, 2006).

These pressures were further compounded by the attitudes of individual farmers and their lack of understanding of the necessity for conservation. Some farmers have argued that their land *"is mine to do what I want with, forget about the government, forget about anyone"* (Re: RC&D Council Representative Interview, 2006). In some cases this leads to producers ignoring good agri-environmental practice such as contour plowing. This was thought to be the case even among producers with a reputation for good stewardship such as the Amish and Mennonite Community. It was however also argued that farmers were becoming more aware of conservation practices like cover cropping and their associated benefits *"reducing soil erosion and tying up the nutrients for the following crops to utilize"* (SWCD. 2006. Strategy). This was attributed to the efforts of the Soil and Water Conservation District and the newly formed Bedford-Blair Crop Management association.

Aside from farmers, extension, and credit institutions, a range of other actors were believed to have a key role to play in improving agriculture's relationship with the natural environment. These actors included consumers, the federal government, and local municipal governments. Consumers were thought to have an important role to play in paying the real price (including the costs of environmental damage) of the food commodities they consumed. This could be achieved through labeling dairy products as *"(Chesapeake) Bay Friendly"*, but unless such costs were imposed across the board in the form of a tax, such an approach could only further marginalize milk production in the East of the Country (SWCD Representative Interview 2, 2006).

The federal government was also thought to have a key role to play in regulating agriculture's negative impact on the environment and providing incentives for a more positive

role. One respondent argued that the federal government was more important than local municipal governments. It was claimed that the structure of local municipal government in Pennsylvania militated against the aggressive pursuit of agri-environmental problems:

> *"You may have 15 different townships, and you have one township with people who worry about manure getting in streams, and another township that couldn't care less. They may be farmers themselves and they don't want any more rules or regulations."* (Re: Bedford Co NRCS Representative Interview, 2006).

These organizations also tended to focus on a very narrow range of issues such as road maintenance, or to privilege those groups who are most vocal in their complaints. This does not mean that local stakeholders are irrelevant. For example, the NRCS representative also expressed a desire to work with the Soil and Water Conservation District personnel, in order to overcome the human resource constraints experienced by his organization.

A range of recommendations were made on how to improve agriculture's relationship with the natural environment in Bedford County including conservation programming, equipment rental, best-management practices, planning and zoning, and command and control regulation. The discussion of the federal conservation programs focused primarily on The Conservation Security Program (CSP).

The CSP in Pennsylvania sought to build on a pre-existing watershed program which encouraged producers to pursue "*basic manure storage and management practices to keep the manure out of the streams"* (Re: Bedford Co NRCS Representative Interview, 2006). Dairy producers in this watershed had previously benefited from funding under EQIP. The CSP was viewed positively by the NRCS, SWCD, and RC&DC because it is the first federal program which is intended to reward best practice in sustainable agriculture, paying producers not just to "*eliminate problems, but to encourage avoiding problems"* (Re: RC&D Council Representative Interview, 2006). The Soil and Water Conservation District wished to connect with the program as part of its strategy to clean up the Chesapeake Bay.

Despite the positive view of the program, a number of serious problems were also identified. One of the most significant problems was the apparent lack of knowledge about the program on the part of some respondents.

> *"I don't know a whole lot about it, I never paid a whole lot of attention to CSP, I can't answer much on that"*. (Re: SWCD Representative Interview 2, 2006)

This problem was also experienced when promoting the program to potential participants who *"never heard about it, they didn't really know much about it, didn't really understand"* (Re: Bedford Co NRCS Representative Interview, 2006). As a result, the NRCS was obliged to go door to door in order to explain the program, and focused mostly on people they had worked with

over a long period of time. It was further argued that the program was overly complex and difficult to explain to producers:

> *"This one is one of the most complicated I've ever seen. Its very difficult and you have to have a lot of records, and then it's a little bit complicated to explain how much you get paid, to explain that to a farmer, you're paid so much for this, so much for that, its not easy to understand."* (Bedford Co NRCS Representative Interview, 2006).

Another concern with the program was the restrictions on watersheds and sign up periods. The NRCS in Bedford expressed frustration with this aspect of the program as they were approached by people who were interested in the program from other watersheds after the sign up was finished. These restrictions reflected the limited budgetary resources of the program. There was also a significant amount of skepticism by actors other than the NRCS who had a negative perception of other conservation programs such as the Conservation Reserve Enhancement Program (CREP). They felt these programs took farmland out of production and inflated land prices on the local rental market.

A range of improvements were suggested for the Conservation Security Program. These included simplifying the program so that farmers understand from the start the payments they are likely to receive. Furthermore, it was argued that the sign up period should be open ended and that the program should operate on a statewide, as opposed to a watershed basis. The logistics of recruiting people to the program could also be improved with more information available beforehand on the kind of records farmers would have to provide.

Alternative strategies to promoting stewardship on working lands thought to be instructive for the actors responsible for implementing the CSP, were embodied in a number of local initiatives. One such initiative was that of "Project Grass", which sought to promote grass based Dairy production in South Western Pennsylvania. This project was originally promoted by the USDA but was subsequently taken up by a number of conservation districts, and is now state-wide. Another example is the equipment rental service operated by the Soil and Water Conservation District.

Producer Perspectives

Producers interviewed in Bedford County were for the most part concerned about agriculture's effect on economic development, food provision, cultural heritage, animal welfare, and environmental concerns such as water quality and soil erosion. The issues which received the most attention were the more traditional functions of agriculture, such as economic development, food provision, and cultural heritage.

Agriculture in Bedford was discussed as one of the most important economic sectors in the County. The only sector thought to be equal to agriculture in importance was tourism. In fact it was argued that the two activities go hand in hand:

> *"…people come here as tourists to enjoy a little slower pace of life, they like the beauty that we have in the farmland"* (Re: Bedford Farm Bureau Representative Interview, 2005).

It was also argued that agriculture provides more stable employment opportunities than many other economic sectors, and through purchasing most of it's inputs locally, helps generate additional employment and wealth. Thus, a lot of the wealth created in farming is reinvested back into the local economy either as wages for farm laborers, or through purchasing goods from local businesses.

Food provision was another important function of agriculture in the County. Accordingly, Bedford County agriculture plays an important role in ensuring the provision of *"Fresh and nutritious produce"*, both locally and nationally (Re: Organic Farmer Interview, 2006). While the county played an important role in providing Dairy products, it was also home to apple production, and the organic production of vegetables.

The organic producer interviewed made a strong case for organic produce arguing it is "*healthier and full of vitamins and nutrients"* (Re: Organic Farmer Interview, 2006). One producer however expressed skepticism about the potential of organic production, arguing that "*If everyone did organic, everyone would starve"* (Re: Bedford Farm Bureau Representative Interview, 2005). The other side of this argument was the suspicion surrounding the produce of industrial scale livestock operations, with one farmer being especially concerned about poultry produce.

> *"I mean they finish them chickens out from the time they're hatched, 6 weeks they're on the market almost. And you know they are putting stuff in them. I've sort of turned against, even pork to me don't taste like it use to."* (Re: Farmer Representative to SWCD Board Interview, 2006).

Another source for concern was the introduction of genetically modified organisms. Food produced with genetically modified material was thought to pose a significant risk to public health, with allergy outbreaks being attributed in part to the consumption of such produce.

The cultural implications of agriculture in Bedford were also discussed at length. For the most part agriculture was referred to as a *"way of life"*, and as providing a "*good quality of life"* for the farmer (Re: Bedford Farm Bureau Representative Interview, 2005). It was further thought to have a positive impact on family relationships, encouraging responsibility among children

from an early age, while *"working with kids on the farm"*, was thought to *"help the family connect better"* (Re: Organic Farmer Interview, 2006).

Agriculture was also believed to both positively and negatively impact environmental quality in a number of ways. Resource concerns impacted included water quality, air quality, biodiversity, open space, and soil quality. Overall, it was argued that most farmers *"…want to do a good job, because if they take care of the land, take care of their animals, they'll support their way of life"* (Re: Bedford Farm Bureau Representative Interview, 2006). This suggests farmers have a vested interest in environmental stewardship, as it helps contribute to their continued viability.

The role of stewardship was especially evident in the case of soil quality. Soil conservation in the county has a long history going back to the Johnstown flood of 1936. The soil erosion problems which contributed to the flood were addressed through contour strips promoted by the Cooperative Extension Service. More recent conservation efforts include cover cropping, which is thought to enrich the soil.

There was a degree of concern expressed about the potential negative effects of agriculture on water quality in the county. It was acknowledged that industrial scale livestock facilities had the potential to contaminate water sources, with one producer stating:

> *"To me, I never was a liquid manure buff, and I'm still not, it's the wrong way to go. I don't care how you cut it."* (Re: Farmer Representative to SWCD Board Interview, 2006).

Such livestock facilities were also believed to have a negative impact on animal welfare. In the case of large scale intensive dairy operations it was felt that *"cows aren't lasting very long"*. While the impact of farming on air quality was largely thought to be positive, there was some concern voiced over the odor problems associated with industrial scale livestock production. Furthermore, it was felt that spraying pesticides could have serious health implications for both the farmer and his neighbors.

Biodiversity represented an environmental issue which farming had the potential to positively affect. This issue was only mentioned by the organic producer interviewed. According to this producer, organic production techniques have a positive effect on biodiversity, increasing the number of micro-organisms in the soil.

The ability of agriculture in Bedford County to address these environmental concerns and to continue to positively affect the economy and culture of the county was thought to be challenged on a number of fronts. The most significant challenge facing Bedford Country agriculture were the prices received for farm produce.

> *"It's an industry, where you know you're going to be able to sell your product, but you don't know what you're going to sell them for. When you buy feed and things like that, you're not sure what you're going to pay for it"* (Re: Bedford Farm Bureau Representative Interview, 2005)

This challenge is particularly relevant in the Dairy sector where there is significant over-production. The problem of excessive production was attributed in part to the Dairy Cooperatives, the Extension Service, and Credit institutions that encouraged farmers to specialize and intensify production, without paying attention to the bottom line i.e. the costs of inputs Vs the prices received. The costs of production have been steadily increasing, while overcapacity in the dairy sector has led to unstable and declining prices.

Another factor which contributes to price instability is the ability for producers in remote locations to compete with Pennsylvania producers. The example of dairy production in California was given:

> *"There's no way we can compete with those guys out in California. When I looked around too, and that's one of the big beefs today, I can see the pros and cons, it was all Mexican labor. I mean it didn't matter where you went, they was doing the work. If California would slide off into the Ocean, I don't know where our food would come from."* (Re: Farmer Representative to SWCD Board Interview, 2006).

This was also a problem with the market for organic produce in Pennsylvania, which is periodically flooded by large scale organic farmers from California. This made organic production in Bedford County even more challenging, as there was already little or *"no local appreciation for organic agriculture"* (Re: Organic Farmer Interview, 2006).

Other factors challenging agriculture's continuing relevance in Bedford country included the declining political power of farmers. With farmers representing less than 2% of the population nationally, it means they have little political clout and can therefore be ignored by politicians. Agriculture's potential positive contribution to environmental stewardship was directly threatened by the encroachment of urban land-use on farmland. It was argued that the development of farmland would lead to the *"loss of good soil"*, as well as *"run-off and more flooding"* (Re: Organic Farmer Interview, 2006).

A number of different actors were thought to play a key role in overcoming these challenges. First of all, individual farmers were expected to take the lead in ensuring agriculture's continued stewardship role. The role of federal and state agencies in supporting the continuing viability of agriculture as well as their stewardship role was also acknowledged. However, a strong preference was also expressed for state and federal programs to be implemented through local government structures such as the Soil and Water Conservation District:

> *"I think, the state can make regulations, but our local conservation district can administer those, better than somebody coming out of Harrisburg to do things like that. Our local conservation should be, not as much an enforcer to say you'll do it this way or you're going to get fined, but to help, to educate, to help farmers when they have a problem"* (Re: Bedford Farm Bureau Representative Interview, 2005)

Thus, the Soil and Water Conservation District has the potential to be the localized, friendly face of state and federal regulators, serving to encourage the voluntary adoption of best management practices rather than the strict enforcement of regulations. The Cooperative Extension Service was thought to have the potential to play a similar role.

While there was a significant amount of discussion devoted to the types of policy programs that need to be pursued in Bedford County, very little attention was played to the Conservation Security Program. This was largely because the producers interviewed knew very little about the program, or simply hadn't heard about it. Among the producers interviewed, most associated conservation programming with the efforts of the Soil and Water Conservation District, as well as "Project Grass". The equipment rental program of the Soil and Water Conservation District was given strong praise:

> *"I mean this rental equipment program, to me that's one of the greatest things happened here to agriculture in the county, it made inroads into changing peoples mind about things. Sure we have to have a little profit to keep the equipment going and running it, but its been a great program as far as educating farmers on methods of tillage"*. (Re: Farmer Representative to SWCD Board Interview, 2006).

This program provides a facility for farmers to rent no-till equipment from the SWCD, and has been very successful in promoting no-till cropping in the County. Another project which was highly thought of was the USDA-SWCD initiative to promote grass based dairy production in the State. Similar to the CSP these programs functioned to keep land in production. As such they were preferred to land retirement programs such as the Conservation Reserve and Enhancement Program (CREP) which were believed to be inappropriate in a county with such productive land.

Conservationist Perspectives

According to the conservation actors interviewed agriculture impacts a number of aspects of life in Bedford County including the natural environment, the economy, cultural heritage, and animal welfare. Given the background of the respondents in environmental protection and conservation it is not surprising that most of the discussion focused on issues pertaining to the natural environment such as water quality, air quality, and wildlife habitat.

Among these concerns water quality was believed to be the most important agri-environmental issue in Bedford. Agriculture in Bedford County was thought to largely have a

negative effect on water quality. Most of the concerns surrounding water quality relate to excessive nitrate and phosphorous levels in both ground and surface water. These problems can have serious implications for aquatic habitats, drinking water, and the protection of the Chesapeake Bay. One part of the County thought to be especially vulnerable to these problems is Morrison's cove. This part of the county is home to over 25,000 dairy animals producing over 200 tons of manure daily.

Many producers have opted to dispose of this waste through liquid manure application which has led to a situation where many fields in the Cove exceed recommended phosphorous limits. Nitrate contamination is also a problem in this area, which is located in a Karst geologic region. Run-off from fields where liquid manure is applied has led to a situation where *"two of the four wells that supply Martinsburg Borough now require treatment"* (SAC. 2004. Report). One person interviewed strongly argued that concentrated animal feeding operations produce more waste than they can agronomically use resulting in manure being spread *"on a field with nothing but golden rod in it"* (Re: Environmentalist Interview 2, 2006).

However, it wasn't just nitrogen and phosphorous which threatened water quality, excessive sediment levels caused by soil erosion was also a major problem:

> *"People don't understand that sediment kills fish and other organisms as well any poison will do, it smothers them, it changes the stream, it warms the stream, it does all kinds of things that kills aquatic organisms as surely as dumping bleach in a creek or something"* (Re: Environmentalist Interview 2, 2006)

This suggests that managing animal waste products is not the only water quality concern in Bedford County, and that poor land management in general can also have serious implications. It was further noted that the potential to damage water quality was not limited to large scale operations, with some small scale horse farms also contributing to problems like the erosion of soil into stream beds.

Air quality concerns were also discussed with concern being expressed about the odors emanating from the practice of spreading liquid manure:

> *"This time of year, you don't want to drive through the Cove with your windows down because it stinks so bad. So I am sure that affects the quality of life."* (Re: Environmentalist Interview 1, 2006)

Regarding air quality, a distinction was made between cow manure and hog manure. It was noted that hog manure was considered much more objectionable, with people being much more likely to notice it than cow manure.

The discussion of agriculture's relationship with wildlife in the county was somewhat nuanced. On the one hand it was felt that modern agricultural practices have had a negative

impact on wildlife populations. The use of modern machinery was thought to have been particularly destructive for the field habitat of certain species:

> *"I know fencerows that I used to be able to go to and find rabbits and pheasants, in a very short amount of time, and now if I go to that same fencerow, its not there anymore because we want those extra four and a half feet to get extra crops. I can take you right now to a dozen fencerows that have been taken out to accommodate for more fieldspace, as we get bigger and bigger machines on other side of the mountain."* (Re: Environmentalist Interview 1, 2006).

However, it was also clear that agriculture could play a positive role in encouraging wildlife populations. For example, agriculture is thought to be beneficial to the deer population, while changes in spraying practices, along with the planting of small grains, have led to an increase in certain species of bird (Kestrels, Red Tailed Hawks, Swallows) and mammals. Another side of the debate on agriculture's relationship with wildlife is the threat that certain species pose to production. According to one respondent the growing deer population poses a threat to farm crops, pushing producers onto highly erodible land which should probably be retired from production.

Another area of concern for the conservation actors interviewed was agriculture's potential negative impact on animal welfare. Concern was expressed for the welfare of both hogs and dairy cows. According to one respondent, a cow under intensive production might live for less than four years, while animals under more traditional management systems live much longer. The discussion of hog production focused largely on confined animal feeding facilities.

Some of the more traditional economic and cultural functions of agriculture were also discussed in detail. Economically, agriculture was thought to serve as a key sector for employment. People were not only employed in primary production, but were also working at the local feed-mill or driving trucks for other suppliers. One respondent asserted that "*every single business (in Bedford Co) somehow has a tie to agriculture"* (Re: Environmentalist Interview 1, 2006).

Agriculture was also thought to have an important cultural role to play in the county. Agriculture contributes something unique to the traditions of the county with *"people who are brought up on farms having different traditions to people who weren't brought up on farms"* (Re: Environmentalist Interview 1, 2006). Agriculture as a family business was thought to be a good way of helping families stick together, and serves as a good learning experience for children and young people.

A number of factors were believed to be exacerbating agriculture's negative environmental impact in Bedford County and even threatening its very existence. Some of the

most important challenges identified included economic changes and a production oriented policy regime. The economic changes mentioned included the pressure on all economic sectors in the United States to *"go bigger, cheaper, faster"* (Re: Environmentalist Interview 1, 2006). A lot of this pressure is coming from dairy and meat processors who want a guaranteed product supply which conforms to specific criteria.

These pressures were compounded by a government policy which encouraged the optimization of production. Indeed it was argued that government agencies actually encouraged the adoption of practices which resulted in pollution:

> *"I think in our neck of the woods over on our side of the mountain that caused a lot of resentment. In essence the agencies funded them to create a system that destroyed our drinking water."* (Re: Environmentalist Interview 1, 2006)

The enhanced ability of farmers to produce more, which has been financed in part by the government, and actively encouraged by the processing sector, is leading to overproduction which directly threatens the viability of many operations.

Another factor which exacerbates agriculture's potential negative role is the attitudes of farmers themselves. According to one respondent, some farmer's assume that *"that god gave them the world, it's theirs to use, and I think sometimes people take that too far, and they don't give any thought to the natural world"* (Re: Environmentalist Interview 1, 2006). Such an attitude may underpin the adoption of certain unsustainable practice such as the spreading of liquid manure.

The fact that farmers dominate the local municipal governments in Bedford County means that the local capacity to address the negative environmental effects of agriculture are severely constrained. Furthermore, state level legislation (such as the ACRE initiative and the Right to Farm Law) actually prohibits local regulation of agriculture.

This means the respondents interviewed placed a strong emphasis on federal and state led initiatives. One such initiative which was discussed with both respondents was the Conservation Security Program. On the one hand the program was praised as an alternative to programs such as CREP which involved *"paying farmers not to farm their land"*, and in some cases actually retired some very productive land. The CSP was also welcomed because it had the potential to reinforce the efforts of local watershed activists through offering real incentives to farmers to reduce the application of nutrients.

However despite this promise there were a significant number of problems experienced with the implementation of the program in Pennsylvania. Apparently the NRCS had a lot of difficulty trying to get farmers to sign up for the program and eventually had to resort to going

door to door. Part of the problem was the complex nature of the program and its emphasis on record keeping.

> *"It took a lot of convincing to farmers early on. And one of the hardest things to get across, was that the program required you to have really good records of when you applied manure, and fertilizer and things like that, and farmers aren't really the best at doing that."* (Re: Environmentalist Interview 1, 2006)

This proved to be a major barrier, as when the program was first touted there was little awareness among producers that detailed records of this nature would be required. Another criticism of the program was the fact that federal employees from outside the county had to be drafted in to promote it.

There was also some skepticism voiced about using a voluntary approach to conservation. One respondent voiced this concern in the following terms:

> *"Its not perfect, there are people that will take your money and still not do it right, there are people that won't take your money, the Mennonite population doesn't like to take money"* (Re: Environmentalist Interview 2, 2006).

While it was acknowledged that the command and control approach wasn't the only solution, it was also felt that the voluntary approach adopted by the conservation districts, and inherent in the CSP, was problematic. It was further suggested that in some instances stricter command and control regulations were required. Such regulations were thought to be particularly relevant to industrial scale animal production. It was suggested that waste exported from these operations had to be tracked and controlled, and a nutrient balance sheet maintained by the source operator.

One voluntary approach to conservation which was discussed favorably was the USDA "Project Grass" initiative. This approach to conservation was thought to make both economic sense for the producer, while also being good for the environment. Furthermore, virtually no financial incentive was necessary as the cost savings implicit in grass based dairy production would serve to encourage producers to adopt this approach.

An alternative approach to improving agriculture's impact on water and air quality which was discussed at length was the use of methane digestion technology. One respondent was strongly in favor of this approach while another was somewhat skeptical. While such systems have the potential to reduce the nitrogen content of manure, along with the odor, it still emits potentially harmful gases such as ammonia into the atmosphere while leaving in place a good deal of the phosphorous content. Such systems were thought to make more sense if the farmer derived some benefit in the form of electricity or a water heating system.

Table 37: The Discursive Field of Agri-environmentalism in Pennsylvania

	State (Pennsylvania) Level of Governance				*Local (Bedford Co) Level of Governance*		
	Official	*PFB*	*Penn Future*	*PASA*	*Official*	*Producer*	*Conservationist*
Issues	Water Quality, Soil Quality, Food Provision, Biodiversity, Open Space, Air Quality, Alternative Energy, Economic Development	Economic Development, Food Provision, Cultural Preservation, Water Filtration, Wildlife Habitat,	Public Health, Economic Under-Development, Water Quality, Water Filtration, Alternative Energy	Public Health, Food Provision, Local Economic Development, Cultural Preservation, Soil Quality, Water Quality,	Water Quality, Soil Quality, Air Quality, Wildlife Habitat, Carbon Sequestration, Employment, Cultural Heritage	Economic Development, Food Provision, Cultural Heritage, Animal Welfare, Water Quality, Soil Erosion, Biodiversity	Economic Development, Cultural Heritage, Water Quality, Air Quality, Wildlife Habitat
Challenges	Land Use Change, Economic Changes, Producer Knowledge, Technology, Agency Incapacity	Local Ordinances, State Regulation, Government Budget Reductions, Economic Uncertainty	Corporate Integration, Intensification, Lax Legislation, Poor Enforcement, Biased Legislation	Industrialization of Agriculture, Biased Government Policy, Urban Encroachment,	Intensification, Cost Price Squeeze, Farmer Knowledge, Cultural Attitudes, Poor Institutional Advice	Poor Advice, Overproduction, Price Instability, Remote Competition, Urban Encroachment	Corporate Integration, Government Policy Production Bias, Farmer Attitudes, Local In-Capacity
Actors	NRCS, State Technical Committee, DEP, SWCD, Technical Service Providers, Watershed Groups	Farmers, Local Government, Environmental Groups, State Agencies	State Legislator, Local Government, State Agencies, Corporations, Farmers	Politicians, State Agencies, Universities, Local Actors, Civil Society, Farmers	Farmers, Extension, Banks, Consumers, NRCS, SWCD	Farmers, Dairy Cooperatives, Extension, Banks, Federal & State Agencies, SWCD,	Farmers, Local Government,
Solutions	CSP (Simplified & Expanded, Localized, Extended Sign Up)	Replace CREP With CSP, Fund CSP, Commodity Programs, Farmland Preservation, Nutrient Trading, Alternative Energy	Reinforce State Legislation, Proper Enforcement, Farmland Preservation, Nutrient Trading, Alternative Energy	Replace CREP With CSP, Funding for CSP, Self Regulation, Market Support, Farmland Preservation	Expand, Simplify and Full Fund CSP, Project Grass, Equipment Rental	Project Grass, SWCD Equipment Rental	Replace CREP with CSP, Simplify CSP, Regulate Intensive Agriculture, Project Grass, Alternative Energy

The Discursive Field of Agri-environmentalism in Pennsylvania

The above table summarizes the discursive field of the debate on agri-environmentalism in Pennsylvania. From this table it can be seen that the issues discussed largely focused on human welfare, economic well being, environmental quality and cultural heritage. For the most part agriculture was presented as playing a positive economic and cultural role, but as having a potentially damaging impact on environmental quality and public health. Most of the challenges facing agriculture's continuing viability were thought to originate in Pennsylvania, or the United States, with little consideration given to the challenges presented by the process of globalization.

Key actors identified as responsible for enhancing agriculture's multifunctional role, and overcoming the challenges facing the sector, included a range of public, private, and voluntary groups as well as farmers themselves. Little consideration was given to the potential role of consumers or of the wider agri-business sector. Solutions discussed included a variety of federal, state and local initiatives to improve agriculture's relationship with the natural environment. Options considered include voluntary incentive based solutions, market based solutions such as nutrient trading, and command and control regulation.

Ideological Orientations and Master-frames

The NRCS, and other official actors in the agri-environmental policy arena in Pennsylvania, defined agriculture's multifunctional role in hygienic terms. The environment was presented as being under attack from intensive agricultural practices. Furthermore, farmers were thought to have insufficient knowledge of the environmental stewardship practices necessary to counter the damage they inflict on the natural environment. However, while agriculture's multifunctional role was defined or diagnosed in hygienic terms, it was acknowledged that hygienic type solutions such as command and control regulation might be problematic for agriculture. Thus, most of the solutions put forward were indicative of an eco-modernization orientation. Conservation practices were presented as being complementary to the growing niche market demands of environmentally conscious consumers, while also serving to ensure the continued viability of farm operations. A preference was also expressed for a collaborative multi-actor approach to the governance of agri-environmental programs. Furthermore, aspects of the Conservation Security Program which were thought to be worth maintaining (the self assessment procedure & computerized management tools) reflected eco-modernization principles of self regulation.

Official actors interviewed in Bedford County also diagnosed agriculture's multifunctional role in hygienic terms. Most of these actor's focused on the environmental

externalities of agriculture (such as the destruction of wildlife habitat, soil erosion, and water pollution) resulting from processes such as mechanized crop production and the concentration of animal production. Again, despite the hygienic definition of agriculture's functions, most of the prescriptions put forward reflected a localized version of eco-modernization e.g. local control over the Conservation Security Program, Project Grass, and the Equipment Rental Program of the Soil and Water Conservation District.

The Pennsylvania Farm Bureau largely adopted a neo-mercantilist orientation focusing on agriculture's role in economic development and food security, while suggesting that all farmers (irrespective of scale or enterprise) function as stewards of the nations natural resources. The PFB was mostly in favor of limited regulation, but maximum government investment in the continued viability of the sector at all levels of governance. Concern was also expressed over competing demands on the Farm Bill, and farmland preservation initiatives, by environmental groups. Overall, it was felt that certain commodity payments needed to be maintained in order to function as a safety net for farmer incomes in times of economic and climatic uncertainty.

While neo-mercantilism appeared to be the dominant orientation of the PFB, the organization's preferred solutions for environmental problems reflected an eco-modernization orientation. The Conservation Security Program was favored precisely because it presented agriculture's production and stewardship role as complementary, while a strong emphasis was also placed on alternative energy production and nutrient trading.

PASA defined agriculture's multifunctional role in Pennsylvania in both agro-ecological and hygienic terms. The organization's focus on providing healthy and nutritious food, overcoming the national obesity crisis, along with its environmental critique of chemically intensive and mechanized agriculture reflected a hygienic orientation. However, the emphasis placed on the co-evolution of agricultural activity and environmental quality, as well as the role of farmer's as repositories of environmental knowledge reflects an agro-ecological orientation.

The best mechanism for addressing the hygienic concerns around agriculture and realizing its agro-ecological potential were government programs which supported the voluntary adoption of sustainable agricultural practices (such as the Conservation Security Program) and connecting producers with niche market consumers. This prognosis suggests an eco-modernization orientation, where the state plays a key role in enabling consumer oriented sustainable production. However, in time, such programs would be unnecessary as the infrastructure for self-regulation and self reliance emerges.

The ideological orientation expressed by producers at the grassroots level reflected the combined concerns of the PFB and PASA i.e. hygienic, neo-mercantilist, and eco-modernization.

Evidence of a neo-mercantilist orientation can be observed from the emphasis placed on agriculture's traditional role in food production and economic development, as well as the concern expressed over competition from remote locations. The hygienic emphasis was evident from discussions of the negative externalities attendant to intensive production (on water quality, public health, and animal welfare). The prognosis offered focused largely on voluntaristic and localized solutions to the challenges facing the sector, and to some extent reflected eco-modernization principles.

For the most part Penn Future discussed agriculture's multifunctional role in hygienic terms focusing on the negative externalities (particularly air and water pollution) of both large and small scale producers. Solutions put forward were largely focused on closing legislative loopholes and tighter enforcement of existing regulations at both the state and local level's of governance. There was however also some discussion of solutions such as nutrient trading and alternative energy production, reflecting an eco-modernization orientation.

This orientation was reflected at the grassroots level among conservation actors in Bedford County. These actors defined agriculture's relationship with the environment in hygienic terms, while acknowledging the sector's important cultural role. A strong emphasis was placed on agriculture's negative impact on water quality, air quality, wildlife habitat, and animal welfare. Most of these problems were attributed to corporate and government sponsored intensification, as well as the attitudes of individual farmers, and their political dominance at the local level of governance. However, it was also acknowledged that some changes in agricultural practice (such as the introduction of no-till cropping and reduced spraying) could have a positive effect on soil erosion and wildlife habitat. This reflected an eco-modernization orientation towards overcoming the environmental challenges facing agriculture. Further evidence of such an orientation includes the support offered for voluntary initiatives such as the Conservation Security Program, Project Grass, and the Equipment Rental Program.

Hegemony and Resistance

Overall, one could argue that a hybrid hygienic - eco-modernization interpretation of agriculture's multifunctional role occupies a hegemonic position within the discursive field of agri-environmental policy in Pennsylvania. The NRCS, PASA, and Penn Future all defined agriculture's relationship with the natural environment in hygienic terms, and for the most part advocated prescriptions which reflected the principles of eco-modernization (technical solutions such as alternative energy, voluntary adoption of sustainable practices, collaborative management, and technologies for self regulation). A similar understanding of agriculture's

multifunctional role was put forward by official and conservation actors at the grassroots level in Bedford County.

Resistance to this hegemonic orientation came from the Farm Bureau who put forward a neo-mercantilist vision of agriculture's role in Pennsylvania. Such concerns were also articulated by producers at the local level. However, there also appeared to be some internal resistance within organizations. For instance PASA also articulated arguments that reflected agro-ecological concerns, while Penn Future placed a strong emphasis on regulatory enforcement, alongside its discussion of eco-modernization prescriptions.

While local interpretations of agriculture's multifunctional role could largely be said to reflect concerns at the state level, many of the arguments put forward by local actors sought to localize efforts to enhance this role. For example, while most of the respondents interviewed were supportive of the Conservation Security Program, they also made strong arguments in favor of more local control over the program, drawing comparisons with programs such as Project Grass and the SWCD Equipment Rental Program. People were much more familiar with these local initiatives, with knowledge of the Conservation Security Program being restricted to a small number of officials.

The hegemony of a hybrid hygienic – eco-modernization orientation reflects the unique situation in Pennsylvania. On the one hand, agriculture in the State is a major contributor to the pollution of the Chesapeake Bay. This means there is significant pressure emanating from the federal government and neighboring states, as well as national level environmental organizations for action to be taken. As a result, the negative environmental impact of agriculture on water quality in particular is at the center of the debate on agri-environmentalism in Pennsylvania. However, a high proportion of the nutrients, phosphorous, and sediment which drain into the bay are the result of run-off from thousands of agricultural operations across the state, many of which are small and medium scale dairy operations.

The logistics of policing such facilities is extremely challenging. As a result, the solutions for overcoming the negative impact of agriculture on water quality largely involve voluntary approaches to conservation, collaborative watershed management, and technical solutions such as methane digestion. Such solutions are reflective of an eco-modernization approach and acknowledge the impossibility of pursuing a hygienic command and control solution over this group of producers.

Roll-back the state neoliberal arguments were largely absent from the debate on agri-environmentalism in Pennsylvania and Bedford for a number of reasons. Firstly, the withdrawal of government support from agriculture in Pennsylvania is likely to lead to the loss of farmland to

residential and commercial land use, especially in the south east of the state. This was thought to have the potential to create even greater environmental problems (such as storm-water management, increased pollution run-off), than the production agriculture model currently being pursued in the state. Dairy operations were also thought to be particularly vulnerable to competition from large scale out of state producers, and might cease to be viable if government support was removed. These factors also may have contributed to the choice not to pursue command and control prescriptions; as such an approach would involve the imposition of additional costs on producers in the state.

CHAPTER 11: SPATIAL & SCALAR COMPARISONS

What follows is a detailed discussion of the findings presented so far. The purpose of this chapter is to compare and contrast the different interpretations of agriculture's multifunctional role at different levels of governance (scalar) and in different geographical contexts (spatial). This will allow us to understand how different meanings attached to the concept of multifunctional agriculture are diffused, resisted and reinterpreted in different policy spaces and at different scales of governance. The scalar comparisons involve comparing the public discourse at the global level with the debates taking place at the federal, state, and local levels of governance in both the EU and the US. The section on spatial comparisons looks at the similarities and differences between the discourse on multifunctionality in the EU and the US at each level of governance.

Scalar Comparisons

In the debate surrounding the definition of the Green Box category of agricultural programs, which took place at the global level of governance, the hegemonic interpretation of agriculture's multifunctional role echoed principles of roll-back the state neoliberalism. The position of the WTO secretariat reflected this orientation, and the fundamental argument that trade liberalization would benefit global food security, poverty reduction, the environment, and economic development was not challenged by most of the other key actors in this policy arena. Instead of trying to undermine the neoliberal agenda, actors such as the USTR, EUTD, ICTSD, and IFAP, wished to negotiate an adjusted agenda so the countries, constituents, and producers they represent get the maximum benefit from the neoliberal project. In the case of the USTR, this means that producers are given access to overseas markets while maintaining income safety nets such as counter-cyclical payments. For the EU, it means continuing support for certain public goods, in order to legitimate the liberalization project to European consumers. The ICTSD was mostly concerned about rolling back the price support regimes of the EU and US which were thought to cause untold social and environmental damage in the developing world. However, despite the array of domestic and constituent demands on these actors, they still adhere to neoliberal principles when presenting a negotiating position or lobbying for trade reform at the WTO.

This contradicts many of the assertions in the literature about the global debate on multifunctionality. First of all, it does not appear to represent rearguard protectionism, a claim which is made by economists such as Swinbank (2001). Indeed, Via Campesina was strongly critical of the EUTD's articulation of multifunctionality as being contrary to the neo-mercantilist interests of small scale producers and peasants worldwide. Nor does it represent a comprehensive

effort to replace the previous system of price subsidies and export refunds with a more socially and ecologically embedded policy regime, as asserted by Buttel (2006), and Marsden and Sonnino (2005). Instead, agriculture's multifunctional role is invoked to justify or legitimate the liberalization of agriculture. For some actors (such as the USTR, WTO, and ICTSD), it is argued that agriculture's multifunctional role is enhanced by liberalization as it is likely to result in de-intensification, the application of cleaner and greener technologies, and greater economic opportunities for poorer countries. For the EUTD, the multifunctionality argument and associated policy recommendations is invoked in order to legitimate the liberalization process in Europe, enabling the European Commission and member states to overcome the concerns of taxpayers and consumers about the negative effects of the process on rural environmental quality and society.

The orientation of these actor discourses (with the exception of Via Campesina) towards the neoliberal ideology of the World Trade Organization (WTO) reflects the lack of political and discursive opportunities at the global level of governance. The WTO has been heavily criticized by academics, activists, and individual negotiators as being fundamentally undemocratic and authoritarian (McMichael 2000, Tandon 1999). Only state actors can participate in the negotiating process, with social movement organizations being relegated to the status of observer. Among these state actors, the richest countries in the world (the US, the EU, and Japan) are thought to exert an enormous amount of power over the negotiating process, having the capacity to field greater numbers of negotiators at any given meeting, while also holding significant influence over developing countries in the form of bi-lateral aid programs and preferential trade agreements (Tandon 1999). Furthermore, it has been asserted that the WTO's main function has been to aggressively promote the interests of transnational capital, and that these interests dominate the bargaining positions of the most powerful players in the negotiating process (McMichael 2000, Sklair 2001). Thus, the emergence of this alternative policy space has not served to create a new political or discursive opportunity, but rather to channel the debate on the future of agricultural policy in an even narrower direction. As a result the global debate on agriculture's multifunctional role serves to define multifunctional style policies as marginal complements to the process of trade liberalization and de-regulation.

The United States – Pennsylvania – Bedford Comparison

The neoliberal vision of agriculture's multifunctional role articulated at the global level complements the hybrid neoliberal - eco-modernization ideology articulated by the Natural Resource Conservation Service (NRCS) and the American Farm Bureau Federation at the federal

level in the United States. The Environmental Defense Fund, and National Campaign for Sustainable Agriculture also articulated arguments based on the principles of eco-modernization. The position adopted by these organizations reflects the interests of their constituents in hygienic and ecologically modern solutions to environmental problems and the challenges facing the food system, along with the necessity to articulate arguments which resonate with both farmers and policy makers in the current administration. Despite the emergence of these alternative voices in agricultural policy making, it still appears to be the case that the iron triangle of the Congressional Agricultural Committees, the USDA bureaucracy, and the mainstream farmer and commodity organizations dominate the decision making process, and the discursive arena underpinning this process.

This suggests that the hybrid neoliberal – eco-modernization perspective occupies at least a partially hegemonic position in this discursive arena. Accordingly, policies and programs which promote agriculture's multifunctional role serve to create the preconditions for a market based approach to agri-environmentalism. Such programs encourage disciplines such as self-regulation and performance monitoring among participants, employ new technologies such as e-governance and computerized watershed management tools, while empowering new actors such as private sector technical service providers. What results is a hybrid system of governance which discipline farmers into new flexible and cost effective approaches to farm management (Higgins and Lockie 2002, Hall 1998) while also encouraging farmers to view natural resources as commodities which can potentially be traded on emerging markets for environmental credits.

Thus, while the CSP is a departure from the land retirement approach to conservation that largely served neo-mercantilist interests in price stabilization (Paarlberg 1989, Montpetit 2002), it does not necessarily represent a post-productivist transition in United States agriculture. Instead, the roles of different actors and natural resources are being redefined in order to ensure agriculture's continuing viability in an era of increasing pressure for liberalization. Under such a scenario the government plays an active role in the construction of a market based solution to the challenge of agri-environmentalism, while natural resources are increasingly viewed as commodities. This orientation reflects the neoliberal ideological consensus that exists between American Farm Bureau Federation and the current Republican administration (Skogstad 1997). It may further be the case that both of these actors are aware of the tenuous legal status of agri-environmental programs within the WTO negotiating regime (Blandford 2006). A more immediate concern which may have inspired this approach is the growing budget deficit facing the administration. As a result, policy makers in the United States understand the need to ensure that the producers they represent gain maximum advantage from the emerging neoliberal food

regime. Green Box compatible programs such as the CSP serve a temporary function of enabling producers to transition to more flexible approaches to production while also creating new commodities to be traded on the global market.

What is interesting is that the neoliberal components of the hegemonic interpretation of agriculture's multifunctional role at the federal level did not appear to resonate with actors at the state level of governance in Pennsylvania, where the debate centered on hygienic concerns surrounding water quality, and solutions based on the principles of eco-modernization. This position was shared by actors such as the Natural Resource Conservation Service, The State Conservation Commission (SCC), Citizens for Pennsylvania's Future (Penn Future), and the Pennsylvania Association for Sustainable Agriculture (PASA). The major tension in this discursive arena was between the hybrid hygienic – ecologically modern vision articulated by these actors, and the neo-mercantilist ideology put forward by the Pennsylvania Farm Bureau. While there was some discussion and support for nutrient trading among groups such as the Department of Environmental Protection, Penn Future, and the Pennsylvania Farm Bureau, a stronger emphasis was placed on initiatives which reflect principles of eco-modernization such as the promotion of alternative energy production and voluntary conservation programming.

Thus, the roll back the state neoliberal perspective was marginalized in the discursive arena of agri-environmentalism in Pennsylvania, while it appeared to be central to the debate at the federal level. It could be argued that the political and discursive opportunity structure at the state level of governance is more amenable to the hygienic and eco-modernization concerns of the environmental and sustainable agriculture movement. There are a number of reasons as to why this might be the case. Firstly, the emergence of strong conservation oriented policy networks at the federal level following the 1930s dustbowl pre-empted the establishment of similar structures at the state level. This created a void for agri-environmental policy making at the state level, which was filled by state departments of environmental protection and natural resources. These departments became the focus of the efforts of the environmental lobby that had been excluded from agricultural policy making at the federal level (Montpetit 2002). Secondly, there are a diffuse number of policy spaces for the environmental regulation of agriculture, including farmland preservation, nutrient management, and land use decision making. These policy spaces engage a wide range of official actors at both the state (Department of Environmental Protection, Farmland Preservation Bureau, State Conservation Commission, and the State Technical Committee on Conservation) and local levels (Farmland Preservation Boards, Soil and Water Conservation Districts, and Local Municipal Governments) of governance in Pennsylvania. These

present multiple opportunities for the insertion of the hygienic and eco-modernization concerns into the debate on agri-environmentalism.

It is further the case that agriculture in Pennsylvania represents a smaller portion of the workforce, and of land use, than is the case nationally, which implies that the political power of agricultural producers may not be as strong in Pennsylvania, as it is in other states. Furthermore, because agriculture in Pennsylvania is characterized by relatively small scale dairy operations, there is little enthusiasm for the process of liberalization among producers themselves. Also, the small-scale nature of these operations suggests that the possible return from the commodification of environmental goods is likely to be minimal. As a result, the Farm Bureau in Pennsylvania, resorts to a neo-mercantilist position of retaining the existing protectionist regime. Such posturing represents a defensive position on the part of the Farm Bureau who present themselves as being besieged by the demands of the environmental groups and environmental legislation. In all likelihood this position reflects the concerns of the Bureau's constituency, but does not aggressively promote a radical alternative policy regime.

Thus, the absence of a strong state level agricultural bureaucracy, the multitude of policy spaces for agri-environmental regulation, coupled with the marginal nature of agriculture in Pennsylvania, and the defensive posturing of the Farm Bureau, presents a political and discursive opportunity for environmental and sustainable agriculture interests in Pennsylvania. However, these interests are still constrained by the broader federal framework which continues to focus on voluntary approaches to agri-environmentalism. Also, legislation such as the Right to Farm Law[6], and the newly enacted Agriculture, Community, and Rural Environment[7] (ACRE) initiative serve as barriers to the complete implementation of command and control style regulation over agriculture. Furthermore, the large number of small scale operations in the state means the logistics of enforcing command and control regulation in Pennsylvania is impractical. It was also the case that both PASA and Penn future were limited in the amount of resources they could devote to agri-environmental advocacy efforts. Given these constraints, an eco-modernization approach to encouraging a complementary relationship between agriculture and the environment is promoted.

Local interpretations of agriculture's multifunctional role, in Bedford County Pennsylvania, largely reflected concerns articulated at the state level. However, actors at this level

---

[6] The purpose of this act is to prevent the loss of the Commonwealth's agricultural resources by limiting the circumstances under which it is permissible to file nuisance suits or ordinances against agricultural operations (PDA 1996).

[7] Act prohibiting local governments from passing ordinances that restrict normal farming operations, unless the have authority to do so. (PDA. 2005).

of governance emphasized the necessity of localizing federal and state efforts to enhance agriculture's multifunctional role, and appeared to be more enthusiastic and informed about local initiatives, such as "Project Grass", and the "Equipment Rental Program" of the Bedford Conservation District, than they were about initiatives such as the Conservation Security Program (CSP). Such programs were developed specifically to suit the unique social and ecological circumstances of Bedford County, and served to promote principles of conservation on working lands well in advance of the CSP. To some extent this suggests a desire to embed centrally defined agri-environmental programs in the unique agro-ecological circumstances of the Bedford County.

This reflected an overall lack of appreciation and knowledge of the CSP at both the state and local Level. The only actors who had any in-depth knowledge were those working for the NRCS. Most of the other socio-political actors consulted were either unaware of the program's existence or dismissed it as promising but under-resourced. These difficulties with the CSP reflected its restriction to certain watersheds in the state, and in the case of Bedford County, its restriction to a small group of farmers within the Yellow Creek watershed (a subsection of the Raystown watershed). It also reflects the fact that the program is largely focused on people already known to, and trusted by the NRCS in Pennsylvania and Bedford County. This can result in a situation where large scale livestock producers with significant amounts of land in programs such as the Conservation Reserve Program (CRP), are paid to place the remainder of their operation into the CSP, while organic producers in the same watershed are not even aware of the program. Also, the emphasis on record keeping privileges producers who can afford private sector consultants, reflecting the bias of the program towards crop production in the Mid-West and to larger scale operations in general. Given such difficulties it is not surprising that local actors, and some state actors, place a stronger emphasis on the work of the Conservation District than they do on the CSP. It is these organizations which have taken the lead in the promotion of best management practices mandated by the state Department of Environmental Protection, while also promoting innovative working lands initiatives such as the Equipment Rental Program.

The analysis of the public discourse on the Conservation Security Program and agri-environmentalism demonstrates the contingent nature of the neoliberal perspective on agriculture's multifunctional role in the United States. While it was possible to articulate a centrally defined vision of agriculture's multifunctional role that reflected neoliberal principles at the federal level of governance (and which resonated with the hegemonic ideology at the global level of governance), it was the eco-modernization components of the discourse which tended to resonate with actors at other levels of governance. This speaks to the fact that centrally defined

hegemonic ideologies arrive differently in different places, combining with pre-existing processes and ideologies (Barnett 2005). In the case of Pennsylvania, the emerging federal discourse on agri-environmentalism, which was manifested in policy terms as the Conservation Security Program (CSP), entered a complex regulatory environment, where initiatives such as the Chesapeake Bay Program, Growing Greener, and the Nutrient Management Act already provided incentives for conservation on working lands. Thus, the CSP became one of many (and by no means the best funded or most effective) agri-environmental initiatives. This means a debate surrounding conservation on working lands has been ongoing in the state of Pennsylvania well in advance of the introduction of the CSP. As a result, the debate in Pennsylvania largely centered on reconciling the neo-mercantilist concerns of producers, with the hygienic concerns of environmentalists, non-farm rural residents, and urban based consumers. The introduction of the CSP into this regulatory and discursive arena meant that it also was defined and interpreted in these terms. In practical terms this means the CSP was understood as another initiative to help clean up the Chesapeake bay, rather than a program that would help enhance biodiversity, improve air quality, or encourage the production of alternative sources of energy.

This also explains the mixed reaction to the program at the local level of governance. Bedford County had long been subjected to a variety of initiatives seeking to improve agriculture's relationship with the environment (especially the impact of agriculture on water quality), benefiting from most of the statewide programs. Furthermore, the Bedford County Conservation District had developed their own initiatives in partnership with neighboring counties which sought to promote practices such as no-till cropping (the equipment rental program). There was thus a tendency to view the CSP as a complement to existing initiatives, rather than a totally new approach to agri-environmental programming. For example, even though the CSP was focused on the entire Raystown watershed (which covered most of Bedford County, as well as parts of Blair, Huntington and Somerset), most of the participants came from a subdivision of the watershed known as Yellow Creek, which was already a target for the Conservation District's Equipment Rental Program, and expenditure on Environmental Quality Incentives Program (EQIP) by the local NRCS office. There was also a strong emphasis placed on local control over the CSP, with the program's negative features attributed to the bad decision making on the part of the USDA in Washington DC. This perspective on the CSP demonstrates how centrally defined interventions can be subject to re-interpretations and re-negotiation by official actors at the grassroots level (Long 2001). Certain aspects of the CSP are adjusted, while other aspects are resisted in order to ensure the program fits the agri-environmental goals of local socio-political actors. For example, in Bedford County, the program was largely viewed as a

complement to initiatives already being promoted by the NRCS and the Conservation District to improve the quality of water draining into the Chesapeake Bay. This means that at the implementation stage, the focus is primarily on the water quality components of the CSP and how they could be used to encourage best management practices specified in the Chesapeake Bay Tributary Strategy. As a result there appeared to be little interest in other resource priorities, with some of the officials interviewed being particularly dismissive of program components which sought to enhance wildlife habitat.

EU-Ireland-Burren Comparison

On one level, there appeared to be a disconnect between the neoliberal perspective on agriculture's multifunctional role which dominated the global level of governance, and the hegemonic hygienic interpretation of agriculture articulated among socio-political actors at the EU level of governance. The discussion of agriculture's multifunctional role in the debates surrounding the Rural Development Regulation and the cross compliance requirements attached to the Single Farm Payment centered on the consumption related concerns of non-farmers. The process of liberalization was presented as directly threatening these concerns through encouraging the intensification of commercial agriculture, and the marginalization of ecologically benign traditional systems of production. This conforms to Banks and Marsden's (2000) interpretation of agri-environmental policy in Europe, which they attribute to consumer concerns surrounding the quality and safety of food and the protection of rural landscapes. A major factor underpinning these concerns was the Bovine Spongiform Encephalopathy (BSE) crisis of the mid 1990s, which served to undermine public confidence in the food production system, and the role of farmers as food producers and environmental stewards (Marsden 2006).

There was however, a parallel eco-modernization orientation, which combined with the hygienic emphasis, articulated at the EU level. This could be considered a sub-hegemonic interpretation of agriculture's multifunctional role, which complements the dominant neoliberal ideology at the global level. According to this perspective, agri-environmental programming and cross compliance requirements function to help farmers in the European Union adjust to the liberalization process. This is so, as these programs encourage the production of quality and environmentally-friendly commodities which will put European producers at a competitive advantage relative to emerging niche markets.

The combination of these perspectives reflects the challenge facing socio-political actors in the discursive arena of agricultural policy making in the European Union. On the one hand, a commitment to trade liberalization is a defining feature of the European Union, and is written into

the Maastricht treaty which was endorsed by member states (Potter & Tilzey 2005). However, this commitment has created significant resentment among large portions of the public in the European Union. Indeed, the failure of the European Union's constitution to be ratified in referenda in France and the Netherlands in 2005, has been attributed to suspicions surrounding the imposition of an "Anglo-Saxon" model of liberalization on the economies of these countries (The Economist, May 31 & June 4th 2005). For social movement actors such as the World Wildlife Fund, it is necessary to construct an interpretation which resonates with the growing climate of discontent, but which does not directly challenge the neoliberal agenda that remains a key aspect of the EU policy.

It is possible that this crisis in legitimacy, combined with the crisis in consumer confidence following the BSE outbreak, have led to a combined hygienic and eco-modernization interpretation of agriculture's multifunctional role in the European Union. Such an approach helps assuage domestic concerns surrounding the worst effects of liberalization on marginal production systems located in upland regions and the Mediterranean, which are associated with unique landscape features, a cultural heritage, and the production of specialty foods (Potter and Tilzey 2005). The continuation of such farming systems provides consumers with a vision of extensive, ecologically benign production, which in turn helps restore confidence in the European food production system. The producers, who benefit from agri-environmental payments and the single farm payment, are also being oriented towards the demands of health and environmentally conscious consumers, suggesting that at some point in the future they would be able to demand a premium for their products on the open market.

The discourse on agriculture's multifunctional role in Ireland is diffuse. On the one hand, the hygienic concerns articulated at the EU level of governance are recognized, and reiterated by actors such as the Department of Agriculture and Food, An Taisce, Teagasc, and IOFGA. However, there is also a good deal of credence given to the neo-mercantilist concerns of producers and a strong suspicion of the trade liberalization advocated in global trade negotiations. Furthermore, the hybrid agri-environmental scheme which results seeks to balance both these interpretations, by bolstering the incomes of almost one third of the country's producers while addressing fundamental hygienic concerns relating to land management and food production in the Irish countryside. However, there are also aspects of the program, such as the use of private consultants to draw up farm plans, and the promotion of an ala carte menu approach to agri-environmental prescriptions, which could be said to reflect neoliberal and eco-modernization perspectives.

This balancing act is managed by the national Department of Agriculture and Food, who traditionally had a strong corporatist relationship with the Irish Farmer's Association. However, the broad framework for the scheme is fixed by the European Commission, who have also put forward a number of environmental directives (on Climate Change, Nitrates, and Biodiversity) that the Irish Government is expected to comply with. It is the author's contention that the hygienic interpretation is privileged in the discourse on REPS in Ireland is due to pressure emanating from the European Commission, rather than the lobbying efforts of the environmental and sustainable agriculture movement in Ireland. Evidence of this can be seen from the experience of the Irish Organic Farmer and Grower's Association (IOFGA), who found themselves rushing to keep ahead of certification demands arising form the introduction of the Single Farm Payment by the European Commission in 2004. The IOFGA representative interviewed even went so far as to say that the organization was *"pushing an open door"* when dealing with the Department of Agriculture and Food who were under pressure from the European Commission to expand the amount of land under agricultural production (Re: Interview with IOFGA representative, 2006). As a result, hygienic concerns heavily influence the debate on agriculture's multifunctional role in Ireland, at times competing with, but also (as is the case with REPS) combining with, neo-mercantilist perspectives.

As was stated above, the main policy space where these differing perspectives are negotiated is the Rural Environmental Protection Scheme (REPS). This scheme could be said to integrate both hygienic and neo-mercantilist perspectives on agriculture's multifunctional role. However, despite trying to balance the concerns of both environmentalists and farmers, REPS was heavily criticized by a wide spectrum of socio-political actors in the Burren, Co Clare. This suggests that the national level interpretation of agriculture's multi-functional role failed to resonate with actors at the local level. Actors at this level of governance expressed a vision of agriculture's role which was reflective of an agro-ecological perspective, placing a strong emphasis on the indigenous knowledge of farmers on environmental stewardship, the area's internal climatic and ecological diversity, and its unique geology. These factors were thought to be at odds with centrally defined prescriptive agri-environmental programs such as REPS. As a result, the program was actively resisted and re-interpreted by local activists, officials, and producers. Resistance to the program largely involved protest and lobbying efforts on the part of the Burren IFA, who sought to tailor REPS to the unique circumstances of the Burren. The scheme is also in the process of being re-interpreted through the EU financed Burren LIFE Project. This project seeks to experiment with alternative approaches to agri-environmentalism

that utilize modern technologies and inputs, but which are also embedded in indigenous knowledge and stewardship practices.

The tension that exists between the interpretations of agriculture's multifunctional role inherent in REPS, and the agro-ecological interpretation put forward by actors at the grassroots level of the Burren demonstrates the relevance of an actor-oriented approach to understanding agri-environmental programming. Such approaches focus on how centrally defined public policy interventions are introduced into diverse local contexts, and interact with local lifeways and ecologies (Long 2001). In the process of this interaction, such programs are re-interpreted and resisted, not only by producers directly targeted by the program, but also the official actors responsible for its implementation (Morris 2004, Kaljonen 2006, Potter & Juntii 2002).

However, the differences between the EU level, national level, and grassroots interpretation of agriculture's multifunctional role speak to a more fundamental distinction between high modernist ideologies and local practical knowledge of agro-ecosystems (Scott 1998). High modernist ideologies place a strong emphasis on scientific and technical progress and the mastery of human nature, and are exemplified in practice through state sponsored "high modernist agriculture" (Scott 1998 p262). This model of agriculture focuses on the principles of production and profit, especially in practices such as extension and government sponsored research. Systems of production that developed under high modernist agriculture disregard local natural complexities such as micro-climates, biotic histories, and water movements in favor of the radical simplification and homogenization of individual farms and entire agro-ecosystems (Scott 1998 p262). The ideological underpinnings of high modernist agriculture include neo-mercantilist orientations, where the state is thought to play an active role in the promotion of production agriculture, as well as neoliberalism, where corporate agri-business displaces the state as the driver of agricultural modernization. However, it is also possible to envision high modernist agri-environmentalism where principles of hygienic ideology and eco-modernization combine with neo-mercantilism or neoliberalism in order to produce environmental goods desired by members of a corporate, bureaucratic, political, or scientific elite.

It is possible to view the Rural Environmental Protection Scheme as a model of high modernist agri-environmentalism, where the focus is no longer on enabling production and profit maximization, but rather on reconciling demands for a hygienic countryside with neo-mercantilist concerns for protecting farmer livelihoods. Such a scheme involves advocating centrally defined prescriptions that are introduced into complex localized agro-ecological contexts, and indigenous knowledge systems. The case of the Burren is a good example of the contradictions inherent in a centrally defined program designed to protect the natural environment. REPS in the Burren was

introduced into a context where centuries old practices of agri-environmental stewardship persisted. These stewardship practices, and the indigenous knowledge which underpin them, could be equated with what Scott (1998) refers to as practical knowledge or metis (p309). The term metis descends from classical Greek, and is used to denote knowledge that comes from practical experience rather than scientific experimentation. Such knowledge systems are attuned to local variability in climate, biodiversity, and geology, and are flexible in the face of adverse conditions. Instead of trying to guard and protect this knowledge and the associated practices in the Burren, REPS attempted to impose a new ecological order on this sensitive landscape and agro-ecosystem which in some cases was reported to have caused environmental damage (such as scrub encroachment and groundwater pollution). The program was therefore resisted by the custodians of local practical knowledge of the Burren's complex agro-ecological system – the farmers themselves.

Spatial Comparisons

Another important dimension to the international debate on agriculture's multifunctional role is the differences between the discourse on the topic in Europe and the United States. This section goes into detail on the differences between the debate on multifunctionality in the US and EU at each level of governance, starting with the global level of governance, and working down to the local level. The purpose of this section is to explore the commonalities and differences between the debate in these different geo-political contexts, and to understand the factors which underpinned these commonalities or differences.

At the global level of governance it is possible to draw very clear distinctions between the official US position on agriculture's multifunctional role, and the official EU position. The USTR was a strong advocate of liberalization as a means of ensuring that agriculture's contribution to environmental protection, food security, economic development and poverty reduction is maximized. However, the EU argued strongly that the liberalization process had to be accompanied by supplementary policies that address the hygienic concerns of European consumers, and which could also serve to legitimate the liberalization process in the eyes of the wider public. There were also some similarities, especially in the comprehensive negotiating proposals put forward by both trading blocs. The US comprehensive negotiating proposal effectively recognized the need to support agriculture's multifunctional role, but argued that any support for such a role needed to be grounded in policy measures that targeted specific environmental or social outcomes.

The differences between the positions of these negotiating blocs can be attributed to a range of factors including natural endowments, political economy, and economic history. The US advocacy of a neoliberal vision of agriculture's multifunctional role is understandable given its potential as a natural exporter or breadbasket region (Einarsson 2000, McMichael 2000). Such regions are characterized by favorable soil and climatic conditions, as well as sparse populations, all of which contribute to the creation of large scale extensive production with relatively low production costs (Einarsson 2000). Other countries which could be classified as natural exporters of food include Canada, Argentina, Uruguay, Brazil, Australia and New Zealand, all of whom form part of the Cairns group of food exporting nations who have strongly opposed the use of the multifunctionality argument in the WTO negotiations. The trade liberalization process will give countries such as the US a larger share of the global food and feed market, meaning there are clear economic benefits to supporting the neoliberal agenda (Einarsson 2000). However, the EU does not possess such natural advantages, and has only achieved the status of food exporter through importing significant quantities of animal feed from overseas. This means socio-political actors in the EU are less enthused about the potential economic benefits of the liberalization process, and more concerned about the political ramifications of the negative environmental externalities associated with this process.

Another factor which could explain the differences in emphasis between the EU and US is the differential distribution of power within the respective food chains. Within the EU, power is largely concentrated in the hands of a small number of retailers, with some scholars suggesting that food production in Europe is "retailer led" (Heffernan et al 2006, Marsden 2006, Morgan et al 2006). This means that any crisis in confidence in the European food production system directly impacts the most powerful actors in the food chain. As a result, food retailers have a vested interest in restoring consumer confidence in European agriculture, and in some cases have even become directly involved in providing financial support to agri-environmental programs (Morris and Winter 2002). This differs significantly from the situation in the United States, where power in the food chain is concentrated in the hands of a small number of processors and input suppliers who are exercising increasing control over primary production through processes such as vertical integration, and who wish to depress the wholesale price of commodities (McMicael 2002). These processors and input suppliers exercise significant influence over the regulatory environment, with industry representatives regularly being appointed to critical positions in both the United States Department of Agriculture and the federal Food and Drug Administration (Mattera 2004).

There is more commonality between the EU position and the US position when we focus on the federal level of governance and the respective agri-environmental policy regimes in operation in both contexts. In both the US and the EU a range of different actors placed a strong emphasis on policy solutions which reflect the principles of eco-modernization e.g. voluntary participation, performance monitoring, self regulation, collaborative management etc. However, in the European Union, these solutions were advocated in order to advance the hygienic concerns of consumers, and reflected the arguments put forward by the environmental and sustainable agriculture movement. As such, the neo-mercantilist interests of mainstream commercial producers were marginalized in the public discourse. The European approach to agri-environmental policy also sought to enhance the complementary relationship between agriculture and the environment, by encouraging the production of commodities for niche market consumers sensitive to food safety, animal welfare, and environmental quality. The imposition of cross compliance requirements imposed minimal standards in the production of such goods, while agri-environmental programs sought to create an enabling infrastructure for the production of specialty produce.

In the US, a different approach was evident. While still emphasizing principles of eco-modernization, the approach adopted was reflective of the concerns of mainstream commercial producers, while the concerns of the sustainable agriculture and environmental movement were marginalized. Accordingly, agri-environmental programs such as the Conservation Security Program functioned to create an infrastructure for the eventual commodification of environmental goods themselves. There was little consideration given to the nature of the food or fiber commodities produced. Instead, the focus was on an entirely different type of market based solution to the challenge of agri-environmentalism, where consumers would have to pay for the environmental benefits provided by agriculture as if they were commodities.

These differences could be attributed to the differential distribution of power in the agrifood chains of the US and the EU discussed above. However, there are a number of other factors which are also worth considering as potential explanations. Firstly, these different approaches may reflect the differences in how agriculture's relationship with the environment is viewed in the EU and the US. In the EU, agriculture is viewed as having a complementary relationship with the environment, with the agricultural system and the natural environment co-evolving over a period of thousands of years (Bignal and McCracken 2000). It is therefore difficult to imagine how environmental goods can be disentangled from the production process and priced accordingly. Another important difference between the EU and US context is the fact that the US has historically focused on managing specific resource concerns and the delivery of

particular environmental outcomes, whereas the EU has largely focused on providing broad policy frameworks that emphasize changing practices (e.g. de-intensification) (Baylis et al 2005). Even with the CSP, which is supposed to represent a European style working lands program, the focus is still on particular resource concerns (e.g. soil and water conservation), the improvement of which are supposed to be quantified and measured. It is further the case that the principle of subsidiarity plays an important role in the EU, where member states draw on a broad policy framework in order to construct their own agri-environmental programs. Such autonomy in federal program implementation at the state level is not possible under the United States Farm Bill.

At the national and state level of governance, there are also important similarities and differences between how agriculture's multifunctional role is interpreted. On the one hand, in both contexts the importance of addressing hygienic concerns is emphasized. Furthermore, there is a good degree of ambivalence, if not downright hostility towards the process of liberalization. The distrust and ambivalence expressed towards the liberalization process reflects the similarities in the structure of agriculture between the two contexts. In both cases agricultural operations are relatively small-scale, with the production of dairy and milk products playing an important role. Given the vulnerability of small scale dairy operations to the process of trade liberalization, it is understandable why a good degree of skepticism is articulated about the process in both Ireland and Pennsylvania.

However, there are also a number of important differences between the interpretations of agriculture's multifunctional role put forward in both contexts. In Ireland, the neo-mercantilist perspective had a much more prominent place in the public discourse than was the case in Pennsylvania, while in Pennsylvania a stronger emphasis was placed on the principles of eco-modernization than was the case in Ireland. There are a number of potential explanations for these differences.

Firstly, agriculture has a much more important role in Ireland as an economic sector than is the case in Pennsylvania, accounting for a larger portion of both the workforce and the gross domestic product. As such, the political clout of agriculture, and the farm lobby is much greater in Ireland than Pennsylvania. On the other hand, the environmental and sustainable agriculture movements in Ireland are a relatively new phenomenon, and suffering from significant human and financial resource constraints. This creates a political and discursive opportunity for the Irish Farm Lobby to insert their meanings into the debate on the future of agricultural policy in Ireland.

Secondly, environmental policy initiatives in Pennsylvania are largely state-led, whereas in Ireland, environmental policy is largely mandated in the form of environmental directives from

the European Commission. This means that while Pennsylvania has a relatively sophisticated set of homegrown agri-environmental regulations; most of the regulations governing Irish agriculture were externally imposed.

Finally, the history of bureaucratic intervention in the relationship between agriculture and the environment in Ireland is relatively short, unlike Pennsylvania where conservation initiatives date back to the 1930s. For example, there is no equivalent of the Natural Resource Conservation Service or the State Conservation Commission in Ireland. Thus, the institutional infrastructure for the promotion of agri-environmental concerns in Ireland is lacking.

Important differences also emerge between the local level of governance in the EU and the US. For the most part, the discussion of agriculture's multifunctional role in the Burren was framed in agro-ecological terms, whereas the same debate in Bedford County centered on hygienic concerns and solutions based on the principles of eco-modernization. These differences in emphases can be explained in a number of ways. Firstly, there is a much longer history of continuous agricultural production in the Burren than is the case in Bedford County. Burren agriculture dates back millennia, and indigenous systems of production continued relatively uninterrupted, despite the process of colonization, right up to the middle of the 20th century. However, indigenous patterns of production in Bedford County were displaced by colonial production systems following the settlement of the County by German and Ulster-Scots planters in the mid 18th century. This means there is a relatively short history for the emergence of indigenous knowledge systems of agriculture in Bedford County. It is also likely that the productivist model of agriculture predominated in Bedford from an early stage, whereas the marginal nature of land in the Burren meant production was largely focused on serving local markets until after the Second World War.

It is further the case that there is a longer history of state-led agri-environmental efforts in Bedford County, than is the case in the Burren. Conservation programming in Bedford County dates back to the 1930s, whereas in the Burren it has only become a focus of government intervention since the 1990s. Ironically this lack of attention to agri-environmental problems in the Burren may have allowed local understandings of agriculture's relationship with the environment to persist. This was not so in Bedford where a plethora of agencies, including the NRCS, the Soil and Water Conservation District, and the Cooperative Extension Service have been promoting best practice in agri-environmentalism since before the second world war. As such, local understandings of agriculture's impact on the environment have for decades been shaped by scientific expertise and bureaucratic intervention.

Overall, based on this discussion it can be said that while it may be possible to identify a hegemonic interpretation of agriculture's multifunctional role at the macro-level, such interpretations are subject to resistance and re-interpretation at other levels of governance and in different geopolitical contexts. These processes of resistance and reinterpretation are based on different discursive and political opportunity structures as well as important agro-ecological differences.

CHAPTER 12: CONCLUSIONS AND IMPLICATIONS

This chapter will identify the main conclusions of the study, along with the theoretical, policy and research implications of the study findings. The chapter begins with a summary of what can be concluded on the basis of the study findings. Then, the theoretical implications of these findings are discussed. This is followed by a consideration of some of the major policy implications of the study. Finally, possible directions for future sociological research into agriculture's multifunctional role are considered.

Conclusions

The core research question articulated at the beginning of this study was whether or not the discursive field of agricultural policy is dominated by a hegemonic interpretation of agriculture's multifunctional role, and the extent to which this interpretation reflects neoliberal, post-productivist, or protectionist interests. Addressing this question involved analyzing the public discourse on agriculture's multifunctional role that arose from the policy debates surrounding the Green Box subsidy category in the WTO negotiations, the Rural Development Regulation of the Common Agricultural Policy, and the United States Farm Bill Conservation Security Program. The relative hegemony of a particular interpretation of agriculture's multifunctional role was determined by the degree to which it resonated among the different socio-political actors (official, mainstream farmer, sustainable agriculture, and environmental) in a given policy arena, and with similar policy actors at different levels of governance.

This approach to understanding ideological hegemony differs from the traditional Neo-Marxist and Gramscian approach, which focuses on how cultural norms encourage subordinate groups to view exploitative social relations as natural, inevitable, and morally superior, using instruments such as religion, mass media, and public education. Instead Purvis and Hunt's (1993) sociological conception of ideology is used, where hegemony is a goal different classes, groups or agents compete for in order to have their definition of a given social problem prevail in a particular arena. Thus, the focus is on how particular groups interpret certain phenomena, and how these interpretations reflect the social position or objective interests of that group. Thus, hegemony occurs when an ideological interpretation reflecting the objective interests of one social group, is also articulated by another social group or state representatives.

From the extensive analysis conducted it was possible to identify a hegemonic interpretation of agriculture's multifunctional role in the policy debate surrounding the negotiations on the WTO Green Box subsidy category. For the Green Box, the hegemonic interpretation articulated reflected the principles of neoliberalism. Accordingly, food security,

poverty reduction, environmental protection, and global economic development were thought to be best served by liberalizing global trade in agricultural commodities. However, the perspective put forward in the debate surrounding the EU Rural Development Regulation, was somewhat different, reflecting hygienic concerns. This interpretation combined with an eco-modernization orientation where it was argued that addressing the hygienic concerns surrounding agricultural production would enhance the competitiveness of European commodities on a global food market characterized by specialized and niche consumer demands. The debate on multifunctional agriculture in the US centered on the Conservation Security Program (CSP). In this discursive arena there appeared to be some division between the mainstream actors (the Natural Resource Conservation Service and the Farm Bureau) and the actors representing environmental and sustainable agriculture interests. The mainstream actors were advocating the CSP as a mechanism for enabling a market based approach to agriculture's multifunctional role (reflecting a neoliberal agenda), while the groups representing environmental and sustainable agriculture interests viewed the program as a means of encouraging the ecological modernization of agriculture in the US.

It can thus be concluded that the hegemonic interpretation of agriculture's multifunctional role is dependent on the discursive policy arena where the debate is taking place. Thus, the hegemonic interpretation put forward in the Green Box policy arena, differs from the hegemonic interpretation evident in the discursive arena of the Rural Development Regulation. Meanwhile, the policy debate in the United States involves contested interpretations of agriculture's multifunctional role between the neoliberal perspective of the mainstream actors and the eco-modernization perspective offered by the sustainable agriculture and environment movements. Despite these differences, the interpretations of agriculture's multifunctional role in the EU and US, do not necessarily contradict the hegemonic interpretation put forward in the Green Box policy arena. In both cases policy solutions put forward for enhancing agriculture's multifunctional role are designed to enable a soft transition to a market oriented system, thus complementing rather than contradicting the neoliberal agenda. In the US, this transition may involve the commodification of environmental goods enabled by conservation programming on working lands. In the EU it is expected that policy efforts to enhance agriculture's multifunctional attributes will also make European commodities more attractive to health and environmentally conscious consumers on the global food market. It is therefore the case that the interpretation of agriculture's multifunctional role put forward in the macro level policy arenas of the WTO, EU, and US either reflect or complement the goal of trade liberalization and deregulation of the global agrifood system.

Because, it appears that the neoliberal perspective dominates the public discourse at the macro levels of governance, one could conclude that the institutional void and discursive opportunities that became manifest following the decline of the fordist food regime are being filled by meanings, rules, and regulations reflecting neoliberal principles. The different conceptions of multifunctional agriculture articulated in the debates on agricultural policy taking place at these levels of governance, envisioned a soft transition between the protectionist regime of the fordist era, and the emerging regime of the global corporate era. Thus, multifunctionality helps overcome some of the uncertainty surrounding the decline of one food regime, and the emergence of a new regime. It effectively serves as a bridge between two different regimes of governance, allowing for a smooth and socially acceptable transition to a global corporate food order based on the principles of neoliberalism.

However, this neoliberal agenda did not necessarily resonate with official or social movement actors in the two case study sites chosen (Ireland and Pennsylvania). In Ireland, outright hostility to the neoliberal agenda was expressed among all the actors studied, while in Pennsylvania, the focus was very much on addressing hygienic concerns surrounding agriculture's negative environmental impact through pursuing a range of state and federal programs that reflected the principles of eco-modernization. In both cases there was little if any enthusiasm expressed for the prospect of either commodifying agriculture's multiple environmental functions, or using these functions as a marketing tool to make food commodities globally competitive.

It was further the case that the macro-level interpretations of agriculture's multifunctional role failed to resonate with actors at local levels of governance in Ireland and Pennsylvania. In both cases a preference for localized approaches to promoting agriculture's multifunctional role was articulated, while frustration was expressed with centrally defined programs designed for this purpose. Discontent with conventional approaches to agriculture's multifunctional role was especially evident in the Burren, Ireland. Socio-political actors consulted in this discursive arena framed agriculture's multifunctional role in agro-ecological terms, claiming that programs designed according to the principles of modernist ideologies (eco-modernization, hygienic, neoliberal, neo-mercantilist) were inappropriate in areas such as the Burren, where agricultural production had co-evolved with the natural environment for millennia.

Based on this study one can conclude that even though a neoliberal interpretation of agriculture's multifunctional role is being promoted at the macro level of governance, as this interpretation diffuses to other scalar levels it is subjected to resistance and re-interpretation. The least problematic transition is between the WTO interpretation and the debates taking place at the

EU and US federal levels of governance. While, alternative perspectives are put forward, they do not seek to challenge or undermine the WTO agenda, but rather complement it, and offer an adjusted path for neoliberalization. However, moving from the federal level of governance to the national or state level, interpretations of agriculture's multifunctional role become more contested and diffuse, while the neoliberal perspective is either completely ignored or directly challenged and critiqued. At these levels of governance hygienic, eco-modernization, or neo-mercantilist perspectives on agriculture's multifunctional role tend to dominate, while the neoliberal perspective occupies a marginal position in the debate. Moving from the national or state level, to the local level of governance the discourse becomes even more contested. Not only do a diverse range of local actors seek to challenge and re-interpret macro-level perspectives of agriculture's multifunctional role, but they are often very critical of policy solutions to enhance this role which are developed at the state level of governance.

There were also important differences in emphases in the public discourse on multifunctionality between Europe and the United States, and these differences could be observed at every level of governance. At the macro level of governance, there was a stronger emphasis placed on the neoliberal perspective in the United States than was the case in the European Union, where a hygienic orientation was more prominent. At the national and state level, the hygienic interpretation was important in both Ireland and Pennsylvania, but the neo-mercantilist perspective was given more credence in Ireland than in Pennsylvania. At the local level of governance it was clear that there was a much stronger orientation towards an agro-ecological understanding of agriculture's multifunctional role in the Burren than was the case in Bedford County.

This suggests that the extent to which the debate on agriculture's multifunctional role reflects neoliberal, post-productivist, or protectionist concerns largely depends on the level of governance in which the debate is taking place, as well as the geographical context of the debate. While the public discourse at the macro-level of governance reflected and complemented neoliberal concerns, the debates which took place at the state or national levels tended to reflect a diffuse range of perspectives including hygienic, neo-mercantilist, and eco-modernization. This was also the case at the local levels of governance, where the macro-level interpretations of agriculture's multifunctional role were strongly contested. It also appears to be the case that neoliberal arguments resonate more strongly with debates taking place in the United States (at least at the macro-level of governance), while perspectives reflecting principles of protectionism and sustainability receive more attention in the European context.

Theoretical Implications

The major debate surrounding the future of the global food regime centers on whether or not we are entering a post-productivist transition which will reverse the treadmill of production, and re-embed agriculture in social and ecological systems (Wilson 2001, Buttel 2006), or whether we are facing a global corporate food order which will serve to accelerate the treadmill of production (McMichael 2003). The emergence of the debate on multifunctionality was thought on the one hand to lay the discursive foundations for post-productivist transition (Wilson 2001), while on the other hand it was argued that the concept served to legitimate the process of liberalization (McMichael 2002, Potter and Tilzey 2005). An alternative perspective was put forward by neo-classical economists such as Swinbank (2001) who argued that the multifunctionality argument represented a rearguard reaction by protectionist interests.

It was suggested that the identification of hegemonic interpretations of agriculture's multifunctional role in a number of different policy arenas would clarify the meaning of the debate on multifunctionality. Thus if neoliberal interpretations predominated then this would suggest that the multifunctionality argument is being used to legitimate the emerging global corporate food regime. If sustainability perspectives achieved hegemony then it could be argued that the concept was being used to lay the discursive foundations for a post-productivist transition. However, if neo-mercantilist or agrarian interpretations occupied a hegemonic position, then it could be argued that the concept functions as a guise for rearguard protectionism. The analysis conducted provides mixed evidence for each of these different arguments.

On the one hand, if we confine our analysis to the macro-level of governance, it would seem that there is strong support for the argument that multifunctionality serves to simply legitimate the process of liberalization. This suggests that multifunctionality is possibly a ruse, not for protectionism, but for enabling a transition to a global corporate food regime constructed largely on the principles of neoliberalism. However, while the rules for the global food regime are elaborated at the macro level, in order for these rules to determine the future direction of agriculture they need to resonate with actors at other levels of governance. This resonance can only be achieved if the meanings articulated at the global level diffuse to other levels of governance, where meanings indigenous to those scalar levels are subordinated to the hegemonic global interpretation.

Examining how the debate on multifunctionality plays out at other levels of governance suggests that the neoliberal interpretation of the concept, and the solutions associated with this interpretation, do not necessarily resonate with actors at the state, national or local levels. Instead, the debate taking place at these levels revolves around the sustainability concerns of

environmental or sustainable agriculture interests who desire some form of a post-productivist transition, and the neo-mercantilist concerns of farmers, who want to continue the state-led model of productivism. These interpretations combine with the centrally defined neoliberal perspective to create hybrid ideologies and policy regimes that are at times reflective of the principles of eco-modernization.

There are a number of factors which explain the contested interpretation of agriculture's multifunctional role between the macro level and other levels of governance. One explanation speaks to the specific political and discursive opportunities that exist at a given level of governance. Important differences in such opportunities include the concentration of retailer versus processor power in the agrifood chain, the relative economic importance and political power of primary producers, and the existence, or lack of, a well developed institutional and legislative infrastructure for agri-environmental programming.

This variability suggests that centrally defined meanings and policy prescriptions enter into diverse political and discursive environments and are often re-interpreted in the context of the internal dynamics of these environments. For example, if agriculture plays an important role in the economy, and environmental legislation is centrally mandated at the federal level, then neo-mercantilist interpretations of multifunctional agriculture are likely to play an important role (as is the case in Ireland). Such articulations of multifunctional agriculture represent a residual ideology of resistance which is based on pre-existing social formations like the corporatist relationship between the farm lobby and the state (Williams 1973). However, if agriculture's contribution to the economy is relatively minor, while agri-environmental legislation is initiated at the local and the state level, then emergent ideological interpretations, reflecting hygienic or agro-ecological principles are likely to play an important role. This suggests that the hegemonic position of the neoliberal interpretation of agriculture's multifunctional role is partial and incomplete, especially when we look at policy arenas beyond the macro-level of governance.

Another factor underpinning the contested interpretation of agriculture's multifunctional role is the differences in natural endowments and agro-ecological heritage between different places where this policy concept is discussed, and where policy programs based on this concept are implemented. Examples of such differences include the role of the US as a natural exporter of food versus the import dependent nature of the European food system, as well as the co-evolution of agriculture and the environment over millennia in the Burren versus the relatively recent history of production in Bedford County. The existence of these different natural conditions help channel the debate on agriculture's multifunctional role in a given context, contributing to a neoliberal interpretation in the United States as opposed to a hygienic interpretation in Europe, or

an agro-ecological interpretation in the Burren rather than an eco-modernization interpretation in Bedford County.

It is further the case that localized natural complexity, and indigenous knowledge of that complexity, can serve to galvanize resistance even further, not only to the hegemonic interpretation of agriculture's multifunctional role, but to any interpretation based on modernist ideology including neo-mercantilist, eco-modernization, and hygienic ideologies. Resistance in such locales is characterized by expressions of agro-ecological values, where a strong emphasis is placed on the importance of local knowledge, the co-evolution of nature and agriculture, and grassroots approaches to environmental management.

Overall, it could be said that this analysis highlights the partial nature of Neo-Marxist explanations of multifunctionality in the global food regime (McMichael 2000, Friedmann 1999). The Neo-Marxist framework provides a linear interpretation of the trajectory of the global food system which is assumed to be inevitably moving towards the establishment of a global corporate food order. Accordingly, multifunctionality as a policy concept serves merely to legitimate this transformation, or allow for wealthy East Asian and Northern Countries to soften its impact. It is further the case that there is little support for the arguments made by Neo-Classical economists who claim that multifunctionality is simply a ruse for rearguard protections (Swinbank 2001). Both these explanations ignore the possibility that there may be multiple interpretations of agriculture's multifunctional role, which are expressed differently in different geographical contexts and at different scalar levels. These differences are the product of different ecological circumstances, the differential evolution of the relationship between the environment and society, and differing institutional infrastructures.

This observation does not mean that a post-productivist transition is imminent, or even that the multiple expressions of agriculture's multifunctional role being articulated are laying the discursive foundation for such a transition. Instead, one could argue that the macro-hegemonic interpretation of agriculture's multifunctional role is contested due to the articulation of emerging post-productivist ideologies (such as hygienic ideology) and the persistence of residual perspectives (such as neo-mercantilism) in particular contexts. The emergence and persistence of these ideologies of resistance are enabled by the unique political and discursive opportunity structure and natural characteristics of spaces where policy is elaborated and implemented. This implies that discussions of the emergence of a global corporate food order, need to trace how the discursive and material expressions of this order diffuse to diverse locations, and in the process are resisted and re-interpreted by a range of socio-political actors, while combining with pre-existing political and discursive structures. Furthermore, consideration needs to be given to how

natural limitations and agro-ecological heritage help shape the articulation of these interpretations in particular locations.

In discussing ideologies of resistance the focus for the most part is on agro-ecological, hygienic, and neo-mercantilist ideology. However, the author does not consider eco-modernization as representing an ideology of resistance. Eco-modernization as it was discussed in this study referred to initiatives that sought to embed agricultural production in ecological processes through encouraging innovative governance measures such as voluntary enrollment, self regulation, collaborative management, performance monitoring, as well as the application of new technologies. Furthermore, throughout the analysis, eco-modernization was always presented as being combined with either neoliberal or hygienic interpretations to create hybrid ideological orientations. This suggests that the policy and discursive practices which are labeled as representing eco-modernization occupy a somewhat ambiguous position in the discursive field of agricultural policy. It is the author's contention, that based on the analysis conducted it is possible to distinguish between different forms of eco-modernization. On the one hand arguments labeled as eco-modernization may combine with or complement neoliberal arguments. For example the interpretation put forward by the NRCS and the Farm Bureau at the US federal level of governance combined neoliberal and eco-modernization arguments. In such instances processes thought to characterize eco-modernization were used to encourage farmers to view ecological services and natural resources as potential commodities.

Such an approach reflects the principles of green neoliberalism. Green neoliberalism refers to the construction of a modern rational subject and the institutions of an efficient state, while also encouraging the intensive regulation of the relationship of these subjects with the natural environment (Goldman 2001 & 2005). These processes of regulation and subject construction are designed to foster neoliberal values such as enclosure, market valuation, and resource optimization.

However, it is also possible to identify examples where eco-modernization arguments were used to further hygienic concerns about the negative impact of agriculture on the environment and food safety. This perspective resonated with socio-political actors in Pennsylvania, and to a certain degree could be said to characterize aspects of REPS in Ireland. Such programs sought to re-define the role of farmers from producers of goods for mass markets to custodians of public goods for the wider society. As such, these initiatives could be said to reflect the principles of environmentality, which refers to the process by which technologies of self and power are used to construct new subjects that care about the environment (Agrawal et al 2005). Both green neoliberalism and environmentality draw on Foucauldian concept of

governmentality. The term governmentality is used not so much to explain the operations of the state or central bureaucracies, but rather mechanisms which shape the behavior, desires and wants of an individual or a particular group (Foucault 1988). As such, the concept is particularly relevant to contemporary societies where power is decentralized and individuals are encouraged by a range of socio-political actors to engage in the practice of self governance.

Policy Implications

Programs such as the Rural Environmental Protection Scheme (REPS) and the Conservation Security Program (CSP), which are based on principles of green neoliberalism and environmentality, could be said to represent expressions of high modernist agri-environmentalism, which similar to high modernist agriculture, results in policy programs which seek to simplify and homogenize complex agro-ecological systems while ignoring local practical knowledge (Scott 1998). Such initiatives seek to reshape the identity and practices of farmers so that their activities and environmental impact conform to the expectations of corporate, bureaucratic, scientific or political elites.

However, programming efforts based on these principles often discount resistance by local actors to these new role expectations (Long 2001) and the possibility that program prescriptions are incompatible with diverse local bio-physical conditions (Scott 1998). As a result, both REPS and the CSP were subject to a good degree of criticism by many of the socio-political actors interviewed for this study. The CSP was heavily criticized as being overly complex, under-resourced, geographically restricted, and biased towards large scale progressive crop producers. REPS was criticized for being overly prescriptive, inflexible, and relying too much on the advice of private planners with limited ecological knowledge while ignoring the indigenous agro-ecological knowledge of local producers and natural resource managers.

Criticisms leveled at these programs do not necessarily represent resistance to the idea of multifunctional agriculture per se. Instead, these criticisms can be understood as resistance to the exclusively modernist interpretation of agriculture's multifunctional role inherent in these programs. Based on the research conducted it would appear that socio-political actors representing a diversity of interests (official, environmental, commercial production, and sustainable production) were supportive of the notion that agriculture performs multiple functions. However, what was the subject of much debate were the policy mechanisms and institutional arrangements that need to be put in place in order to protect and enhance these various functions.

The criticisms leveled at both REPS, and the CSP, by the various socio-political actors who participated in this study, were often based on comparisons with agri-environmental programs which were locally initiated. These alternative programs were thought to represent viable alternatives to high modernist agri-environmentalism. Such programs displayed key features including local control, partnership, participation, and retro-innovation which provide useful lessons for future iterations of both REPS and the CSP. Firstly, decision making over the implementation of both programs was controlled by local management committees. The opposite appeared to be true of both REPS and the CSP, where decision making was largely centralized in the headquarters of the government department or agency responsible. Where local input did occur it was either through intensive lobbying (by the IFA in the Burren) or it occurred in the form of consultative or recruitment sessions which had little decision making power (as was the case with the watershed meetings held in Bedford).

Secondly, decision making involved multiple actors including government agencies, farm organizations, and environmental groups working in partnership at the local level of governance. These groups were often part of a management or steering committee. Again, this contrasted with the CSP and REPS, both of which were managed by a single agency, with lower level decisions being contracted out to private sector operators in the case of REPS. Thirdly, it was acknowledged that returning to labor intensive management systems characteristic of agricultural production in the past may be impossible. This is so, as the human resources necessary for the pursuit of such practices are no longer available. However, it may be possible to combine indigenous practices with modern technology and inputs in order to pursue ecologically sensitive practices based on indigenous knowledge but which do not require the same amount of labor. This is an important aspect of the Burren Life project which seeks to experiment with using modern technology in order to promote traditional practices such as extensive grazing and scrub removal. The use of no-till cropping tools in the equipment rental program is also reflective of this principle.

Overall, the approach advocated reflects the principles of agro-eco-modernization advocated by Marsden (2006). Such an approach contrasts with the green neoliberalism or environmentality approaches discussed above, as it seeks to combine the progressive principles of eco-modernization with agro-ecological values such as local knowledge, bio-physical diversity, collective action, and endogenous potential. This approach is labeled the rural development paradigm. In practice initiatives which seek to promote the rural development paradigm are characterized by principles of associationalism (local face to face relationships), cooperation and

networking between multiple actors, and retro-innovation (combine modern technology with indigenous knowledge and practices).

The principles of agro-eco-modernization could serve as a basis for future iterations of both REPS and the CSP. According to this model the national program would provide the overarching framework which identifies agri-environmental challenges of national concern and provides the financial, research, and extension infrastructure for dealing with these challenges. However, agri-environmental prescriptions are not determined at this level of governance. Instead, local management committees made up of representatives of government departments, local government, conservation groups, and farmer organizations would be responsible for preparing regional agro-ecological plans which specify agri-environmental objectives, the strategies necessary to achieve these objectives, along with the required resources. Exactly how these objectives will be achieved will be agreed with individual producers who work alongside agro-ecological specialists to develop a plan that reflects the unique circumstances of their operation. Each farm could represent a pilot research station to experiment with and refine practices that combine modern technology with indigenous knowledge. The results of these efforts could feed into, and be disseminated, through a national research and extension infrastructure designed specifically for this purpose.

However, any recommendation which focuses on localized control over program design and implementation carries with it the risk of defensive localism, and the possibility of further entrenching existing social inequalities that are part of the local social structure (Allen 2004). Thus, even though central government agencies are no longer directly responsible for driving program design and implementation, they still have an important role to play in ensuring that the local management structures put in place are effective, equitable, and inclusive. This implies an additional role for centralized agencies, as organizations responsible for monitoring and evaluating the performance of local management structures, according to these criteria.

Research Implications

There are a number of implications for future research emerging out of this study. Firstly, the study points to the need to pay continuing attention to the operation and future direction of working lands agri-environmental programs in both Europe and the United States. While working lands approaches are more prominent in the EU than the US, it appears to be the case that a working lands approach is growing in importance in the US, and that such programs will continue to be important in Europe. One possible avenue for investigation in this regard is the intersection of such programs with the alternative sustainable agriculture movement. This is an important

avenue for research as it appears that even though programs such as the CSP were strongly supported by the lobbying arm of the US sustainable agriculture movement, the program itself was largely geared towards well-resourced grain producers from the mid-west, and targeted towards groups who were not typically involved in sustainable agriculture or organic networks. The opposite appeared to be the case in the EU.

Another important avenue for research is the perspective of corporate actors on the multifunctionality debate. Transnational agribusiness corporations such as food processors and input suppliers, and increasingly, transnational retail outlets, are among the most powerful actors in the global agrifood chain. However, we know little about the preferences and activities of these actors in relation to global agrifood policy. It would be especially interesting to examine how these actors frame the debate on multifunctionality in the industry trade journals, representations made by industry associations to the World Trade Organization, The United States Federal Government, and the European Commission, along with the manner in which they make these representations (e.g. lobbying, submissions, media campaigns etc).

Another aspect of the debate on multifunctionality which needs to be investigated further is the perspective of official and social movement actors from the developing world. Such an analysis would be particularly interesting as some countries in the developing world (such as Mauritius and the Democratic Republic of the Congo) supported the concept while others (such as India and South Africa) opposed its use. It was also the case that there was a conscious attempt by the WTO secretariat to separate developing country interests in agriculture's role in poverty reduction and food security, from the EU's focus on viable rural communities and environmental protection. Again, a similar approach could be adapted, focusing on multiple levels of governance and multiple socio-political actors at each level. In conducting such a study it may also be worthwhile to go beyond the debate at the WTO, and focus on the sensitivity of other multilateral initiatives (such as the World Bank and International Monetary Fund Poverty Reduction Strategies) to agriculture's multifunctional role.

Finally, in-depth ethnographic research needs to be conducted into the meanings attached to agriculture's multifunctional role in sensitive agro-ecosystems by farmers, peasants, and natural resource managers across the globe. Such studies should also focus on how programs designed to improve agriculture's multifunctional role are received and re-interpreted by these grassroots actors. Any such analysis needs to compare and contrast these localized meanings to the wider debate on multifunctionality taking place at other levels of governance. Such research is important considering the apparent contradiction between programs designed to promote multifunctional agriculture and local practical knowledge of bio-physical complexity.

REFERENCES

Abler D. 2003. *Multifunctionality, Agricultural Policy, And Environmental Policy.* Portsmouth, NH, Annual meeting of the Northeastern Agricultural and Resource Economics Association.

Action Aid. 2004. *5 reasons why a comprehensive review of Green Box subsidies is required within the WTO*, London, UK, Action Aid: (http://www.actionaid.org.uk/791/agriculture.html).

Agar MH. 1980. *The Professional Stranger: An Informal Introduction to Ethnography.* New York, Academic Press: New York.

Agrawal A, A K Gupta, M Hathaway & S Narotzky. 2005. **"**Community, Intimate Government, and the Making of Environmental Subjects in Kumaon, India1/Comments/Reply." *Current Anthropology.* 46(2): 161 – 191.

Allen P. 2004. *Together at the Table: Sustainability and Governance in the American Agri-food System.* University Park PA, Penn State Press

Alteiri MA. 2001. "The Nature and Function of Biodiversity in Agriculture", in pp 5-8, *Greenbook 2001*, Minneapolis MN, Minnesota Dept of Agriculture.

Amenta, E; K Dunleavy; & M Bernstein. 1994. "Stolen Thunder? Huey Long's 'Share our Wealth', Political Mediation and the Second New Deal." *American Sociological Review*, 59(5): 678-702

Argent N. 2002. "From Pillar to Post? In Search of the Post-Productivist Countryside in Australia." *Australian Geographer* 33(1): 97-114.

Badgley C. 2003. "The Farmer as Conservationist." *The American Journal of Alternative Agriculture* 18(4): 206-212.

Barham E. 1997. Social Movements for Sustainable Agriculture in France: a Polanyian Perspective. *Society and Natural Resources* 10 (3): 239–249.

Barnett C. 2005. "The Consolations of Neoliberalism." *Geoforum* 36: 7-12.

Barrett HR, BW Ilbery, AW Browne & T Binns. 1999. "Globalization and the changing networks of food supply: The importation of fresh horticultural produce from Kenya into the UK." *Transactions of the Institute of British Geographers* 24(2): 159-174.

Batie SS. 2003. "The Multifunctional Attributes of Northeastern Agriculture: A Research Agenda." *Agricultural and Resource Economics Review* 32(1):1-8.

Baudry J, A Ouin, G Pain, C Thenail, F Burel, S Aviron & M Martin. 2003. "Temporal Variability of Connectivity in Agricultural Landscapes: Do Farming Activities Help?" *Landscape Ecology* **18**(3): 303-314.

Baylis K, GC Rausser & LK Simon. 2003. "Agri-Environment Programs and the Future of the WTO." *Agricultural Policy Reform and the WTO: Where are we heading?*, Capri Italy.

Baylis K, GC Rausser & LK Simon. 2005. "Including Non-Trade Concerns: The environment in EU and US Agricultural Policy." *International Journal of Agricultural Resources Governance and Ecology* 4(3/4): 262-276.

Bell M. 2004. *Farming for Us All: Practical Agriculture and the Cultivation of Sustainability.* University Park, PA: Penn State University Press.

Benford RD & DA Snow. 2005. "Clarifying the Relationship between Framing and Ideology." in Johnston H & JA Noakes (eds). *Frames of Protest: Social Movements and the Framing Perspective*. Lanham MD, Rowman and Littlefield Publishers Ltd: 205-211.

Bignal EM & DI McCracken. 2000. "The Nature Conservation Value of European Traditional Farming Systems." *Environmental Review* 8: 149-171.

Blandford D.2006. "US Environmental Programs and Green Box Provisions under the WTO Agreement on Agriculture." *National Forum on Agricultural Policy and the 2007 Farm Bill: Conserving the Ecological Integrity and Economic Resilience of American Farmlands,* Stanford University, CA.

Bonnano A. 1990. "Social and Economic Consequences of the EC Agricultural Policy" in A Bonanno (ed.), *Agrarian Policies and Agricultural Systems,* Boulder: Westview Press.

Bricklemeyer RS, RL Lawrence & PR Miller. 2002. "Documenting No-till and Conventional Till Practices using Landsat ETM + Imagery and Logistic regression" *Journal of Soil and Water Conservation,* 57(5): 267-272.

Bromley DW. 2000. "Can Agriculture Become and Environmental Asset" *World Economics* 1(3):127-139

Browne WP. 1995. *Cultivating congress: Constituents, issues, and interests in agricultural policymaking.* Lawrence, KS: University Press of Kansas.

Bruntland G. 1987. *Our Common Future: The World Commission on Environment and Development,* Oxford: Oxford University Press. \

Burton R. J. F. 2004. "Seeing Through the 'Good Farmer's Eyes: Towards Developing an Understanding of the Social Symbolic Value of Productivist Behavior." *Sociologia Ruralis* 44(2): 195-215.

Busch L & C Bain. 2004. "New! Improved? The Transformation of the Global Agrifood System." *Rural Sociology* 69(3): 321-346

Buttel FH 2006. "Sustaining the Unsustainable: Agro-Food Systems and Environment in the Modern World." In Cloke P, T Marsden, P Mooney (eds) *Handbook of Rural Studies*. London, Sage: 213-229.

Buttel FH & KA Gould 2004, 'Global Social Movement(s) at the Crossroads: Some Observations on the Trajectory of the Anti-Corporate Globalization Movement' *Journal of World Systems Research* 10(1): 36-66.

Buttel FH. 2003. "Continuities and Disjuncture's in the transformation of the US Agro-food System." in Brown DL & L Swanson (eds), *Challenges for Rural America in the 21st Century*, University Park PA, Penn State Press: 177 – 189

Buttel FH 2003. "Internalizing the Societal Costs of Agricultural Production" Plant Physiology 133: 1656-1665.

Buttel FH & L Zepeda, 2002, "Multifunctionality: The European Perspective and What It Could Mean for American Agriculture", *PATS Staff Paper No. 5, Jan 2002*, Madison, WS, University of Wisconsin Extension,

Buttel FH. 2001. "Some reflections on late 20th century agrarian political economy." *Sociologia Ruralis* 41 (2): 1652005-07-29

Buttel FH. 2000. "Ecological Modernization as Social Theory." *Geoforum* 31: 57-65.

Buttel FH. 1995. "Twentieth century agricultural-environmental transitions." *Research in Rural Sociology and Development* 6: 1-21.

Castro CJ. 2004. "Sustainable Development: Mainstream and Critical Perspectives". *Organization and Environment.* 17(2): 195-225.

CEC.2005. *CAP reform - a long-term perspective for sustainable agriculture*. Brussels, Belgium, Commission of the European Community. *(http://europa.eu.int/comm/agriculture/capreform/index_en.htm)*

CEC. 2004. *The Common Agricultural Policy – A Policy Evolving Over Time.* Brussels, Belgium, Commission of the European Community.

CEC.2003. *The EC's proposal for modalities in the WTO Agriculture Negotiations.* Brussels, Belgium, Commission of the European Community.

CEC. 1996. *The Cork Declaration on Rural Development*, Brussels, Belgium, The Commission of the European Community.

Chambers R & G Conway. 1992."Sustainable rural livelihoods: Practical concepts for the 21st Century", *IDS Discussion Paper 296*. Brighton UK, Institute for Development Studies.

Cheshire L & G Lawrence. 2005. "Reshaping the State: Global/Local Networks of Association and the Governing of Agricultural Production." in Higgins V & G Lawrence (eds) *Agricultural Governance: Globalization and the New Politics of Regulation.* Lawrence. London, Routeledge: 35-49.

Classen R. 2003. "Emphasis shifts in US Agri-environmental Policy." *Amber Waves* 1(5): 38-44.

Classen R, L Hansen, M Peters, V Breneman, M Weinberg, A Cattaneo, P Feather, D Gadsby, D Hellerstein, J Hopkins, P Johnston, M Morehart, & M Smith. 2001. "Agri-Environmental Policy at the Crossraods: Guideposts on a changing Landscape." *Agricultural Economic Report No 794.* (aer794), USDA Economic Research Service: 72.

Clearfield F & BT Osgood. 1986. *Sociological Aspects of the Adoption of Conservation Practices.* Washington DC: Soil Conservation Service

Cochrane WW. 2003. *The Curse of American Agricultural Abundance.* Lincoln, NE, University of Nebraska Press.

Convention On Biological Diversity. 2002. *Assessing the impact of trade liberalization on the conservation and sustainable use of agricultural biological diversity,* Hague NL, Conference of the Parties to the Convention on Biological Diversity.

Coughenour CM. 2003. "Innovating Conservation Agriculture: The Case of No Till Cropping." *Rural Sociology* 68(2): 278-304.

Creswell JW. 1998. *Qualitative Inquiry and Research Design: Choosing Among Five Traditions.* Thousand Oaks, California, Sage.

CSRA, 2000, *Attitudes towards Farmland Preservation: A Survey Connecticut Residents,* Storrs CT, Centre for Survey Research and Analysis at the University of Connecticut

Dalecki MG & CM Coughenour, 1992, "Agrarianism in American Society". *Rural sociology.* 57 (1): 48-64

Daniels T. 2001. "State and Local Efforts in Conserving Privately-Owned Working Landscapes". *Private Lands, Public Benefits: A Policy Summit on Working Lands Conservation,* Washington DC, National Governors' Association.

Darnhofer I. 2005. "Organic Farming and Rural Development: Some Evidence from Austria." *Sociologia Ruralis* 45(4): 308-322.

Daugstad K, K Rønningen & B Skar. 2006. "Agriculture as an upholder of cultural heritage? Conceptualizations and Value Judgments - A Norwegian Perspective in International Context." *Journal of Rural Studies*. 22: 67 - 81.

DeVries B. 2000. Multifunctional Agriculture: Protectionism, Piffle, or Path to the Promised Land? *A Report from the Land Stewardship Project:* (www.landstewardshipproject.org/programs_mba.html)

Diakosavvas D. 2004. Environmental Multifunctionality and Agricultural Liberalization Conflict or Harmony? *Seminar Paper No. 1: European Network of Agricultural and Rural Policy Research Institutes Thematic Network on Trade Agreements and European Agriculture.* Paris, Organisation for Economic Co-operation and Development (OECD), Policy and Environment Division, Directorate for Food, Agriculture and Fisheries, Paris: 30.

Diani M. 1996. " Linking Mobilization Frames and Political Opportunities: Insights from Regional Populism in Italy." *American Sociological Review*, 61(6): 1053-1069.

Dimitri C, A Effland & N Conklin. 2005. *The 20th Century Transformation of U.S. Agriculture and Farm Policy.* Washington DC, United States Department of Agriculture - Economic Research Service.

Dixon DP & HM Hapke. 2003. "Cultivating Discourse: The Social Construction of Agricultural Legislation." *Annals of the Association of American Geographers* 93(1): 142.

Dobbs TL, Pretty JN. 2004. “Agri-Environmental Stewardship Schemes and Multifunctionality”, *Review of Agricultural Economics* 26(2): 220 - 236.

Dolan CS. 2004. “On Farm and Packhouse: Employment at the Bottom of a Global Value Chain. *Rural Sociology* 69(1):99-126.

Downey L & G Purvis. 2004. *Building a Knowledge Based Multifunctional Agriculture and Rural Environment.* Dublin, University College Dublin: 20.

Duffy PA & JJ Molnar. 1989. “Attitudes toward government involvement in agriculture: results of a national survey”. *Southern Journal Of Agricultural Economics.* 21 (1): 121 – 130

Duke JM, TW Ilvento & RA Hyde. 2002. *Public Support for Land Preservation: Measuring Relative Preferences in Delaware,* University of Delaware , Department of Food and Resource Economics Research Report, REC RR02-01.

Durand G & GV Huylenbroeck. 2003. “Multifunctionality and Rural Development: A General Framework” In Huylenbroeck GV, Durand G (eds). *Multifunctional Agriculture: A New Paradigm for European Agriculture and Rural Development.* Aldershot, UK, Ashgate Publishing: 1 -16.

Economist.Com . 2005. “A Big, Loud French "Non"; France Rejects the EU's Constitution,” *The Economist,* May 31, 2005, 1282 words

Economist.Com. 2001. From Bad to Worse, Down on the Farm. *The Economist.* March 3, 2001: 1287 words.

Economist.Com. 2005. The Europe that Died - The Europe that Died; The Future of Europe, *The Economist,* June 4, 2005: 1382 words

Einarsson P. 2000. *Agricultural Trade Policy as if Food Security and Ecological Sustainability Mattered a Review and Analysis of Alternative Proposals for The Renegotiation of the WTO Agreement on Agriculture.* Stockholm, Forum Syd.

Emerson HJ & DA Gillmor.1999. "The Rural Environment Protection Scheme of the Republic of Ireland." *Land Use Policy* 16 (4): 235-245

Evans N, C Morris & Winter. 2002. "Conceptualizing Agriculture: a Critique of Post-Productivism as the New Orthodoxy." *Progress in Human Geography* 26(3): 313–332.

Fairclough N. 2002. "Language in New Capitalism." *Discourse and Society* 13(2): 163-166.

Fairclough N & E Chiapello. 2002. "Understanding the New Management Ideology: a Transdisciplinary Contribution from Critical Discourse Analysis and New Sociology of Capitalism." *Discourse and Society* 13(2): 185-208.

Fairclough N. 2000. "Language and Neoliberalism." *Discourse and Society* 11(2): 147-148.

Fairclough N. 1996. *Discourse and Social Change.* Oxford, UK, Blackwell Publishers.

Fisher K. 1997. "Locating Frames in the Discursive Universe" *Sociological Research Online.* 2 (3): (http://www.socresonline.org.uk/socresonline/2/3/4.html)

Fix PJ, GN Wallace & AD Bright. 2001. *Public Attitudes about Agriculture in Colorado*, Fort Collins CO, College of Natural Resources, Colorado State University

Foucault M. 1988. "Technologies of the Self." In LH. Martin, H Gutman, PH. Hutton. (Eds). *Technologies of the Self: a Seminar with Michel Foucault*: Amherst, U of Massachusetts Press: 16-49

Foucault M. 1978. *The History of Sexuality.* New York, Random House.

Foucault M. 1973. *The order of things : an archaeology of the human sciences*. New York, Vintage Books.

Freshwater D. 2001. A U.S. Perspective on Multifunctionality. *World Bank Workshop on Multifunctionality*, Washington DC, World Bank.

Friedland WH. 1994. "The New Globalization: The Case of Fresh Produce." in A Bonano, L Busch, W Friedland, L Gouveia, and E Mingione (Eds). *From Columbus to ConAgra: The Globalization of Agriculture and Food*. Lawrence, KS, University of Kansas Press: 210-231

Friedmann H. 1999. "Remaking 'Traditions": How We Eat, What We Eat and the Changing Political Economy of Food." in Deborah Barndt (Ed.) *Women Working the NAFTA Food Chain: Women, Food and Globalization*. Toronto: Second Story Press: 36-60

Furuseth OJ. 1987. "Public Attitudes Toward Local Farmland Protection Programs", *Growth And Change*. 18 (3): 49-61.

Garzon I. (2005). *Multifunctionality of agriculture in the European Union : Is There Substance Behind the Discourse's Smoke* ? Berkeley, Institute of Governmental Studies, University of California at Berkely.

Gelats FLI. 2004. "A Discursive Approach to Agricultural and Rural Policy in Europe". *3rd Global Conference – Environmental Justice & Global Citizenship*, Copenhagen, Denmark, Ecological Economics.

Geertz, Clifford 1973 Thick description: Toward an Interpretive Theory of Culture . In *The Interpretation of Cultures.* C. Geertz, ed. Pp. pp 3-30. New York: Basic Books.

Gille Z & S O'Riain. 2002. "Global Ethnography" *Annual Review of Sociology.* 28: 271-295

Glenna L. 1999. "Systemic Constraints to Ecological Well-Being: The Case of the 1985 Food Security Act" *Rural Sociology* 64 (1): 133-157

Goldman M. 2005. *Imperial Nature.* New Haven CT, Yale University Press.

Goldman M. 2001. “Constructing an Environmental State: Eco-governmentality and other Transnational Practices of a Green' World Bank.” *Social Problems.* 48 (4): 499 – 524.

Goodman D. 2000. "Organic and Conventional Agriculture: Materializing Discourse and Agro-Ecological Managerialism." *Agriculture and Human Values* 17(3): 215.

Goodman D. 2003: The Quality ‘Turn’ and Alternative Food Practices: Reflections and Agenda. *Journal of Rural Studies* 19, 1–7.

Gorman M, J Mannion, J Kinsella & P Bogue. 2001. “Connecting Environmental Management and Farm Household Livelihoods: The Rural Environment Protection Scheme in Ireland.” *Journal of Environmental Policy & Planning* 3(2): 137–147.

Gouveia L. 1994. “Global Strategies and the Local Linkages: The Case of the U.S. Meatpacking Industry.” In A Bonano, L Busch, W Friedland, L Gouveia, & E Mingione (Eds). *From Columbus to ConAgra: The Globalization of Agriculture and Food.* KS, University of Kansas Press: 125-148

Government of Ireland – Department of Agriculture and Food. 2006. *The Rural Environmental Protection Scheme: Basics and Contacts.* Dublin, Ireland, Department of Agriculture and Food. (http://www.agriculture.gov.ie/printindex.jsp?file=areasofi/reps.xml)

Gramsci A. 1971. *Selections from the Prison Notebooks.* Edited and Translated by Q Hoare and GN Smith, London, Wishart.

Gray J. 2000,‘The Common Agricultural Policy and the Re-Invention of the Rural in the European Community’, *Sociologia Ruralis* 40(1): 30-52.

Guthman J. 2004. *Agrarian Dreams: The Paradox of Organic Farming in California.* Berkeley: University of California Press.

Guyomard H, JC Bureau., A Gohin & CL Mouel. 2000. "Impact of the 1996 US FAIR Act on the Common Agricultural Policy in the World Trade Organization Context: The Decoupling Issue." *Food Policy* 25: 17-34.

Hajer M & W Versteeg. 2005. “A Decade of Discourse Analysis of Environmental Politics: Achievements, Challenges, Perspectives.” *Journal of Environmental Policy and Planning*, 7 (3): 175-184

Hajer M. 2003. "Policy without polity? Policy analysis and the institutional void." *Policy Sciences* 36: 175-195.

Hajer M. 1995. The *Politics of Environmental Discourse. Ecological Modernization and the Policy Process*, Oxford / NewYork: Clarendon Press.

Hall A. 1998. "Sustainable Agriculture and Conservation Tillage: Managing the contradictions." *The Canadian Review of Sociology and Anthropology* 35(2): 221-251.

Hall C, A McVittie & D Moran. 2004. “What Does the Public Want from Agriculture and the Countryside? A Review of Evidence and Methods.” *Journal of Rural Studies* 20(2), 211-225

Hall P. 1993: Policy paradigms, social learning and the state: the case of economic policymaking in Britain. *Comparative Politics* 25, 275–96.

Hanley N, M Whitby, & I Simpson. 1999. "Assessing the Success of Agri-environmental Policy in the UK." *Land Use Policy* 16: 67-80.

Hanrahan CE & J Zinn. 2005. *Green Payments in the United States, and European Union Agricultural Policy.* Washington, DC, Congressional Research Service.

Heffernan WD & DH. Constance. 1994. “Transnational Corporations and the Globalization of the Food System.” Pp. 29-51 in *From Columbus to ConAgra: The Globalization of Agriculture and Food*. A Bonanno, L Busch, W Friedland, L Gouveia, and E Mingione. Lawrence, KS :University of Kansas Press.

Hellerstein D. 2002. “Farmland Protection Programs: What Does the Public Want?” *Economic Research Service/USDA, Agricultural Outlook*, 27 –30.

Hermelin B & K Tavernier 2004. "Multifunctionality of Agriculture in the EU-Mercosur Negotiations." *Discussion Papers*, Chaire Mercosur 2(3): (http://chairemercosur.sciences-po.fr/discussion_papers/09_dp_an2_31.pdf).

Higgins V & G Lawrence. 2005. "Introduction: Globalization and Agricultural Governance." In Higgins V & G Lawrence (eds), *Agricultural Governance: Globalization and the New Politics of Regulation.* London, Routeledge: 1-16.

Higgins V & S Lockie. 2002. "Re-discovering the Social: Neoliberalism and Hybrid Practices of Governing in Rural Natural Resource Management." *Journal of Rural Studies* 18: 419-428.

Hinrichs CC. 2003. "The Practice and Politics of Food System Localization." *Journal of Rural Studies*, 19:33-45.

Hinrichs CC. 2000. Embeddedness and local food systems: notes on two types of direct agriculture market. *Journal of Rural Studies* 16, 295–303.

Hoffmann LB. 2001. *Agricultural Functions and Biodiversity - A European Stakeholder Approach to the CBD Agricultural Biodiversity Work Programme*. Tilburg, European Centre for Nature Conservation.

Hollander GM. 2004. **“**Agricultural Trade Liberalization, Multifunctionality, and Sugar in the South Florida landscape”. *Geoforum*, 35(3):299-312.

Holmes J. 2002. "Diversity and Change in Australia's Rangelands: A Post-Productivist Transition with a Difference?" *Transactions of the Institute of British Geographers* 27(3): 362-384.

Johnston H. 2002. “Verification and Proof in Frame and Discourse Analysis.” In Klandermans, B and S Staggenborg, (eds). *Methods of Social Movement Research.* Minneapolis: University of Minnesota Press: 62-91

Juntti M & C Potter. 2002. "Interpreting and Reinterpreting Agri-Environmental Policy: Communication, Trust and Knowledge in the Implementation Process". *Sociologia Ruralis* 42 (3): 215-232.

Kaljonen M. 2006. "Co-construction of Agency and Environmental Management. The Case of Agri-Environmental Policy Implementation at Finnish Farms." *Journal of Rural Studies* 22(2): 205-216.

Keck M & K Sikkink. 1998. *Activists Beyond Borders: Advocacy Networks in International Politics*. Ithaca: Cornell University Press.

Kitchelt H. 1986. "Political Opportunity Structure and Political Protest: Anti-Nuclear Movements in Four Democracies”. *British Journal of Political Science*, 16, pp. 57-85.

Klandermans B, M de Weerd, JM Sabucedo, & M Rodriguez.2001. "Framing contention: Dutch and Spanish Farmers Confront the EU". In DR Imig & S Tarrow, (eds) *Contentious Europeans: Protest and Politics in an Emerging Polity*. Lanham, MD, Rowman & Littlefield: 77-95.

Kleijn D, R. Baquero, Y Clough, M Diaz, J De Esteban, F Fernandez, D Gabriel, F Herzog, A Holzschuh, R Johl, E Knop, A Kruess, EJP Marshall, I Steffan Dewenter, T Tscharntke, J Verhulst, TM West & JL Yela. 2006. "Mixed Biodiversity Benefts of Agri-environment schemes in five countries." *Ecology Letters* 9: 243-254.

Kleinman K & AJ Kinchy. 2003. "Why Ban Bovine Growth Hormone: Science, Social Welfare and the Divergent Biotech Policy Landscapes in Europe and the United States." *Science as Culture* 12(3): 375-414

Kline J & D Wichelns. 1996. "Public Preferences Regarding the Goals of Farmland Preservation Programs," *Land Economics,* 72: 538-549.

Knickel K, JD van der Ploeg & H Renting. 2003. *Multifunktionaliat der Landwirtschaft und des landlichen Raumes: Welche Funktionen sind eigenlitch gemein und wie sind deren Einkommmens- und Beschaftigungspotenziale einzushcatzen.* GEWISOLA, Tagung 2003 an der Universitat Hobenheim Stuttgart.

Korsching PF, E. O. Hoiberg, GL Bultena, SG Padgitt. 2001. "Soil Erosion as a Community Issue: Public Perceptions of Off-Site Impacts." *Society and Natural Resources* 14: 67-76.

Kull S, R Klay, S Stefan, &L Evans, 2004, *Americans on Globalization, Trade and Farm Subsidies*, College Park MD, Program on International Policy Attitudes.

Lang T. 1999. ‘The Complexities of Globalization: The UK as a Case Study of Tensions within the Food system and the Challenge to Food Policy’, *Agriculture and Human Values*, 16, 169-185

Larner W. 2003. “Guest Editorial: Neoliberalism?” *Environment and Planning D: Society and Space.* 21: 509-512.

Lewis D, AJ Bebbington, SPJ Batterbury, E Olson, MS Siddiqi & S Duvall. 2003. “Practice, Power and Meaning Frameworks for Studying Organizational Culture in Multi-Agency Rural Development Projects”. *Journal of International Development*. 15(5): 541-557

Lofland J & LH Lofland. 1995. *Analyzing Social Settings: A Guide to Qualitative Observation and Analysis.* Belmont CA: Wadsworth.

Long N. 2001. *Development Sociology: Actor Perspectives*. London, Routeledge.

Losch B. 2004. “Debating the Multifunctionality of Agriculture: From Trade Negotiations to Development Policies by the South” *Journal of Agrarian Change* 4(3): 336-360.

Lowe P, Buller H, & Ward N. 2002. ‘Setting the next agenda? British and French approaches to the second pillar of the Common Agricultural Policy.’, *Journal of Rural Studies* 18(1): 1-17.

Lyson TA & A Guptill. 2004. “Commodity Agriculture, Civic Agriculture and the Future of US Farming.” *Rural Sociology*. 69(3): 370-385.

Marcus GE. 1995. “Ethnography In/Of the World System: The Emergence of Multi-Sited Ethnography”. *Annual Review of Anthropology,* 24: 95-117

Marsden T. 2006. "The Road Towards Sustainable Rural Development: Issues of theory, policy and practice in a European Context." in Marsden T, P Cloke & P Mooney (eds) *The Handbook of Rural Studies.* London, UK, Sage Publications: 201-212.

Marsden T & R Sonnino. 2005. "Rural Development and Agri-food Governance in Europe: Tracing the development of alternatives." in Higgins V & G Lawrence (eds). *Agricultural Governance: Globalization and the New Politics of Regulation.* London, Routeledge: 50-68.

Marsden T, J Banks, H Renting & JD van der Ploeg. 2001. "The Road Towards Sustainable Rural Development: Issues of Theory, Policy and Research Practice." *Journal of Environmental Policy & Planning* 3: 75–83.

Marsden T. 2001. "New Communities of Interest in Rural Development and Agro-Food Studies: An Exploration of Some Key Concepts." *Rethinking Food Production - Consumption: Integrative Perspectives on Agrarian Restructuring, Agro-Food Networks and Food Politics.* Santa Cruz CA.

Marsden T & J Banks. 2000. "Integrating Agri-Environmental Policy, Farming Systems and Rural Development: Tir Cymen in Wales." *Sociologia Ruralis* 40: 466-488.

Marsden T. 1998. “Agriculture Beyond the Treadmill? Issues for policy, Theory and Research Practice”, *Progress in Human Geography,* 22 (2): 265-275

Mattera P. 2004. “USDA Inc: How Agribusiness Has Hijacked Regulatory Policy At The U.S. Department Of Agriculture.” Released At the F*ood and Agriculture Conference of The*

Organization for Competitive Markets, July 23, 2004, Omaha, Nebraska. (http://www.agribusinessaccountability.org/pdfs/289_USDA%20Inc..pdf)

McAdam D. 1996. "Conceptual Origins, Current Problems, Future Directions." In McAdam, McCarthy and Zald's *Comparative Perspectives on Social Movements*. Cambridge: Cambridge University Press: 23-40.

McCarthy J. 2005. "Rural Geography: Multifunctional Rural Geographies - Reactionary or Radical." *Progress in Human Geography* 29(6): 773-782.

McCarthy J. 2005. "Devolution in the Woods: Community-Based Forestry as Hybrid Neoliberalism." *Environment and Planning A*, 37(6):995–1014.

McMichael P. 2004. *Global Development and the Corporate Food Regime.* Paper Prepared for Symposium on New Directions in the Sociology of Global Development, XI World Congress of Rural Sociology, Trondheim.

McMicheal P, 2003, *Development and Social Change*, London, Pine Forge Press.

McMichael P. 2000. "The Power of Food." *Agriculture and Human Values* 17:21-33.

McMichael P. 2000. "Sleepless in Seattle: what is the WTO about?" *Review of International Political Economy.* 7(3): 466 – 474.

McMichael P. 1996. "Globalization: Myths and Realities." *Rural Sociology* 61(1):25-55

Mol, A. P. J. 1999. "Ecological Modernization and the Environmental Transition of Europe: Between Variations and Common Denominators." *Journal of Environmental Policy and Planning* 1: 167-181.

Montpetit E. 2002. "Policy Networks, Federal Arrangements, and the Development of Environmental Regulations: A Comparison of the Canadian and American Agricultural Sectors." *Governance: An International Journal of Policy, Administration, and Institutions* 15(1): 1-20.

Mooney PH & SA Hunt. 1996. "A Repertoire of Interpretations: Master-frames and Ideological Continuity in US Agrarian Mobilization," *The Sociological Quarterly*, 37(1):177-197.

Morgan K, T Marsden & J Murdoch. 2006. *Worlds of Food: Place, Power and Provenance in the Food Chain*. Oxford UK, Oxford University Press.

Morris C. 2004. 'Networks of Agri-environmental Policy Implementation: a Case Study of England's Countryside Stewardship Scheme', *Land Use Policy*, 21, pp. 177-91.

Morris C & M Winter. 2002. "Barn Owls, Bumble Bees and Beetles: UK Agriculture, Biodiversity and Biodiversity Action Planning." *Journal of Environmental Planning and Management.*45 (5): 653 - 671.

Napier TL & M Tucker. 2001. "Use of Soil and Water Protection Practices Among Farmers in Three Midwest Watersheds." *Environmental Management* 27(2): 269-279.

Noakes JA. 2005. “Official Frames in Social Movement Theory: The FBI, HUAC, and the Communist Threat in Hollywood”. in Johnston H &. J. A. Noakes (eds). *Frames of Protest: Social Movements and the Framing Perspective* Lanham MD, Rowman and Littlefield Publishers Ltd: 89-111.

Norgaard RB. 1981. “Sociosystem and Ecosystem Coevolution in the Amazon”, *Journal of Environmental Economics and Management*, 8 (3): 238 – 254.

Nowak PJ & PE Cabot. 2004. “The Human Dimension of Resource Management Programs.” *Journal of Soil and Water Conservation* 59 (#6, Nov/Dec.): 128A-135A.

Oliver PE & H Johnston. 2005. “What a Good Idea! Ideologies and Frames in Social Movement Research”. In Johnston H & JA Noakes (eds). *Frames of Protest: Social Movements and The Framing Perspective.* Lanham, MD, Rowman & Littlefield: 195-203.

O'Rourke E. 2005. “Socio-Natural Interaction and the Landscape Dynamics in the Burren, Ireland” *Landscape and Urban Planning*, 70: 69-83.

Osgood BT & F Clearfield. 1986. *Sociological Aspects of the Adoption of Conservation Practices.* Washington DC, Soil Conservation Service: 21.

Paarlberg R. 1989. "The Political Economy of American Agricultural Policy: Three Approaches." *American Journal of Agricultural Economics* 71(5): 1157-1164.

PCEE, 1999, *The First Pennsylvania Environmental Readiness for the 21st Century Survey Report*, Pennsylvania Centre for Environmental Education (http://www.pcee.org/Research/research_21stF_1Main.asp)

PDA. 1996. *Chapter 14b: Protection Of Agricultural Operations Fromnuisance Suits And Ordinances.* Harrisburg PA, Pennsylvania Department of Agriculture.

PDA. 2005. *Agriculture, Communities and Rural Environment Initiative.* Harrisburg PA, Pennsylvania Department of Agriculture: (http://www.agriculture.state.pa.us/agriculture/cwp/view.asp?a=3&q=131379)

Peck J. 2004. “Geography and public policy: constructions of neoliberalism”, *Progress in Human Geography*, 28(3): 392-405.

Peet R. 2002. “Ideology, Discourse, and the Geography of Hegemony: From Socialist to Neoliberal Development in Postapartheid South Africa”, *Antipode*, 34 (1): 54 – 84.

Peine E & P McMichael. 2005. "Globalization and Global Governance." in Higgins V & G Lawrence *.Agricultural Governance: Globalization and the New Politics of Regulation.* London, Routeledge: 19-33.

Pijl van der K. 1999. *Transnational classes and international relations*. London: Routledge.

Piore M & C Sable. 1990. *The Second Industrial Divide*. New York, Basic Books.

Ploeg van der JD & H Renting. 2004. "Behind the 'Redux': A Rejoinder to David Goodman." *Sociologia Ruralis* 44: (233-242).

Ploeg van der JD. 2000. “Revitalizing Agriculture: Farming Economically as Starting Ground for Rural Development.” *Sociologia Ruralis.* 40(4): 497-511

Potter C. & M Tilzey. 2005. "Agricultural Policy Discourses in The European Post-Fordist Transition: Neoliberalism, Neomercantilism and Multifunctionality." *Progress in Human Geography* 29(5): 581-600.

Potter C. 2004a. *Agricultural Policy Discourses in a European Post-Fordist Transition: Neo liberalism, neo-mercantilism and multifunctionality,* Paper presented at the International Dimensions on Sustainable Farmland Management Seminar, Sept 16th 2004, University of Exeter, UK.

Potter C. 2004b, “Multifunctionality as a agricultural and rural policy concept.” In Brouwer F (ed). *Sustaining Agriculture and the Rural Environment: Governance, Policy and Multifunctionality.* Cheltenham, UK, Edward Elgar Publishing Limited: 15-35

Potter C & M Tilzey. 2002. "Agricultural Multifunctionality in the WTO: The Implications for the Design of EU Rural Policy." *Environmental Policy and Management Group Working Paper Series*. Wye: 34.

Potter C & J Burney. 2002. “Agricultural Multifunctionality in the WTO—Legitimate Non-Trade Concern or Disguised Protectionism?” *Journal of Rural Studies*, 18 (1): 35-47

Potter C. 1999. "The Double Dividend" In MR Redclift and GP Zanias (eds), *Agriculture and World Trade Liberalization: Socio-Environmental Perspectives on the Common Agricultural Policy,* Wallingford, UK, Cabi Publishing.

Potter C. 1998. *Against the Grain.* Wallingford, UK, CAB International.

Potter C. & P. Goodwin. 1998. "Agricultural liberalization in the European Union: an Analysis of the Implications for Nature Conservation." *Journal of Rural Studies*, 14(3): 287-298.

Purvis T & A Hunt. 1993. “Discourse, Ideology, Discourse, Ideology, Discourse, Ideology ...”, *British Journal of Sociology*, 44 (3): 473 – 499.

Robertson MM. 2000. No Net Loss: Wetland Restoration and the Incomplete Capitalization of Nature. *Antipode* 32 (4), 463-493

Roche M, M McKenna, R Le Heron. 1999. **“**Making Fruitful Comparisons: Southern Hemisphere Producers and the Global Apple Industry”. *Tijdschrift voor Economische en Sociale Geografie*. 90:4 p. 410

Roche M. 2005. “Rural geography: a borderland revisited**”** *Progress in Human Geography*, 29 (3): 299-303

Rodrik D. 2002. “After Neoliberalism, What?”, Paper Presented at a Conference on Alternatives to Neoliberalism, May 23-24, 2002, Washington, DC, *New Rules for Global Finance*: (http://www.new-rules.org/docs/afterneolib/rodrik.pdf)

Rosset, P., 1999. “The multiple functions and benefits of small farm agriculture in the context of global trade negotiations.” *Cultivating Our Futures: FAO/Netherlands Conference on the Multifunctional Character of Agriculture and Land*, September 12–17, Mastricht,, The Netherlands

Ruming KJ. “Partnership, Master Planning and State Provision: a Case Study of 'Actually Existing Neoliberalism' on the Central Coast of New South Wales”. *Geographical Research* 43 (1), 82-92.

Ryan C. 1991. *Prime Time Activism: Media Strategies for Grassroots Organizing.* Boston MA, South End.

Sabatier, P**.** 1998: The advocacy coalition framework: revisions and relevance for Europe. *Journal of European Rural Policy* 5, 98–130.

Scott JC. 1990. *Domination and the Arts of Resistance: Hidden Transcripts.* New Haven CT, Yale University Press.

Scott JC. 1998. *Seeing Like a State.* New Haven CT, Yale University Press.

Sharp, J & M.B. Smith, 2003, “Social capital and farming at the rural–urban interface: the importance of nonfarmer and farmer relations”, *Agricultural Systems*, 76: 913–927

Singletary L & TW Kelsey, 1996, "Nonfarm Attitudes Towards Farming: A Case Study in Chester County, Pennsylvania.", State College PA, *Sustainable Community Development Series, No. 2.* Department of Agricultural Economics and Rural Sociology. Cooperative Extension, The Pennsylvania State University.

Sklair L. 2001. *The Transnational Capitalist Class.* Oxford, UK, Blackwell.

Skogstad, G. 1998: Ideas, Paradigms and Institutions: Agricultural Exceptionalism in the European Union and the United States. *Governance* 11, 463–90.

Snow D, EB Rochford, SK Worden, RD Benford. 1986. “Frame Alignment Processes, Micromobilization and Movement Participation”, *American Sociological Review.* 51 (4): 464-81.

Snow D & R Benford. 1992. "Master-frames and Cycles of Protest", in Morris and Mueller, (eds). *Frontiers of Social Movement Theory,* New Haven, CT, Yale University Press: pp.133-155

Snow D & R Benford. 2000. "Framing Processes and Social Movements: An Overview and Assessment" *Annual Review of Sociology*, 26: 611-639

Sokolow AD. 2000. “Agriculture In Urbanizing Communities”, *Listening Forum, University of California, Davis–July 21, 2000 Outline of Presentation to USDA Policy Advisory Committee on Farmland*. Davis CA, University of California, Davis

Swinbank, A, 2001, 'Multifunctionality: A European Euphemism for Protection’ paper presented at the FWAG Conference, *Multifunctional Agriculture ? A European Model?*, Stoneleigh UK, National Agricultural Centre.

Tandon Y. 1999. “The WTO: A Rich Man's Club?”, *Dialogue Paper,* Geneva, ICTSD

Thomas JK & FM Howell. 2003. “Metropolitan proximity and U.S. agricultural productivity, 1978-1997” *Rural Sociology* 68(3) 366 – 386.

Tilzey M. 2004. “Contested Policy Discourses in a Post-Fordist Agricultural Transition: A Comparative Analysis of the EU and Australia.” *National Europe Centre Paper No. 120* delivered at the National Europe Centre at the Australian National University, 6 February, 2004.

Tilzey M. 2000. "Natural Areas, the Whole Countryside Approach and Sustainable Agriculture." *Land Use Policy* 17: 279-294.

UNSEA. 1992. *Rio Declaration on Environment and Development.* NY, United Nations Department of Social and Economic Affairs: (http://www.un.org/documents/ga/conf151/aconf15126-1annex1.htm)

Walford N. 2002. "Agricultural adjustment: Adoption of and adaptation to policy reform measures by large-scale commercial farmers." *Land Use Policy* 19(3): 243-257.

Welle PG, 2001, ‘*Multiple Benefits from Agriculture: A Survey of Public Values in Minnesota’*, Bemedji MN, Bemedji State University

Westby DL. 2005. “Strategic Imperative, Ideology and Frames”. In Johnston H & JA Noakes (eds) *Frames of Protest: Social Movements and the Framing Perspective*. Lanham MD, Rowman and Littlefield Publishers Ltd: 217-235.

Williams R. 1973. *Marxism and Literature.* Oxford UK. Oxford University Press.

Wilson GA & K Hart. 2001. "Farmer Participation in Agri-environmental Schemes: Towards Conservation Oriented Thinking." *Sociologia Ruralis* 41(2): 254-274.

Wilson GA. 2001. "From Productivism to Post-Productivism .... and back again? Exploring the (un)changed natural and mental landscapes of European Agriculture." T*ransactions of the Institute of British Geographers* 26: 77-102.

Wilson GA. 2003. "'Post-productivist' agricultural regimes and the South: Discordant concepts?" *Progress in Human Geography* 27(6): 681-707.

Wilson GA. 2004. "The Australian Landcare Movement: Towards 'post-productivist' rural governance?", *Journal of Rural Studies,* 20(4):461-484.

Winter M. 2004. "Geographies of Food: Agro-food geographies - Farming, food and politics." *Progress in Human Geography* 28(5): 664-670.

Wortman CS, A. P Chritiansen , KL Glewen, T.A Hejny, J Muliken, J.M Peterson. , DL Varner, S Wortmann, & GL Zoubek. 2005. "Farmer Research: Conventional Experiences and

Guidelines for Alternative Agriculture and Multifunctional Agro-ecosystems." *Renewable Agriculture and Food Systems* 20(4): 243-251.

WTO . 2005. *What is the WTO*. Web page downloaded on January 24th 2005: (http://www.wto.org/english/thewto_e/thewto_e.htm).

Yapa L. 1997. "Reply: Why Discourse Matters Materially" *Annals of the Association of American Geographers*, 87 (4): 717-722

Yin RK. 2002. *Case Study Research: Design and Methods (3rd ed.)*. Thousand Oaks, CA:

APPENDICES

Appendix A: Secondary Data Sources

Chapter 7: The European Union's Rural Development Regulation

CEC. 2006. *The Agricultural Situation in the European Union in 2004.* Brussels, Commission of the European Communities: http://ec.europa.eu/agriculture/publi/agrep2004/comm_155_en.pdf

EuroStat. 2006. *Agriculture, Fisheries, & Forestry.* Brussels, Eurostat: http://epp.eurostat.ec.europa.eu/portal/page?_pageid=1996,45323734&_dad=portal&_schema=PORTAL&screen=welcomeref&open=/&product=Yearlies_new_agriculture&depth=3

Chapter 8: United States Conservation Security Program Chapter

EWG. 2006. "USDA Subsidies for Farms in the United States: Subsidy Summary 1995 – 2004", *Farm Subsidy Database,* Environmental Working Group, Washington DC: http://www.ewg.org/farm/regionsummary.php?fips=00000

USDA – ERS. 2006. "Food and Fiber Sector Indicators", *Amber Waves – The Economics of Food, Farming, Natural Resources, and Rural America*, June 2006 Issue, United States Department of Agriculture – Economic Research Service, Washington, DC: http://www.ers.usda.gov/AmberWaves/June06/

USDA-ERS. 2006. *State Facts Sheet: United States.* United States Department of Agriculture – Economic Research Service, Washington, DC: http://www.ers.usda.gov/StateFacts/US.HTM (lasted updated: August 31, 2006)

USDA-ERS. 2005. *Farm and Farm Related Employment.* United States Department of Agriculture – Economic Research Service, Washington, DC: http://www.ers.usda.gov/Data/FarmandRelatedEmployment (released in March 2005)

USDA – ERS. 2005. "Farm Structure: Glossary", *Briefing Rooms*, United States Department of Agriculture – Economic Research Service, Washington, DC. http://www.ers.usda.gov/Briefing/FarmStructure/glossary.htm

USDA – ERS. 2005. "Fertilizer Use and Price", *Data Sets*, United States Department of Agriculture – National Agricultural Statistics Service, Washington, DC: http://www.ers.usda.gov/Data/FertilizerUse/

USDA – ERS. 2005. "Organic Production", *Data Sets*, United States Department of Agriculture – National Agricultural Statistics Service, Washington, DC: http://www.ers.usda.gov/Data/FertilizerUse/

USDA – NASS. 2002. *Census of Agriculture.* United States Department of Agriculture – National Agricultural Statistics Service, Washington, DC: http://www.nass.usda.gov/Census_of_Agriculture/index.asp

Chapter 9: Agri-environmentalism in Ireland

Burrenbeo. 2006. "Burren Agriculture Overview", *Burrenbeo Website,* Clare, Burrenbeo: http://www.burrenbeo.com/burren-agriculture-overview.aspx?objID=Article

CEC. 2006. *The Agricultural Situation in the European Union in 2004.* Brussels, Commission of the European Communities: http://ec.europa.eu/agriculture/publi/agrep2004/comm_155_en.pdf

CSO. 2000. *Census of Agriculture.* Dublin, Ireland, Central Statistics Office: http://www.cso.ie/px/pxcoa2000/database/census%20of%20agriculture%202000/census%20of%20agriculture%202000.asp

Department of Agriculture and Food. 2005. *Compendium of Irish Agricultural Statistics.* Dublin, Ireland, The Department of Agriculture and Food: http://www.agriculture.gov.ie/index.jsp?file=publicat/compendium2005/home.xml

EuroStat. 2006. *Agriculture, Fisheries, & Forestry.* Brussels, Eurostat: http://epp.eurostat.ec.europa.eu/portal/page?_pageid=1996,45323734&_dad=portal&_schema=PORTAL&screen=welcomeref&open=/&product=Yearlies_new_agriculture&depth=3

Chapter 10: Agri-environmentalism in Pennsylvania

DEP. 2005. "Questions and Answers: Chesapeake Bay Tributary Strategy", *DEP Fact Sheet,* Harrisburg, PA, Pennsylvania Department of Environmental Protection: http://www.depweb.state.pa.us/chesapeake/lib/chesapeake/factsheets/fsdep4050_pa_ches_bay_trib_strat_12-05_faq.pdf

EWG. 2006. "USDA Subsidies for Farms in Pennsylvania: Subsidy Summary 1995 – 2004", *Farm Subsidy Database,* Environmental Working Group, Washington DC: http://www.ewg.org/farm/regionsummary.php?fips=42000

EWG. 2006. "USDA Subsidies for Farms in Bedford PA: Subsidy Summary 1995 – 2004", *Farm Subsidy Database,* Environmental Working Group, Washington DC: http://www.ewg.org/farm/regionsummary.php?fips=42009

PDA. 2006. *Bureau of Farmland Preservation.* Harrisburg PA, Pennsylvania Department of Agriculture. http://www.agriculture.state.pa.us/agriculture/cwp/view.asp?a=3&q=128859

PSU – CAS. 2005. "Frequently Asked Questions", *Pennsylvania Nutrient Management Program,* University Park PA, The Pennsylvania State University – College of Agriculture: http://panutrientmgmt.cas.psu.edu/main_faqs.htm

USDA-ERS. 2006. *State Facts Sheet: Pennsylvania.* United States Department of Agriculture – Economic Research Service, Washington, DC: http://www.ers.usda.gov/StateFacts/US.HTM (lasted updated: August 31, 2006)

USDA – NASS. 2002. *Census of Agriculture.* United States Department of Agriculture – National Agricultural Statistics Service, Washington, DC:

Appendix B: Documentary Sources

Chapter 6: The Green Box and Non Trade Concerns

The World Trade Organization

Date	*Type*	*title*	*Pages*
2004	Background Paper	WTO Agriculture Negotiations The issues, And Where We Are Now (12.01.2004)	87
2006	Fact Sheet 1	Agriculture Negotiations: Background Fact Sheet (10.01.2002)	2
2006	Fact Sheet 2	Understanding The WTO: The Agreements	4
1995	Legal Text 1	Agreement on Agriculture	28
2001	Legal Text 2	Doha Implementation Decision 2001 (11.14.2001)	1
2001	Legal Text 3	Doha Negotiating Mandate (11.01.2001)	1
2004	Legal Text 4	July 2004 Package Annex Framework For Establishing Modalities In Agriculture (08.01.2004)	8
2003	Legal Text 3	Negotiations On Agriculture First Draft Of Modalities For The Further Commitments (03.18.2003)	28
2003	Press Release	Farm Talks Miss Deadline; But 'Work Must Go On', Says Supachai (03.31.2003)	1
2006	Report 3	Chairperson Crawford Falconer's Cover Note for Post Hong Kong Talks (02.01. 2006)	20
2003	Report 1	World Trade Organization. 2003. *Modalities Phase – Chair Report to TNC,* (07.01.2003).	34
2005	Report 2	Negotiations On Agriculture Report By The Chairman, H.E. Crawford Falconer, To The TNC (07.28.2005).	10
2001	Speech 2	Michael Moore – "Agriculture's Stake in WTO Trade Negotiations". Speech in Washington DC, at the Agricultural Outlook Forum (02.23.2001)	6
2000	Speech 1	Michael Moore. Speech - WTO Negotiations: Agriculture and Developing Countries. Paris France,	11

		(12.06.2000).	
2005	Statement	Hong Kong Ministerial Declaration (12.18.2005).	1
			242

Chapter 7: The EU's Rural Development Regulation

The European Trade Delegation

Year	*Type*	*Title*	*Pages*
2000	Statement 1	First Special Session of The Committee On Agriculture, 23-24 March 2000. Statement By The European Communities (04.04.2000).	2
2000	Statement 2	Second Special Session of The Committee On Agriculture, 29-30 June 2000 . Statement By The European Community (11.07. 2000)	3
2000	Statement 3	Third Special Session of The Committee On Agriculture, 28-29 September 2000, Statement By The European Communities (10.05.2000)	2
2000	Statement 4	Fourth Special Session Of The Committee On Agriculture, 15-17 November 2000, Statements By The European Communities (29.11.2000)	5
2001	Statement 5	Seventh Special Session Of The Committee On Agriculture, 26-28 March 2001, Statement By The European Communities (4.04.2001)	2
2005	Speech 5	Mariann Fischer Boel - Family Farmers' Conference On International Trade, Hong Kong, (12.12.2005).	5
2001	Speech 1	Dr. Franz Fischler - EU Aspirations and The Doha Agricultural Negotiations – To Family Farmers Conference On International Trade (09.09.2003)	6
2003	Speech 1	Dr. Franz Fischler - EU Position on Agriculture Before, Kick-Off Of Cancun Ministerial, Opening Press Conference In Cancun (09.09.2003)	3
2004	Speech 2	Moving The WTO Agricultural Negotiations Forward - Press Conference WTO Mini-Ministerial Meeting, Paris (05.14.2004)	3
2005	Speech 4	Marian Fishcher Boel – Speaking Points on WTO Agricultural Negotiations – Meeting With FIPS (05.03.2004)	3

2005	Speech 6	Marian Fishcher Boel – WTO Hong Kong Ministerial: Time To Get Serious, Brussels (12.08.2005).	3
2005	Speech 7	Agriculture: Outlook For Hong Kong – Family Farmers Conference On International Trade (12.12.2005)	3
2005	Speech 8	Mariann Fischer Boel - The Doha Development Agenda And European Agriculture, (11.01.2005).	1
2001	Report	EU Agriculture And The WTO (09.01.2001)	17
2003	Proposal 6	Joint Initiative By EU And USA Presented Today To Trade Partners In Geneva (WTO) With A View To Advancing The Negotiations In The Doha Round Towards A Successful Conclusion In Cancun As Requested By Our Other Trading Partners (8.13.2003)	2
2000	Proposal 1	EC Comprehensive Negotiating Proposal (11.21.2000)	6
.200	Proposal 2	European Communities Proposal on Animal Welfare And Trade In Agriculture to the World Trade Organization, Committee On Agriculture Special Session (06.28.2000)	3
2000	Proposal 3	Trade In Agricultural Goods And Fishery Products - European Communities Proposal: Animal Welfare And Trade In Agriculture (7.27.2000)	6
2002	Proposal 4	The EC's Proposal For Modalities In The WTO Agriculture Negotiations (12.16.2002)	22
2003	Proposal 5	A Proposal For Modalities in The WTO Agriculture Negotiations Specific Drafting Input (5.02.2003)	18
2000	Press Release 2	WTO Agriculture Talks Must Reflect Public Demands On Environment And Rural Development, Says Fischler (09.28.2000)	1
2000	press release 3	International Conference Calls For Inclusion Of Nontrade Concerns In WTO Farm Talks (07.04.2000)	
2001	Press release 4	WTO And Agriculture: "No Disguised Protectionism Via Precautionary Principle", Says EU (07.24.2001)	1
2001	Press release 5	Fischler Sees "Convergence And Conflict" With US	1

		Position On Farm Policy (10.19.2001)	
2001	Press release 6	EU Farm Commissioner Fischler: “Strong Backing From Over 40 Countries For Non-Trade Concerns In Agriculture” (11.10.2001)	1
2002	Press release 7	WTO: " Seeing Through Farm Trade Reform", Says Franz Fischler (04.11.2002)	1
2003	Press release 8	WTO And Agriculture: "The Way Forward To A Balanced Agreement Must Weigh Policies According To Their Trade-Distorting Impact," EU Farm Commissioner Fischler Says (04.06.2003)	1
2003	Press release 9	WTO Cancun: EU Determined To Make Trade Work For All – A Stronger Multilateral Trading System At Hand (09.04.2003)	1
2004	Press release 10	WTO - DDA: EU Ready To Go The Extra Mile In Three Key Areas Of The Talks (05.10.2004)	4
2004	Press release 11	WTO Farm Talks: “Breakthrough Possible If Others Match EU,” Says EU Farm Commissioner Franz Fischler (06.15.2004)	2
2004	Press release 12	WTO: EU Committed To Progress In WTO Negotiations, (07.26.2004)	1
2004	Press release 13	WTO Doha Development Agenda: WTO Mid-Point Agreement Paves The Way For Future Conclusion Of Trade Round – A Stronger Multilateral Trading System, 07.31.2004	5
1999	Press release 1	EU Ready To Negotiate About Agriculture, Franz Fischler Says (11.28.1999)	1
2005	Policy brief	Making Hong Kong A Success: Analysing The EU’s Last Offer On Agriculture (11.01.2005)	4
2003	Memo 1	WTO And Agriculture: The Road To A Successful Agreement, (02.13.2003)	3
2003	Memo 2	Frequently-Asked Questions The WTO And EU, Agriculture Memo (09.04.2003)	6
2005	Memo 3	Doha Round: EU Offer In Agricultural Negotiations, (10.28.2005)	3
2005	Memo 4	Key Facts on EU Agriculture (12.12.2005)	2
2006	Memo 5	Getting The Facts Straight On The EU’s Agriculture Offer In The Doha Round (02.03.2006)	3

2001	Information Note	Information Note To The Commission (11.19.2001)	7
1999	Info—paper 1	Safe-Guarding The Multifunctional Role Of EU Agriculture – Which Instruments (10.01.1999)	3
1999	Info-paper 2	EU Approach On Agriculture – Communication From The European Communities (10.01.1999)	2
1999	Info-paper 3	Contribution Of The European Community On The Multifunctional Character Of Agriculture (10.01.1999)	3
1999	Info-paper 4	Non Trade Concerns (10.01.1999)	2
2005	Info-pack 6	EU Agriculture And The WTO Doha Development Agenda Hong Kong Dec 2005 (10.01.2005)	23
2000	Info-pack 5	The EU's Approach To The WTO Agriculture Negotiations	2
2003	Info Pack 6	EU Agriculture And The WTO (09.01.2003)	20
2005	FAQ	Frequently Asked Questions	6
2003	Fact Sheet 1	Some Facts About The CAP And Cancun	3
2005	Fact Sheet 2	Key Facts On EU Agriculture	2
2005	Fact sheet 3	Why The EU Has Not Matched The US And G20 Offer	2
2005	Fact sheet 4	Agriculture: The EU Position	2
2005	Fact sheet 5	The EU Agriculture Offer – Key Elements	1
2000	Discussion Paper 1	Agriculture's Contribution To Rural Development, International Conference On Non-Trade Concerns In Agriculture, Ullensvang, Norway, 2-4 July 2000 (07.04.200).	7
2000	Discussion Paper 2	Agriculture's Contribution To Environmentally and Culturally Related Non-Trade Concerns, International Conference On Non-Trade Concerns In Agriculture, Ullensvang, Norway, 2-4 July 2000, Discussion Paper Four, Presented By The European Commission (07.04.200).	10
2003	Communication	Reviving The DDA Negotiations – The EU Perspective (Communication From The Commission To The Parliament) (11.26. 2003)	18

2000	Article 1	Comprehensive Proposal For WTO Farm Negotiations (12.13.2000)	2
2001	Article 2	Doha – New Global Trade Round (12.12.2001)	2
2003	Article 3	CAP Reform Strengthens EU Position In WTO Reform (07.20.2003	2
			159

United States Trade Representative

Year	*Type*	*Title*	*Pages*
2005	Fact Sheet 7	Implications of the U.S. Agriculture Proposal on Trade-Distorting Domestic Support (12.01.2005)	2
2005	Fact Sheet 6	Flexibility in Food Aid Critical to Addressing World Hunger (12.01.2005)	1
2005	Fact Sheet 5	Religious Leaders, NGOs and Civil Society Support for U.S. Agriculture Proposal (12.01.2005)	2
2005	Fact Sheet 4	American Agriculture Supports US Agriculture Proposal (12.01.2005)	2
2005	Fact Sheet 3	Broad American Business Support for US Agriculture Proposal (12.01.2005).	2
2005	Fact-sheet 2	U.S. Proposal for the Agricultural Negotiations\ WTO/Hong Kong NGO Roundtable U.S. Department of State (11.04.2005)	2
2004	Fact-sheet 1	Fact Sheet on Framework Agreement at the World Trade Organization: A Win for Farmers and Ranchers (08.06.2004)	2
2004	Media 1	Media Conference Call Ambassador Allen F. Johnson from Geneva (O3.25.2004)	10
2005	Media 4	Media Availability of USTR Portman and USDA Secretary Johanns on the Doha Global Trade Talks (11.09.2005)	6
2005	Media 6	Media Availability of USTR Portman on the Doha Global Trade Talks (11.22.2005)	12
2005	Media 3	Opening Statement As Delivered of Media Availability by US Trade Representative Rob Portman on the US Agriculture Proposal for the Doha Development Agenda (10.14.2005)	3

2005	Media 5	Transcript of Conference Call with U.S. Trade Representative, Ambassador Rob Portman And Agriculture Secretary Mike Johanns Regarding Current Trade Negotiations (11.9.2005)	10
2004	Media 2	Transcript of Press Conference with USTR Zoellick At the Conclusion of WTO General Council Meeting, Geneva, Switzerland ( )	10
2002	Op Ed 3	Bringing Down the Barriers: The U.S. is prepared to tackle its own trade-distorting policies on agriculture if others agree to do the same, The Financial Times, (07.26.2002)	2
2005	Op Ed 1	America's proposal to kickstart the Doha trade talks: Op ed Piece by Ambassador Portman in the Financial Times (10.10.2005)	2
2006	Op-ed 2	Keeping Doha Alive, Op-ed by USTR Rob Portman Washington Times (01.06.2006)	2
2004	Press Release 1	Doha Talks Back on Track as WTO Agrees on Negotiating Framework (07.31.2004)	2
2005	Press Release 2	U.S. Offers Plan on Agriculture for Hong Kong Trade Talks (10.10.2005)	5
2000	Proposal 1	Note on Domestic Support Reform Negotiations on Agriculture, Submission from the United States to the Committee on Agriculture Special Session (06.23.2000)	6
2000	Proposal 2	Proposal for Comprehensive Long-Term Agricultural Trade Reform, (06.23.2000)	6
2005	Speech 3	Opening Remarks of Ambassador Rob Portman United States Trade Representative As Delivered American Business Coalition for Doha Ronald Reagan Building and International Trade Center (10.25.2005).	8
2006	Speech 4	Prepared Remarks of Richard T. Crowder, USTR Chief Agricultural Negotiator, Before The National Cattlemen’s Beef Association Annual Convention (02.03.2006)	6
2006	Speech 7	Remarks by Ambassador Rob Portman United States Trade Representative 2006 USDA Agricultural Outlook Forum February 16, 2006 (02.16.2006).	6

2006	Speech 6	Remarks by Richard T. Crowder, Chief Agricultural Negotiator, U.S. Trade Representative, Before The American Farm Bureau Federation Annual Convention (As Released By The USTR) (02.09.2006).	5
2004	Speech 2	Trade Works For Georgia's Farmers and Producers (10.14.2004)	2
2004	Speech 1	Trade Works For Minnesota Farmers and Ranchers (09.17.2004)	2
2006	Speech 5	Transcript of Amb. Richard Crowder's media session with agricultural reporters (02.08.2006)	6
2000	Statement 1	Statement – Second Special Session of the Committee on Agriculture (06.29.2000)	1
2005	Statement 3	Statement from USTR Spokeswoman Christin Baker (10.28.2005)	1
2005	Statement 2	U.S. Mission to the United Nations in Geneva 9:00 a.m. Press Conference, Opening Statement by Ambassador Allen Johnson USTR Chief Agricultural Negotiator - Agricultural Negotiations under The Doha Development Agenda (04.25.2005).	5
2005	Testimony 3	Statement of The Honorable Peter Allgeier Deputy U.S. Trade Representative Office of the U.S. Trade Representative Committee on Senate Finance Subcommittee International Trade (10.27.2005)	8
2005	Testimony 2	Hearing Of The Senate Agriculture, Nutrition And Forestry Committee, Subject: Status Of The World Trade Organization Negotiations On Agriculture (09.21.2005)	39
2005	Testimony 4	Statement of Rob Portman Ambassador, U.S. Trade Representative, House Committee on Agriculture (11.02.2005),	5
2005	Testimony 1	Statement of Ambassador Robert Portman United States Trade Representative to the Senate Committee on Agriculture, Nutrition, and Forestry (09.21.2005)	4
	Total		187

The International Center for Trade and Sustainable Development

Date	*Type*	*Title*	*Pages*
2002	Article 1	Food Security and Rural Development: African Priorities in WTO Agriculture Negotiations, (Issabelle Mamatty) BRIDGES 6(2) (02.01.2002)	2
2003	Article 2	Facts and Figures, Bridges, 7 (5) 1 (06.01.2003)	1
2003	Article 3	Trading Partners Reserve Judgement on EU CAP Reform (5) (06.01.2003)	1
2003	Article 4	Agricultural Negotiations: Compensation to Small Farmers for Biodiversity Protection, by Santiago Perry, BRIDGES 7(2) (01.03.2003)	2
2004	Article 5	Clay J. 2004. "Commodity Production and Sustainable Development." *Bridges* 8: 5 -7 *()* (3 pages)	3
2004	Article 6	Facts and Figures, Bridges, 8 (5): 1 (05.01.2004)	1
2004	Article 7	TA Wise. 2004. Barking Up the Wrong Tree: Agricultural Subsidies, Dumping and Policy Reform. Bridges, 5 p3-4 (05.01.2004)	2
2002	Discussion Paper 1	Alex Werth: Agri-environment and Rural Development in the Doha Round (Trade Knowledge Network Paper). ISSD & ICTSD (08.01.2002)	72
2002	Discussion Paper 2	Integrating agriculture trade and food security policy: Elements for a development oriented agenda in the context of WTO negotiations (Isabelle Mamaty) (12.02.2002)	6
2002	Discussion Paper 3	Integrating Agriculture, trade and agri-environmental policy: Elements for a sustainable development-oriented agenda in the context of WTO negotiations (Santiago Perry) (12.02.2002)	7
2003	Discussion paper 4	Marianne Jacobsen *ICTSD*, Alex Werth *ICTSD* and Bill Vorley *IIED.* 2003. "International Agricultural Reform and Power Balance in Agrifood Chains". *Policy Views on Trade and Natural Resource Management.* (2 pages) (09.01.2003)	2
2004	Discussion Paper 5	From Trade Negotiations to Global Adjustment –	2

		ICTSD, World Bank, WWF (06.01.2004)	
2004	Discussion Paper 6	Embedding a Pro-poor Approach in Agriculture (07.01.2004)	21
2004	Discussion Paper 3	Commodities and Sustainable Development – The Main Policy Concerns Associated with Commodity Production and Trade (07.01.2004)	30
Total			152

The International Federation of Agricultural Producers

Date	*Type*	*Title*	*Pages*
2002	Briefing Note 1	Towards A Consensus On Agriculture In The WTO Doha Development Round (11.22.2002)	6
2004	Briefing Note 2	The WTO July Framework Package and Beyond, IFAP Briefing Note, By David King, Secretary General of IFAP (07.01.2004).	6
2005	Briefing Note 3	Update on WTO Negotiations IFAP Briefing Note By David King, Secretary General (09.01.2005).	10
2005	Article	IFAP Trade and Development Letter (04.01.2005)	9
1998	Report 1	Rural Poverty And Sustainable Development Final Report (01.01.2005)	28
2003	Speech 3	Overview Of The WTO Agreement on Agriculture by David King, Secretary General, to the 3rd World Dairy, Producers Round Table, Pretoria, South Africa, (05.05.2003).	5
1999	Speech 1	A Farmer's Agenda for the Millennium Round of WTO Trade Negotiations Opening address by Gerard Doornbos, at the IFAP Family Farmers' Summit on Agricultural Trade, Seattle WA, (11.29.1999)	6
2000	Speech 2	“Agriculture In A Global Perspective” by Mr Gerard Doornbos, to the Oxford Farming Conference, Oxford UK, (01.05.2000)	9
2003	Speech 4	“Farmers’ priorities for the Doha Development Round. By Gerard Doornbos,” Chairman IFAP Trade Committee,	4

		1st IFAP Policy Conference, Pretoria, South Africa, (05.08.2003)	
1998	Statement 1	Agricultural Trade Concerns And Consensus Among Farmers' Organizations (01.01.1998).	11
2002	Statement 3	Concerns And Consensus Among Farmers' Organizations - Consolidated Statement (06.13.2002).	28
2000	Statement 2	Some Key Issues For Farmers Concerning A New Round Of Multilateral Trade Negotiations A policy statement by farmers worldwide, Hannover, Germany, (06.31.2000).	14
Total			136

Via Campesina

Date	*Type*	*Title*	*Pages*
2005	Commentary 1	Farming Families and Food, Not Corporate (04.18.05)	3
1999	Position Paper 1	Seattle Declaration: Take the WTO out of Agriculture (12.03.99)	3
1999	Position Paper 2	Women Farmers in Seattle Say NO to WTO (12.03.99)	2
2000	Position Paper 3	Towards Farmers' Rights (10.15.00)	4
2002	Position Paper 4	Proposals for Family farmer based, sustainable agriculture (08.01.02)	11
2003	Position Paper 5	What is Food Sovereignty (01.15.03)	3
2003	Position Paper 6	Position Via Campesina Cancun (08.30.03)	6
2004	Position paper 7	Via Campesino "Food Sovereignty and Trade" For the Sao Paulo Conference (25.05.04)	4
2006	Position Paper 8	CPE position after Hong Kong (01.26.06)	2
2001	Press Release 1	Via Campesina Strongly Condems Doha Declaration (11.15.01)	2
2003	Press Release 2	World Social Forum: Call for mobilization against FTAA and WTO (01.17.03)	2
2003	Press Release 3	Turn Your Bank on the WTO (03.25.03)	2

2003	Press Release 4	Post Cancun Release (11.11.03)	4
2003	Press Release 5	Publication letter of 44 organizations on Agriculture and WTO (12.15.03)	4
2004	Press Release 6	Agricultural Negotiations in the WTO (04.23.04)	6
2001	Statement 1	Priority to peoples Food Sovereignty (11.01.01)	10
2003	Statement 2	Statement on Agriculture After Cancun (09.01.03)	11
2004	Statement 3	Lets Change the Agriculture Policy of the EU (05.24.04)	5
			84

Chapter 7: The EU's Rural Development Regulation

European Commission - Directorate General for Agriculture

Date	*Type*	*Title*	*Pages*
2000	Briefing Note	Commission responds to the Court of Auditors report on "Greening the CAP". (11.09.2000)	2
2001	Press Release 1	Commissioner Fischler in Verona: "Society should be setting the farming agenda" (04.08.2001)	1
2001	Press Release 2	WTO: "EU ready to walk the farm liberalization walk", Franz Fischler says (09.26.2001)	2
2001	Press Release 3	EU Farm Commissioner Franz Fischler visits Mercosur to "build up momentum for successful WTO farm negotiations" (IP/01/1352) (10.03.2001)	4
2001	Press Release 4	Fischler questions farm bill adopted by US House of Representatives (10.10.2001)	1
2002	Press Release 5	Fischler and Byrne – Final Round Table on Agriculture and Food (05.13.2002)	1
2002	Press Release 6	"Towards sustainable farming" Commission presents EU farm policy mid-term review (07.10.2002)	2
2002	Press Release 6	"Paying farmers for what society wants" Franz Fischler presents CAP review in the UK (07.01.2002)	2
2002	Press Release 7	"We won't let Finnish farmers down" Commissioner Fischler presents CAP mid-term review in Finland (07.19.2002)	1
2002	Press Release 9	"Increase money for rural development", study on farming and environment recommends (10.18.2002)	2

2002	Press Release 8	WTO and agriculture: European Commission proposes more market opening, less trade distorting support and a radically better deal for developing countries (12.16.2002)	5
2003	Press Release 10	2nd European Conference on rural development "Planting seeds for rural futures - Rural policy perspectives for a wider Europe" (10.24.2003)	9
2004	Press Release 11	Enlargement and agriculture: EUR 5.76 billion for rural development in new member states (01.15.2004)	2
2004	Press Release 12	"Seize opportunity of EU rural development money", EU Farm Commissioner urges Cypriot farmers (09.09.2004)	2
2005	Press Release 13	Lokker calls for more action to create jobs in rural areas to build a living countryside COR/05/23 (03.17.2005)	1
2005	Press Release 14	Tomorrow's Rural Development policy: broader, simpler, responding better to citizens' concerns (06.21.2005)	2
2001	Memo 1	Agenda 2000 – how the EU promotes quality produce and environmentally - friendly farming (01.05.2001)	2
2001	Memo 1	Questions and answers on agricultural policy, BSE, the environment and quality (04.01.2001)	3
2001	Memo 2	Debate on Agriculture and Food in Europe: Commissioners Fischler and Byrne speak at Public Hearing in the European Parliament - June 20/21 2001 (06.19.2001)	1
2002	Memo 3	BEFORE – AFTER - What the mid-term review for sustainable farming will change (07.10.2002)	7
2002	Memo 4	Enlargement and agriculture: A fair and tailor-made package which benefits farmers in accession countries (12.20.2002)	6
2003	Memo 5	"CAP reform - a long term perspective for sustainable agriculture" - Questions and Answers (01.22.2003)	5
2004	Memo 6	Organic Farming in the EU (06.10.2004)	4
2004	Memo 7	Rural development in the EU (07.15.2004)	5
2005	Memo 8	Rural development in the EU (06.21.2005)	6

2000	Speech Transcript 1	Dr. Franz Fischler, - Community agricultural policy at the dawn of the 21st century, Opening Ceremony for International Green Week (01.13.2000)	5
2000	Speech Transcript 2	Dr. Franz Fischler - A new CAP for a new century, 19th European Agricultural Outlook Conference, London, (03.10.2000)	7
2000	Speech Transcript 3	Dr. Franz Fischler, Incentives and Framework Conditions to promote Sustainable Agriculture, Multi-Stakeholder Dialogue on "Sustainable Agriculture", 8th Session of the Commission on Sustainable Development, New York, (04.25.2000)	4
2000	Speech Transcript 4	Dr. Franz Fischler, Working together towards sustainable rural development in the 21st century from an EU point of view, Rural 21, Potsdam, (06.05.2000)	10
2000	Speech Transcript 5	Dr. Franz Fischler, Promoting The European Food Model: Variety, Quality And Safety, Informal Agricultural Council, Biarritz, (09.05.2000)	6
2001	Speech Transcript 6	Dr. Franz Fischler, "The road ahead for EU agricultural and rural policy", CDU Agricultural Congress "Agriculture's place in the economy - the future of rural areas", Berlin (05.07.2001)	6
2001	Speech Transcript 7	Dr Franz Fischler, EU-US Agriculture Relationship, National Press Club, Washington DC. (05.17.2001)	5
2001	Speech Transcript 8	Dr. Franz Fischler, Agriculture - A mirror of society's concerns - Challenges and Opportunities of the Current Agricultural Debate, Annual Assembly of the Federation of Swedish Farmers Gaevle (Sweden), (05.29.2001)	6
2001	Speech Transcript 9	Dr. Franz Fischler, Agriculture and Agri-Food : A clean green future, Food Industry Information Day, Dublin Castle, Dublin (05.31.2001)	6
2001	Speech Transcript 10	Dr. Franz Fischler, "Choosing our Policy" - European Agriculture meeting the challenges of WTO and Midterm Review, CEA Conference on European Agriculture, Belfast, (09.26.2001)	6
2002	Speech Transcript 11	Dr. Franz Fischler, Sustainable Agriculture for Europe, NFU Annual Conference, London, (02.07.2002)	6
2002	Speech Transcript 12	Dr. Franz Fischler, Putting our Ideas into Practice, Agricultural Policy And Natura 2000, Green Week 2002, Brussels, (04.19.2002)	4

2002	Speech Transcript 13	Dr. Franz Fischler, For the Future of our Farmers and Rural Areas - The Mid-Term Review of the CAP, COSAC meeting, Copenhagen, (09.10.2002)	4
2002	Speech Transcript 14	Dr. Franz Fischler, Perspective of CAP in the enlarged EU, Polish Parliament, Warsaw. (09.12.2002)	5
2002	Speech Transcript 15	Dr. Franz Fischler, The prospects of enlargement for Poland - Seizing Unused Opportunities, Panel discussion event with representatives of farmers' associations, agri business people and NGOs Warsaw, (09.12.2002)	6
2002	Speech Transcript 16	Dr. Franz Fischler, Working together to achieve enlargement: the importance of information, Conference "The Common Agricultural Policy and the challenge of enlargement", Riga, (09.17.2002)	5
2002	Speech Transcript 17	Dr. Franz Fischler, Estonia's Agriculture and Fishery - Challenges of Enlargement, Meeting with representatives of the agricultural and agribusiness sector, Tallinn, (09.17.2002)	5
2002	Speech Transcript 18	Dr. Franz Fischler, European responses to the new challenges facing agriculture, CEA Congress, Tallinn, (09.18.2002)	6
2002	Speech Transcript 19	Dr. Franz Fischler, Rural Development and Mountain Areas: A First Assessment, Seminar "EU policies and the Mountain", Brussels, (10.17.2002)	4
2002	Speech Transcript 20	Dr. Franz Fischler, EU Accession of the Czech Republic - Challenges for Agriculture and Rural Areas, Meeting with Farmers' Associations and Agri Business Representatives, Prague, (11.07.2002)	6
2002	Speech Transcript 21	Dr. Franz Fischler, Towards Sustainable Farming - Ireland and The Common Agricultural Policy, Meeting with agri-business sector, Dublin, (11.11.2002)	6
2003	Speech Transcript 22	Dr. Franz Fischler, CAP reform: a long-term perspective for sustainable development, NFU – National Farmers' Union, Birmingham, (02.18.2003)	7
2003	Speech Transcript 23	Dr. Franz Fischler, Challenges for European agriculture, Advisory Committee on rural development and the common agricultural policy, Brussels, (03.25.2003)	5
2003	Speech Transcript 24	Dr. Franz Fischler, Young Farmers in Europe – CAP Reform and the WTO negotiations, CEJA - European Conference of the Future of Young Farmers, Rome,	4

		(03.29.2003)	
2003	Speech Transcript 25	Dr. Franz Fischler, Future perspectives for organic farming in an enlarged EU, Conference on “Perspectives of Organic Agriculture in an Enlarged EU”, Plovdiv, Bulgaria, (11.21.2003)	6
2004	Speech Transcript 26	Dr. Franz Fischler, Towards a more sustainable agriculture policy, European Conservation of Agriculture Federation (ECAF), Brussels, (02.26.2004)	5
2004	Speech Transcript 27	Dr. Franz Fischler, Quality Food, CAP Reform and PDO/PGI, Congress Fondazione Qualivita, Siena, (04.17.2004)	7
2004	Speech Transcript 28	Dr. Franz Fischler, Joining the EU: Expanding Romania’s horizons, University of Agricultural Sciences and Veterinary Medicine, Bucharest, (10.15.2004)	6
2004	Speech Transcript 29	Mariann Fischer Boel, Protecting our landscape – A contribution from Rural Development, 10th Anniversary of the EEA (European Environment Agency) (11.25.2004)	5
2005	Speech Transcript 30	Mariann Fischer Boel, Rural development and the Lisbon Strategy, European Parliament Agricultural Committee, Brussels, (01.19.2005)	3
2005	Speech Transcript 31	Mariann Fischer Boel,, Taking the CAP Forward, National Farmers' Union - Annual Conference, Birmingham- UK, (02.21.2005)	7
2005	Speech Transcript 32	Mariann Fischer Boel, Agricultural Reform in a Global Context, Schuman Lecture at Oslo University, Oslo, Norway, (05.13.2005)	7
2005	Speech Transcript 33	Mariann Fischer Boel, A changing European agricultural policy in a changing world, Official visit to Chinese Academy of Agricultural Sciences, Beijing, (07.15.2005)	7
2005	Speech Transcript 34	Mariann Fischer Boel, The Common Agriculture Policy: History and Future, Address at the German Marshall Fund, Washington, (09.14.2005)	6
2005	Speech Transcript 35	Mariann Fischer Boel, European agriculture: Future challenges and opportunities”, Congress of European Farmers, Strasbourg, (10.18.2005)	8
1999	Regulation	Council Regulation (EC) No 1257/1999 (05.17.1999)	23

2004	Report	Agriculture and the environment (01.01.2004)	16
1999	Communication 1	Communication from the Commission to the Council: Directions towards sustainable agriculture (01.01.1999)	30
2001	Communication 2	Communication from the Commission to the Council: Biodiversity Action Plan For Agriculture (01.01.2001)	52
1998	Strategy	Council Strategy on Environmental Integration And Sustainable Development In The Common Agricultural Policy Established By The Agricultural Council (01.01.1998)	19
	Total		*420*

Committee of Professional Agricultural Associations

Date	*Type*	*Title*	*Pages*
2004	Press Release 1	COPA And COGECA Strongly Criticise Further Concessions within WTO Negotiations (05.11.2004)	1
2005	Press Release 2	High-Level COPA Seminar On EU Rural Development Policy (01.28.2005)	1
2005	Press Release 3	The Full Consequences Of CAP Reform Are Only Just Beginning To Show - COPA Seminar On The Reformed CAP (02.21.2005)	1
2005	Press Release 4	COPA and COGECA endorse a revitalization of the Lisbon Strategy (04.22.2005)	1
2005	Press Release 5	COPA and COGECA welcome the European Parliament's Agricultural committee's vote on rural development (04.29.2005)	1
2005	Press Release 6	Presidents of COPA and COGECA meet Commissioner for Agriculture Mariann Fisher Boel with concern (05.13.2005)	2
2005	Press Release 7	The COPA Praesidum supports the draft Global Marshall Plan to promote sustainable development (06.13.2005)	1
2005	Press Release 8	European farmers and co-operatives welcome the agreement on the rural development regulation (06.21.2005)	1
2005	Press Release 9	European farm leader warns – it is now time for our trading partners to match the EU'S huge offer in WTO (07.30.2005)	2

2005	Press Release 10	Agriculture and forestry: impacting positively on the EU's climate and energy independence" (09.08.2005)	1
2005	Press Release 11	Andy Robertson (UK) elected Chairman of the COPA-COGECA Working Party on Rural Development (09.27.2005)	1
2005	Press Release 12	European farmers express concerns about a future Soil Framework Directive (10.05.2005)	1
2005	Press Release 13	Sustainable farming in Europe is being put at risk to meet the demands of the world's big traders warn farm leaders (10.05.2005)	1
2005	Press Release 14	US offer on farm subsidies is a sham, (10.14.2005)	2
2005	Press Release 15	COPA President Rudolf Schwarzböck: EU Commission's proposal for WTO negotiations is wrong and irresponsible (11.02.2005)	1
2005	Press Release 16	European farmers meet EU Commission President BARROSO: major concerns about future EU farm policy (11.10.2005)	1
2005	Press Release 17	European farmers meet the President of the Agriculture Council Mrs. Margaret Beckett (11.21.2005).	2
2005	Press Release 18	Trade talks endanger sustainable agriculture – European society's concerns must be respected (11.23.2005).	14
2005	Press Release 19	Promoting crops for non-food purposes: agriculture's contribution to the Lisbon strategy (12.01.2005).	2
2005	Press Release 20	UK Presidency budget proposal breaks promise to farmers and runs counter to having sustainable agriculture (12.08.2005).	1
2005	Press Release 21	Europe's farmers head to Hong Kong with concern (12.09.2005).	1
2005	Press Release 22	WTO Ministerial Conference in Hong Kong: European farmers insist that the EU's latest offer is not in line with the mandate given to its negotiators. (12.14.2005).	1
2005	Press Release 23	European Farmers: WTO Agreement Is Incomplete And One-Sided (12.18.2005)	2
2000	Statement 1	COPA And COGECA's Comments On The EC Comprehensive Negotiating Position Proposal To Be	4

		Submitted To The WTO (11.10.2000)	
2001	Statement 2	COPA and COGECA's Statement On Organic Farming (06.08.2001)	1
2002	Statement 3	A Declaration For Fair And Equitable Agricultural Trade Rules At The WTO (10.25.2002)	4
2003	Statement 4	COPA And COGECA's Position On The Protection Of Designations Of Origin And Geographical Indications For Agricultural Products And Foodstuffs In The Framework Of The WTO Negotiations (06.16.2003)	5
2003	Statement 5	Defending European Agriculture The Fair Trade Way (09.04.2003).	3
2004	Statement 6	Statement By Caroline Trapp, Vice- President of COPA – COGECA, COPA-COGECA Congress (10.01.2004)	7
2004	Statement 7	Statement By Peter Gaemelke President of COPA – COGECA, COPA-COGECA Congress (10.01.2004)	8
2004	Statement 8	Statement By Peter Gaemelke, President of COPA – COGECA, COPA-COGECA Congress (10.06.2004)	8
2004	Statement 9	Reaction Of COPA – COGECA To The Commission Proposal On Support For Rural Development (11.01.2004)	4
2005	Statement 10	COPA – COGECA Expectations In The WTO Negotiations On Agriculture Coming To A Fair And Balanced Agreement (12.01.2005)	5
2005	Statement 11	Joint Declaration Farmers From Developed And Developing Countries Take A Common Position On WTO Negotiations In Agriculture The Voice Of The Majority Of Countries In WTO Is Not Being Heard (12.13.2005)	4
1999	Discussion Paper 1	The European Model Of Agriculture – The Way Ahead (11.01.1999)	14
2001	Discussion Paper 2	Sustainable And Stable Development For European Agriculture COPA and COGECA'S Contribution To The Discussion On A Mid-Term Review Of The CAP (09.18.2001)	12
2002	Discussion Paper 3	Preliminary Reflections On The Proposals Made By The Commission For The Mid-Term Review Of The Common Agricultural Policy (11.20.2002)	4

2002	Discussion Paper 4	Our Vision For The Future: A Sustainable Agriculture For All Europeans (01.01.2002)	8
2003	Discussion Paper 5	Committee Of Agricultural Organizations In The European Union General Committee For Agricultural Cooperation In The European Union, COPA and COGECA'S First Reaction To The Commission's Legislative Proposal For A Mid-Term Reform Of The CAP (04.11.2003).	6
	Total		*131*

The World Wildlife Federation – European Policy Office

Date	*Type*	*Date*	*Pages*
2004	Article 1	What future for environmentally-friendly farmers? (03.05.2004)	2
2004	Article 2	Sustainable olive farming in EU member states' hands, (03.22.2004)	1
2004	Article 3	European sugar leaves environment with bitter taste (11.22.2004)	2
2004	Article 4	Agricultural Reform: Gateway to an Effective Water Policy for Europe (12.21. 2004)	2
2004	Article 5	CAP Reform & The Environment – The Way Forward (12.21. 2004)	3
2005	Article 6	More - not less - money needed to save Europe's countryside, (12.21.2004)	1
2005	Article 7	Europe's Living Countryside, (05.18.2005)	1
2005	Article 8	CAP subsidies worsening Spanish drought, (9.21.2005)	1
2005	Article 9	Agriculture And Biodiversity , (11.13. 2005)	3
2005	Article 10	CAP Impact On The Environment, (12.08.2005)	2
2006	Article 11	Protecting the environment in Europe through sustainable agriculture, (01.30.06)	2
2006	Article 12	Rural development in Europe, (02.14.2006)	2

2006	Article 13	Cork Oak Landscapes threatened by EU funds, (03.03.2006).	1
2002	Background Paper 1	Background Paper, Mid-Term Review Proposals for CAP Reform WWF's Reactions and Environmental Implications (07.09.2002)	4
2005	Background Paper 2	WWF Action For Sugar – Making it Sweeter For Nature (07.01.2005)	8
2002	Discussion Paper 1	The Changing Roles of Agriculture in Europe: A Vision for the Future (02.22.2002)	4
1999	Position Paper 1	Genetically Modified Organisms – WWF Position Statement (05.01.1999)	3
2001	Position Paper 2	Sustainable development should be the objective for the new Agreement on Agriculture (11.01. 2001)	10
2002	Position Paper 3	Enlargement and Agriculture: Enriching Europe, Impoverishing our Rural Environment? (10.01.2002)	12
2002	Report 1	Europe's Rural Futures – The Nature of Rural Development II: *Rural Development in an* *Enlarging European Union* (12.01.2002)	149
2002	Submission 1	Comments on Developing Future CAP Perspectives (03.07.2002)	3
	Total		*216*

The European Farmers Coordination

Date	*Type*	*Date*	*Pages*
1999	Press Release 1	Agenda 200 Negotiations – the international context. (2.15.1999)	1
1999	Press Release 2	Sustainable Agriculture (02.17.1999)	1
1999	Press Release 3	CAP Reform – An Unacceptable Compromise (3.16.1999)	2

1999	Press Release 4	Agenda 2000 – A deplorable CAP without Reorientation (4.28.1999)	1
2000	Press Release 5	Europe Needs Another Common Agricultural Policy (11.9.2000)	2
2001	Press Release 6	Lets Change Common Agricultural Policy (3.16.2001)	1
2002	Press Release 7	Unpolished translation from French (06.27.2002)	1
2002	Press Release 8	European Commission CAP reform Proposals, (07.11.2002)	1
2002	Press Release 9	European Commission CAP reform proposals, (07.11.2002)	3
2003	Press Release 10	Open letter to EU Agriculture Ministers, (03.17.2003)	2
2003	Press Release 11	CAP reform proposals: instruments without social legitimacy, (03.18.2003)	5
2004	Press Release 12	Cotton, olive oil: The priority must be given to the maintenance of a lively countryside in Mediterranean regions (04.20.2004)	2
2004	Press Release 13	Sugar: CPE proposes a different reform for a responsible and sustainable sugar production. (07.20.2004)	3
2004	Press Release 14	European Farmers Coordination (CPE) asks the European Parliament not to approve the nomination of Mrs. Fischer-Boel (09.20.2004)	3
2005	Press Release 15	The European Union jeopardises the rural development (06.14.2005)	1
1999	Press Release 16	Agenda 2000 Negotiations, The Funding of the CAP (02.15.1999)	1
1999	Press Release 17	Press releases from Solidar and CPE two organisations going to Seattle. (11.25.99)	2
2004	Press Release 18	First meeting of CPE with Mrs. Mariann Fischer –Boel, (12.21.2004)	2
2005	Report 1	What are the conditions of legitimacy of public support in agriculture ? (09.01.2005)	21
2000	Statement 1	World Trade – European Agriculture Policy. (03.21.2000)	4

2001	Statement 2	Agricultural practice and environmental problems in Europe from different perspectives – the quality of recent European policies and strategies." (14.05.2001)	5
2001	Statement 3	To Change the Common Agricultural Policy (10.05.2001)	6
2003	Statement 4	Agriculture, food and the rural world – prospects and key issues for the next Common Agricultural Policy (03.01.2003)	6
2003	Statement 5	For A legitimate, Sustainable, and Supportive Common Agricultural Policy (11.01.2003)	6
2004	Statement 6	European and International Call – Lets Change the Common Agricultural Policy (05.24.2004)	3
2005	Statement 7	The rejection of the European Constitutional Treaty by France and Netherlands: An opening to change the orientation of Common Agriculture Policy! When will a referendum on WTO be ? (06.07.2005)	2
	Total		*87*

Chapter 8: The US Conservation Security Program

The Natural Resource Conservation Service

Date	*Type*	*Title*	*Pages*
2004	Fact Sheet 1	CSP Rule Amendment (03.24.2004)	6
2004	Fact Sheet 2	Watershed Selection (07.01.2004)	4
2004	Fact Sheet 3	Key Points – Watershed Selection (07.01.2004)	4
2004	Fact Sheet 4	Questions And Answers – Watershed Selection (07.01.2004)	4
2004	Fact Sheet 5	CSP Brochure (07.14.2004)	2
2005	Fact Sheet 6	Fact Sheet – Conservation Security Program (03.01.2005)	3
2005	Fact Sheet 7	CSP Questions And Answers (04.11.2005)	9
2005	Fact Sheet 8	CSP Program Description (10.01.2005)	3
2003	Federal Register 1	Federal Register Feb 18 2003 Public Notice (02.18.2003)	5

2004	Federal Register 2	[Federal Register: January 2, 2004 (Volume 69, Number 1)] 68 Pages (01.02.2004)	68
2004	Federal Register 3	[Federal Register: June 21, 2004 (Volume 69, Number 118) 70 Pages [Rules And Regulations] , Conservation Security Program; Interim Final Rule And Notice (06.21.2004)	70
2005	Federal Register 4	Federal Register March 25 2005 52 Pages Amendment To The Interim Final Rule (03.25.2005)	52
2006	Federal Register 5	[Federal Register: February 7, 2006 (Volume 71, Number 25)] (02.07.2006)	8
2003	Media Transcript 1	Edited Transcript Of NRCS Emeritus Norman Berg Calling Into C-SPAN's Washington Journal With Question For Secretary Ann M. Veneman, Secretary Gale Norton And Administrator Christine Todd Whitman On "Washington Journal," C-SPAN (03.05.2003)	3
2003	Op Ed Piece 1	Implementing The Conservation Security Program, Agweb.Com Article By Bruce I. Knight, Chief, Natural Resources Conservation Service (07.16.2003)	5
2002	Speech Transcript 1	Deputy Secretary Jim Moseley Farm Bill 2002: National Technical Service Provider Summit, U.S. Department Of Agriculture Washington, D.C. (11.07.2002)	4
2002	Speech Transcript 2	Golden Age Tough Choices, Remarks By Bruce I. Knight, Chief Natural Resources Conservation Service, At The National Conference On Farm Bill Conservation Opportunities, St. Louis, MO, (11.13.2002)	6
2003	Speech Transcript 3	Implementing The New Farm Bill: Year Two Remarks By Bruce I. Knight, Chief, Natural Resources Conservation Service, At The National Association Of Conservation Districts North East Region Meeting, Shepherdstown, WV (08.11.2003)	4
2004	Speech Transcript 4	Conservation And Profitability: Farmers And Ranchers Can Have Both Remarks By Bruce I. Knight, Chief, Natural Resources Conservation Service, At The Legislative Agricultural Chairs Summit, New Orleans, LA (01.20.2004)	5

20004	Speech Transcript 5	Conservation Access For Every Farmer Remarks By Bruce I. Knight, Chief, Natural Resources Conservation Service, At The 21st Annual Small Farmers Conference, Marketing And Trade Show, Albany, GA (02.13.2004)	8
2004	Speech Transcript 6	A Growing Investment In Conservation, Remarks By Gary A. Margheim, Special Assistant To The Chief, Natural Resources Conservation Service At The Joint Wheat Industry Meeting (03.15.2004)	6
2004	Speech Transcript 7	CSPA: A Revolution in Conservation - Remarks By Bruce I. Knight, Chief, Natural Resources Conservation Service At The NRCS National Leadership Team Meeting, Washington, DC (03.17.2004)	10
2004	Speech Transcript 8	Envisioning the Future of Conservation: Remarks By Bruce I. Knight, Chief, Natural Resources Conservation Service, At Farm Foundation Round Table "Sustainable Agriculture, Land Use and Resources in Conflict" (06.17.2004)	7
2004	Speech Transcript 9	Remarks By Bruce I. Knight, Chief, Natural Resources Conservation Service At The Conservation Security Program Debriefing, St. Louis, Mo (10.13.2004)	6
2005	Speech Transcript 10	Implementing The New Farm Bill: Year Three, Remarks By Bruce I. Knight, Chief Natural Resources Conservation Service At The South Carolina Conservation Partnership Conference, Charleston, SC (01.04.2005)	7
2005	Speech Transcript 11	Faith And Innovation In Stewardship, Remarks By Bruce I. Knight, Chief, Natural Resources Conservation Service, Grazing Grass-Fed Beef Field Day Frank Petty Farm, Geneva County, AL (04.23.2005)	8
2005	Speech Transcript 12	Conservation Perspectives In 2005, Remarks By Bruce I. Knight, Chief, Natural Resources Conservation Service, At The American Forage And Grassland Council (AFGC), Annual Meeting, Bloomington, IL (06.14.2005)	10
2005	Speech Transcript 13	A Vision For The Future, Remarks By Bruce I. Knight, Chief, Natural Resources Conservation Service, National Environmental Policy Meeting (06.15.2005)	9
2005	Speech Transcript 14	Combining Conservation And Profitability, Remarks By Bruce I. Knight, Chief, Natural Resources Conservation Service, At The Farm Journal Forum, Washington, DC (06.15.2005)	8

2005	Speech Transcript 15	Conservation In 2006 And Beyond, Remarks By Mark E. Rey, Under Secretary For Natural Resources And Environment U.S. Department Of Agriculture At The NRCS National Leadership Team Meeting, Reno, NV (06.30.2005)	2
2002	Testimony 1	Statement Of Pearlie S. Reed Chief, Natural Resources Conservation Service, United States Department Of Agriculture Before The Senate Appropriations Subcommittee On Agriculture, Rural Development And Related Agencies (03.14.2002)	10
2003	Testimony 2	Statement Of Bruce I. Knight Chief, Natural Resources Conservation Service United States Department Of Agriculture Before The House Appropriations Subcommittee On Agriculture, Rural Development And Related Agencies (03.13.2003)	15
2004	Testimony 3	Statement Of Bruce I. Knight Chief, Natural Resources Conservation Service United States Department Of Agriculture Before The House Appropriations Subcommittee On Agriculture, Rural Development, Food And Drug Administration And Related Agencies (02.26.2004)	11
2004	Testimony 4	Statement Of Bruce I. Knight, Chief, Natural Resources Conservation Service, U.S. Department Of Agriculture Hearing Before the Subcommittee On Forestry, Conservation, And Rural Revitalization Of The Committee On Agriculture, Nutrition, And Forestry, United States Senate, One Hundred Eighth Congress Second Session (05.11.2004)	14
2004	Testimony 5	Statement Of Bruce I. Knight United States Department Of Agriculture Before The Subcommittee On Conservation, Credit, Rural Development And Research House Committee On Agriculture (06.15.2004)	28
2005	Testimony 6	Statement Of Bruce I. Knight Chief, Natural Resources Conservation Service United States Department Of Agriculture Before The Senate Agriculture Appropriations Subcommittee (04.13.2005)	15
2006	Testimony 7	Statement Of Bruce I. Knight, Chief Natural Resources Conservation Service U.S. Department Of Agriculture Before The House Appropriations Committee Subcommittee On Agriculture, Rural Development, Food And Drug Administration, And Related Agencies (03.29.2006)	10

2006	Testimony 8	Statement Of Bruce I. Knight, Chief Natural Resources Conservation Service U.S. Department Of Agriculture Before The Senate Agriculture, Nutrition And Forestry committee (06.07.2006)	25
	Total		*474*

The American Farm Bureau Federation

Date	*Type*	*Title*	*Pages*
1999	Press Release 1	Public Should Pay Fair Share For Habitat Protection (04.14.1999)	2
1999	Press Release 2	Pesticide Elimination Would Lead To More Imported Food (05.11.1999)	5
2000	Press Release 3	Tough Times Require Revamped Approach To Conservation (07.10.2000)	2
2000	Press Release 4	AFBF President Bob Stallman Regarding the Clinton Administration's Implementation of Water Quality Regulations (07.11.2000)	1
2000	Press Release 5	Biotechnology Helping the Environment, Farmers (07.14.2000)	1
2001	Press Release 6	Stallman Urges Governors to Back Conservation Incentives (03.16.2001)	2
2001	Press Release 7	Incentive-based Programs Best for Improving Water Quality (05.21.2001)	2
2002	Press Release 8	State Farm Bureaus Launch Proactive Stewardship Programs (01.07.2002)	2
2002	Press Release 9	AFBF Lists Priorities for Farm Bill Conference Report (02.27.2002)	2
2003	Press Release 10	Farmers Must Tell 'Good Story' of Agriculture (01.19.2003)	2
2003	Press Release 11	Statement by Bob Stallman President, American Farm Bureau Regarding Earth Day (04.21.2003)	1
2003	Press Release 12	ESA Reform Could Help Farmers and Species (07.18.2003)	1
2004	Press Release 13	Farm Programs and Rural Initiatives Are Synonymous (02.17.2004)	1

2004	Press Release 14	Wetland Regulations Confusing and Controversial (03.30.2004)	1
2004	Press Release 15	AFBF Supports Critical Habitat Provisions (04.28.2004)	1
2005	Press Release 16	AFBF Applauds Introduction of Critical Habitat Legislation (03.18.2005)	1
2005	Press Release 17	Better Endangered Species Incentives Needed (11.15.2005)	2
2003	Comment letter 1	Letter to Sec Ann Veneman (05.13.2003)	1
2004	Comment letter 2	Letter, to Sec Ann Veneman (02.12.2004)	1
2004	Comment Letter 3	Letter to Mr Craig Derickson, RE: Conservation Security Program Interim Final Rule, 7 CFR Part 1469. (11.5. 2004)	5
2001	Newsletter Article 1	Landowners Urge Congress to Encourage Conservation (10.01.2001)	2
2002	Newsletter Article 2	Policy Discussion includes conservation (02.19.2002)	1
2002	Newsletter Article 3	, Farm Bill Under Attack (07.29.2002)	1
2002	Newsletter Article 4	Conservation is business as usual (10.07.2002)	3
2002	Newsletter Article 5	FB Conference explores Labor, Conservation (10.21.2002)	2
2003	Newsletter Article 6	Low Dairy Prices, Conservation top North East Concerns (01.20.2003)	2
2003	Newsletter Article 7	Government Outlines two Key Conservation Programs (03.17.2003)	2
2003	Newsletter Article 8	Conservation with Profitability (07.07.2003)	1
2004	Newsletter Article 9	USDA is implementing Conservation Security Program (01.05.2004)	1
2004	Newsletter Article 10	An Opportunity to Conservation Incentives Right (03.22.2004)	2
2004	Newsletter Article	Farmers and Ranchers Protect the Environment	1

	11	(04.19.2004)	
2004	Newsletter Article 12	Farm Bureau Supports Full Conservation Funding (05.11.2004)	2
2004	Newsletter Article 13	Conservation Security Sign Up Begins (06.14.2004)	1
2004	Newsletter Article 14	Farm Bureau Highlights Need for Conservation Funding (06.15.2004)	2
2004	Newsletter Article 15	, Farm Bureau Urges Signing of Conservation Bill into Law (12.10.2004)	1
2005	Newsletter Article 16	Voluntary Incentive Based Approaches Work for Conservation (04.11.2005)	2
2005	Newsletter Article 17	Voluntary, Incentive-Based Approaches Work for Conservation (04.11.2005)	1
2006	Backgrounder 1	Climate Change (05.01.2006)	1
2006	Backgrounder 2	Clean Water Act Jurisdiction (05.01.2006)	1
2006	Backgrounder 3	Endangered Species Act Improvement (05.01.2006)	1
2006	Backgrounder 4	Multilateral Environmental Agreements And Agricultural Trade (05.01.2006)	1
1999	Testimony 1	Statement Of The American Farm Bureau Federation To The Senate Environment And Public Works Committee Regarding The Clean Water Action Plan (05.13.1999)	11
2001	Testimony 2	Statement Of Bob Stallman To The Senate Committee On Agriculture, Nutrition And Forestry (02.28.2001)	3
2001	Testimony 3	Statement Of The American Farm Bureau Federation To The Conservation, Credit, Rural Development And Research Subcommittee House Agriculture Committee Regarding The Conservation Title Of The Next Farm Bill (05.23.2001)	21
2003	Testimony 4	Statement Of The American Farm Bureau Federation To The Fisheries, Wildlife And Water Subcommittee Senate Environment And Public Works Committee Regarding Endangered Species Act Reform (04.10.2003)	6
2004	Testimony 5	Statement of Bob Stallman President American Farm Bureau Federation to the House Agriculture Committee Subcommittee on Conservation, Credit, Rural	5

		Development and Research (06.15.2004)	
2004	Testimony 6	Statement of Mr. Al Christopherson President, Minnesota Farm Bureau to the Senate Committee on Agriculture (05.11.2004)	1
2004	Policy Statement 1	Statement by Bob Stallman Regarding Cooperative Conservation (08.27.2004)	1
	Total		*115*

The Environmental Defense Fund

Date	*Type*	*Title*	*Pages*
2001	Report 1	Food For Thought (01.01.2001)	45
2003	Report 2	The Private Lands Opportunity – The Case for Conservation Incentives (01.01.2003)	21
2004	Comment 1	The Key Relationship between the CSP and Management Intensity Levels (01.01.2004)	1
2004	Comment 2	Comments of Environmental Defense on the Interim Final Rule of the CSP (01.01.2004)	6
2004	Fact Sheet 1	Environmental Defense Center for Conservation Incentives FAQs (09.20.2004)	2
2003	Newsletter Article 1	Farm Bill Conservation Update (02.20.2003)	1
2003	Newsletter Article 2	Environment, Family, Income Benefit on Organic Dairy Farm (11.19.2003)	2
2004	Newsletter Article 3	Bog Turtles Make New Friends: Landowners and Livestock (05.27.2004)	3
2004	Newsletter Article 4	Budget Cuts Threaten Conservation Programs (05.27.2004)\	2
2004	Newsletter Article 5	New Conservation Security Program has Great Potential but Faces Significant Challenges (06.27.2004)	2
2004	Newsletter Article 6	Back from the Brink Highlights Incentives Approaches (08.31.2004)	2
2004	Newsletter Article 7	USDA Conservation Program Update (08.31.2004)	2
2005	Newsletter Article 8	Why Private Lands (01.01.2005)	2
2005	Newsletter Article 9	Audubon California Program (02.24.2005)	2
2005	Newsletter Article 10	Funding Fix Restores Conservation Dollars for Landowners (02.24.2005)	1
	Total		*94*

The National Campaign for Sustainable Agriculture

Year	*Document Type*	*Name*	*Pages*
2003	Action Alert 1	Contact Your Congressional Representative now(08.20.2003)	1
2004	Action Alert 2	Help Save the Conservation Security Program (01.29.2004)	2
2004	Action Alert 3	Key Points for Public Comments to NRCS on the CSP Proposed Rule (01.29.2004)	4
2004	Action Alert 4	Your Comments Needed Now On The Conservation Security Program Interim Final Rule(08.09.2004)	3
2005	Action Alert 5	Alert!!! Fight For Full Funding For CSP! (03.11.2005)	1
2005	Action Alert 6	CSP Budget Alert (03.25.2005)	1
2005	Action Alert 7	Your comments needed now on the Conservation Security Program Revised Interim Final Rule (07.25.2005)	7
2005	Action Alert 8	Sample Comment Letter To USDA (07.25.2005)	1
2005	Action Alert 9	Public Comment on the Interim Rule (07.25.2005)	3
2005	Action Alert 10	CSP Interim Final Rule--Last Chance to Comment! (09.09.2005)	2
2004	Fact Sheet 1	Conservation Security Program Comment Sheet (01.02.2004)	9
2005	Fact Sheet 2	CSP Fact-sheet (01.01.2005)	1
2004	News Article 1	CSP and Ending the Environment and Agricultural War (01.01.2004)	3
2004	News Article 2	Agriculture: Activists question eligibility criteria of farm program (05.12.2004)	2
2002	Open Letter 1	Letter to Chief Bruce Knight of the NRCS (07.01.2002)	6
2003	Open Letter 2	Advanced Notice of Proposed Rulemaking for the Conservation Security Program (Exec Summary) (03.12.2003)	3

2003	Open Letter 3	Conservation Group Letter to USDA (06.21.2003)	1
2003	Open Letter 4	National Sign-on Letter to Senate Appropriations (07.14.2003)	1
2004	Open Letter 5	Proposed Rule for the Conservation Security Program (04.02.2004)	2
2005	Open Letter 6	SIGN-ON LETTER Supporting the Conservation Security Program (06.13.2005)	8
2005	Planning Document 1	Stewardship Incentives Committee (01.01.2005)	4
2003	Policy Statement 1	Advanced Notice of Proposed Rulemaking for the Conservation Security Program (04.12.2003)	29
2003	Policy Statement 2	Bush Administration Announces Proposed Rule For First U.S. Green Payment Farm Program, Abandoning Its Stall Tactics (12.17.2003)	1
2005	Policy Statement 3	Comments of the Sustainable Agriculture Coalition Submitted to the NRCS of the USDA for the Conservation Security Program (09.09.2005)	54
2006	Policy Statement 4	Policy Recommendations for the 2007 Farm Bill Conservation Title Sustainable Agriculture Coalition-MSAWG - Conservation and Environment Committee National Campaign for Sustainable Agriculture - Stewardship Incentives Committee (01.04.2006)	4
2003	Press Release 1	Coalition Applauds Commitment To Restore CSP (02.14.2003)	2
2003	Press Release 2	Landmark Conservation Farm Program Awaits Start-Up (05.13.2003)	3
2003	Press Release 3	House Re-Opens Farm Bill in Appropriations (06.20.2003)	2
2003	Press Release 4	Coalition Applauds Conservation Security Program Restoration (11.25.2003)	1
2004	Press Release 5	Conservation Security Program Launches Sign-up in July, But Only for a Few (01.07.2004)	2
2004	Press Release 6	USDA Announces Scaling Back Of Conservation Security Program (05.03.2004)	2
2004	Press Release 7	SAC Responds to USDA Press Release (05.04.2004)	2

2004	Press Release 8	USDA Announces Scaling Back Of Conservation Security Program (06.03.2004)	3
2004	Press Release 9	USDA to Leave Most Farmers out of Conservation Security Program; Public Input Ignored (06.04.2004)	2
2004	Press Release 10	Farm Conservation Program Plan Still Misses the Mark (06.09.2004)	2
2004	Press Release 11	Conservation Security Program Sign-up Set for July (07.06.2004)	1
2004	Press Release 12	USDA Highlights First Conservation Security Program Sign-Up (08.26.2004)	2
2004	Press Release 13	Congratulations To Senator Harkin For Obtaining Senate Leadership Commitment To Restore Conservation Security Program Funding (10.11.2004)	1
2005	Press Release 14	110 Watershed Selected (08.25.2005)	2
2006	Press Release 15	Conservation Security Program Results Announced (06.07.2006)	2
	Total		*177*

Chapter 9: The Rural Environmental Protection Scheme in Ireland

The Department of Agriculture and Food

Year	*Type*	*Title*	*Pages*
2002	Press Release 1	Walsh Announces Temporary Change To Reps Scheme (07.09.2002)	1
2003	Press Release 2	Minister Highlights Farmers' Role In Protecting The Burren (06.06.2003)	1
2003	Press Release 3	Full Decoupling of Direct Payments (10.19.2003)	2
2003	Press Release 4	Irish Agriculture Entering A New And Interesting Phase In It's Development (10.22.2003)	1
2004	Press Release 5	Farmers Can Apply For New REPS Next Week (05.24.2004)	1
2004	Press Release 6	Commencement Of Farmer Information Meetings On	1

		New Rural Environment Protection Scheme (07.13.2004)	
2004	Press Release 7	Join Reps 3 Now And Safeguard Ongoing Funding, Walsh Urges Farmers (07.21.2004)	2
2004	Press Release 8	Walsh Reflects On The New Era For Irish Agriculture (09.10.2004)	2
2000	Report 1	1999 – 2000 Annual Review and Outlook for Agriculture, Food and Rural Development (04.01.2000)	110
2001	Report 2	2000 – 2001 Annual Review and Outlook for Agriculture, Food and Rural Development (04.01.2001)	100
2002	Report 3	2001 – 2002 Annual Review and Outlook for Agriculture, Food and Rural Development (04.01.2002)	128
2002	Report 4	Eco-Friendly Farming (04.30.2002)	40
2003	Report 5	2002 – 2003 Annual Review and Outlook for Agriculture, Food and Rural Development (04.01.2003)	116
2005	Report 7	2004 – 2005 Annual Review and Outlook for Agriculture, Food and Rural Development (04.01.2005)	78
2001	Speech 1	REPS 2000 and Beyond (O'Cuiv – Minister of State for the Department of Agriculture speaking at the Teagasc Annual REPS conference) (11.01.2001)	7
2001	Speech 2	REPS Situation and Outlook (Speech by Department Official) (11.01.2001)	5
2003	Speech 3	Progress on REPS Mid Term Review (11.04.2003)	3
2004	Speech 4	New Developments in REPS Three (11.03.2004)	5
2004	Strategy 1	Draft Ireland Rural Development National Strategy (01.01.2006)	20
2006	Strategy 2	Agri-Vision 2015: Action Plan	20

		(01.01.2006)	
	Total		*759*

Teagasc – The Agriculture and Food Development Authority

Date	*Type*	*Title*	*Pages*
1999	Press Release 1	Big Income Pay-Off to REPS (11.08.1999)	2
2000	Press Release 2	REPS a Big Cushion to Farm Incomes (11.12.2000)	2
2000	Press Release 3	REPS Leads to Fertiliser Savings (11.12.2000)	2
2001	Press Release 4	Nitrate Vulnerable Zones Could Affect Intensive Farming (11.15.2001)	2
2002	Press Release 5	Teagasc Survey Shows Drop in Fertilizer Usage (07.01.2002)	2
2003	Press Release 6	Minister Launchers New REPS Training Programme (09.05.2003)	1
2004	Press Release 7	Connaught Takes One-Third of all REPS Funding (11.03.2004)	1
2004	Press Release 8	Farmers Urged to Embrace New Environment Scheme (11.03.2004)	2
2002	Report 1	REPS Review and Outlook Based on Teagasc National Farm Survey (11.01.2002)	6
2003	Report 2	Progress on REPS Mid Term Review (Department of Agriculture) (11.04.2003)	5
2004	Report 3	Choosing an Option in REPS Three (Catherine Keena) (11.03.2004)	9
2005	Report 4	Rural Ireland 2025 Foresight Perspectives (01.01.2005)	92
	Total		*124*

The Irish Farmers Association (IFA) & Irish Farmers Journal (IFJ)

Year	*Type*	*Title*	*Pages*
2002	Newsletter Article 1	TDs to be lobbied on new farm income package (08.31.2002)	4
2002	Newsletter Article 2	Row over REPS money(09.14.2002)	2

2002	Newsletter Article 3	Flawed FP scheme appalls Kerry farmers (11.23.2002)	3
2003	Newsletter Article 4	Sweeping changes sought in REPS (01.18.2003)	5
2003	Newsletter Article 5	REPS payments to rise by 30% (04.05.2003)	2
2003	Newsletter Article 6	More fine tuning of REPS 3 (11.29.2003)	1
2004	Newsletter Article 7	IFA reject nitrates action plan at AGM (01.24.2004)	3
2004	Newsletter Article 8	Dept to press ahead with modified REPS 3(02.07.2004)	2
2005	Newsletter Article 9	REPS farms compare favourably with non-REPS farms (01.22.2005)	2
2005	Newsletter Article 10	REPS inspections: a 'necessary part of scheme'(03.19.2005)	3
2005	Newsletter Article 11	'Farming in a non-traditional way' because of REPS (04.09.2005)	3
2005	Newsletter Article 12	The IFA view on REPS (05.28.2005)	3
2005	Newsletter Article 13	Logical decision to join REPS (06.11.2005)	2
2005	Newsletter Article 14	Minister Walsh and IFA clash on REPS cut (06.12.2005)	2
2005	Newsletter Article 15	Future REPS policy(06.18.2005)	4
2005	Newsletter Article 16	Co Mayo - unbeatable in REPS participation (09.17.2005)	2
2005	Newsletter Article 17	REPS participation helps farm development (10.29.2005)	3
2005	Newsletter Article 18	Intensive farmers could have a place in REPS (11.12.2005)	2
2005	Newsletter Article 19	No agreement yet on NPWS callows compensation scheme (11.12.2005)	3
2005	Newsletter Article 20	Breakthrough on thorny REPS issue on Commonages (12.03.2005)	3
2005	Newsletter Article 21	REPS making a difference on a full-time farm (12.10.2005)	2
2006	Newsletter Article 22	Why have farmers not joined REPS? (01.07.2006)	4

2006	Newsletter Article 23	REPS - helping the long term viability of the farm (01.21.2006)	3
2006	Newsletter Article 24	Teagasc boycott (01.21.2006)	2
2006	Newsletter Article 25	Nitrates Directive will have severe effect on REPS farmers (01.28.2006)	5
2006	Newsletter Article 26	REPS 4 proposal - providing facilities to the public (02.04.2006)	3
2006	Newsletter Article 27	Burren to benefit from LIFE Project (02.11.2006)	3
	Total		*76*

An Taisce

Date	*Type*	*Title*	*Page*
2001	Press Release 1	An Taisce calls for action on Wildlife Act (02.28.2001)	1
2002	Press Release 2	An Taisce welcomes improved hedgerow protection (03.15.2002)	2
2002	Press Release 3	Leitrim Farmers Must Face Up To Environmental Problems (06.09.2002)	1
2002	Press Release 4	An Taisce Responds to Criticism by IFA (09.6.2002)	2
2004	Press Release 5	Lough Derg Closed due to Toxic Algal Bloom (08.04.2004)	1
2004	Press Release 6	Water Pollution Threatens Angling Tourism in West (12.05.2004)	2
2003	Strategy 1	An Taisce's Recommendations for the Environment 2003: (01.01.2003)	1
2004	Strategy 2	An Taisce Biodiversity Strategy 2004 (01.01.2004)	3
1998	Submission 1	Submission to the Agri-vision 2015 Committee (11.28.1998)	22
2005	Submission 2	Review of the Rural Environmental Protection Scheme (12.09.2005)	11
	Total		*46*

The Irish Organic Farmers and Growers Association

Date	*Type*	*Title*	*Pages*
2000	Fact Sheet 1	Organic Farming in Ireland 2000 (01.01.2000)	6
2005	Newsletter Article 1	After twenty years of organic farming Michael Hickey considers he is Living in Agreement with Nature (01.01.2005)	3
2005	Newsletter Article 2	EU Policy Creates More Poor Farmers (01.01.2005)	2
2006	Newsletter Article 3	REPS 4 Consultative Process (01.02.2006)	2
2000	Op Ed 1	Organic farming interests frustrated (Irish Farmers Journal) (09.23.2000)	4
2004	Op Ed 2	Making Sense of Organic Farming (Western People) (09.01.2004)	2
1999	Submission 1	Agri-vision 2015 Submission (01.01.1999)	3
2005	Submission 2	REPS 4 Submissions from IOFGA (12.01.2005)	1
	Total		*24*

Case Study of the Burren

Date	*Type*	*Title*	*Pages*
2006	Breaking News - Newspaper Article 1	Beef Bid to Save Local Farming (02.05.2006)	2
2005	Burrenbeo - Webpage 1	Agriculture Overview (01.01.2005)	7
2005	BurrenLIFE - Webpage 2	Burren Life Description (01.01.2005)	10
2006	BurrenLIFE - Newsletter Article 1	Project News – January 2006 (01.01.2006)	1
2005	BurrenLIFE - Newsletter Article 2	Project Annual Newsletter (01.20.2005)	6
2005	BurrenLIFE - Press Release 1	Sustaining Agriculture in the Burren (01.01.2005)	3
2005	BurrenLIFE - Press Release 2	Important European Commission Visit to the Burren (06.28.2005)	4

2005	BurrenLIFE - Press Release 3	Launch of Heritage Education Programme (12.29.2005)	2
2005	BurrenLIFE - Report 1	Summary of 1st Year Progress Report for European Commission (09.01.2005)	9
2005	BurrenLIFE - Submission 1	Submission Made to the Department of Agriculture and Food Johnstown Castle Estate Wexford On the Rural Environment Protection Scheme No. 4 'REPS 4' (12.08.2005)	13
2005	BurrenLIFE - Tender Request 1	Request for Tender - Study on the Potential for Developing New Markets for Burren Produce (12.01.2005)	1
2004	Clare Animal Welfare - Report 1	Presentation to the Clare Environmental Forum on Burren feral goats (10.01.2004)	4
2005	Clare Champion - Newspaper Article 1	Burren farming LIVES (07.08.2005)	1
2005	Clare Champion - Newspaper Article 2	The Burren and its farmers must be protected (01.09.2005)	1
2004	Clare Champion - Newspaper Article 3	Unauthorised goat cull leads to more carnage in Carron (11.26.2004)	1
2005	Clare Champion - Newspaper Article 4	Farmers Supportive of Project (09.05.2005)	1
1999	Heritage Council - Report 1	An Assessment of Farming Prescriptions Under the Rural Environment Protection Scheme in the Uplands of the Burren Karstic Region, Co. Clare (10.01.1999)	10
2000	Heritage Council - Newsletter Article 1	Burren farms welcome international conservation experts (11.01.2000)	1
1999	Heritage Council - Report 1	Getting it Right for the Burren - A review of the effectiveness of the Rural Environment Protection Scheme. A joint statement from the Heritage Council and the local Irish Farmers' Association on recommendations and improvements to the Rural Environmental Protection Scheme in the Burren, Co. Clare (01.01.1999)	4
2006	Irish Farmers Journal - Newspaper Article 1	Burren to benefit from LIFE Project (02.11.2006)	3
2005	Irish Farmers Journal - Newspaper Article 2	Farming for conservation in the Burren (04.02.2005)	2

2001	Irish Farmers Journal - Newspaper Article 3	Burren's future 'looks bleak' (04.14.2001)	2
1999	Irish Farmers Journal - Newspaper Article 4	Discontent in the Burren (09.11.1999)	3
2005	Irish Farmers Journal - Newspaper Article 5	Farming in a non-traditional way' because of REPS (04.09.2005)	3
2000	Irish Farmers Journal - Newspaper Article 6	REPS in the Burren uplands (02.12.2000)	4
	Total		*96*

Chapter 10: Case Study of Agri-environmentalism in Pennsylvania

Official Actors in Pennsylvania

Date	*Type*	*Title*	*Pages*
2002	DEP - Fact Sheet 1	Pennsylvania A Leader in Preserving the Chesapeake Bay (11.01.2002)	5
2003	DEP - Fact Sheet 2	Pennsylvania's Chesapeake Bay Tributary Strategy, *Goals for Nutrient and Sediment Reduction and Habitat Restoration (10.01.2003)*	6
2004	DEP - Strategy 1	Chesapeake Bay Tributary Strategy (08.12.2004)	128
2006	DEP - Technical Guidelines 1	Agricultural Nutrient Management Requirements In Pennsylvania (03.24.2006)	10
2000	PANRCS - Report 1	Land, Water, and People (01.01.2000)	5
2005	PANRCS - Press Release 1	Pennsylvania Receives Nearly $14.6 Million For Voluntary Conservation Programs (01.01.2005)	2
2005	PANRCS - Press Release 2	Carlisle Farm Wins Top Environmental Award (06.25.2005)	2
2005	PANRCS - Press Release 3	Two Pennsylvania Watersheds Selected For 2006 Conservation Security Program (08.01.2005)	1
2005	PANRCS - Press Release 4	Pennsylvania Ag Producers Urged To Apply Now For Conservation Programs (11.23.2005)	1
2006	PANRCS - Press Release 5	USDA-NRCS Offers Funding Assistance For Centre And Clinton County Landowners Interested In Establishing Wildlife Habitat (04.01.2006)	1

2006	PANRCS - Press Release 6	Pennsylvania USDA-NRCS Receives $2.7 Million To Protect Farm Lands (04.14.2006)	2
2006	PANRCS - Press Release 7	USDA Secretary Johanns And Senator Santorum Honor Pennsylvania's No-Till Efforts (04.24.2006)	3
2005	PANRCS - Technical Guidelines 1	CSP Water Quality Eligibility Tool For Cropland Applications (12.01.2005)	9
2005	PANRCS - Technical Guidelines 1	Water Quality Eligibility Criteria for Grazing Lands (12.01.2005)	2
2006	PANRCS - Technical Guidelines 2	French Creek Watershed General Habitat Self-Assessment Questionnaire Cropland, Hayland, Or Pasture (01.01.2006)	4
2006	PANRCS - Technical Guidelines 3	Monocacy River Watershed Tree Farm General Habitat Self-Assessment Questionnaire Christmas Tree Farms (02.01.2006)	2
2006	PANRCS - Technical Guidelines 4	Conservation Security Program Pennsylvania French Creek Watershed Meadowlark Self-Assessment Questionnaire (02.01.2006)	1
2006	PANRCS - Technical Guidelines 5	French Creek Watershed Wildlife Habitat Self-Assessment Questionnaire: Sugarbush (02.01.2006)	1
2006	PANRCS - Technical Guidelines 6	Monocacy River Watershed Kestrel Self-Assessment Questionnaire (02.24.2006)	1
2006	PANRCS - Technical Guidelines 7	Monocacy River Watershed Hayland Or Pasture Self-Assessment Questionnaire (02.24.2006)	1
2006	PANRCS - Technical Guidelines 8	Monocacy River Watershed Green Frog Self-Assessment Questionnaire (02.24.2006)	1
1999	PCP - Report 1	A Conservation Catalogue: Practices for the Conservation of Pennsylvania's Natural Resources	28
2003	SCC - Report 1	2003 Annual Report (01.01.1999)	8
1997	SCC - Strategy 1	Nutrient Management Act Program (10.01.1997)	5
	Total		*229*

The Pennsylvania Farm Bureau

Date	*Type*	*Title*	*Pages*
2004	Fact Sheet 1	Talking Points on Chesapeake Bay Foundation (01.01.2004)	1
2005	Fact Sheet 2	Priority Issues (01.01.2005)	5
2005	Fact Sheet 3	Ag Facts and Statistics(01.01.2005)	2
2005	Fact Sheet 4	Profile of Pennsylvania Agriculture (01.01.2005)	3
2005	Fact Sheet 5	State Issues (01.01.2005)	5
2005	Fact Sheet 6	Talking Points for National Agriculture Week (01.01.2005)	2
2005	Fact Sheet 7	Talking Points on Agriculture's Future (01.01.2005)	1
2005	Fact Sheet 8	Talking Points on Local Regulations (01.01.2005)	1
2005	Fact Sheet 9	Talking Points on Governor Rendels proposal (01.01.2005)	1
2004	Policy Statement 9	Views on Illegal Ordinances (01.01.2004)	1
2004	Policy Statement 10	Take Action on Proposed Farm Bill Cuts (01.01.2004)	1
2004	Testimony 1	Testimony of Jim Brubaker of Union County before the House Agriculture and Rural Affairs Committee on the Rendell Administration's ACRE initiative (08.19.2004)	4
2004	Testimony 2	Comments of Carl T. Shaffer to the House Agriculture and Rural Affairs Committee Public Hearing - August 19, 2004 Good Morning. (08.19.2004)	2
2004	Testimony 3	Testimony of Chris R. Hoffman on behalf of Pennsylvania Farm Bureau to the Environmental Quality Board and the State Conservation Commission regarding the Proposed Regulations Amendments to Chapters 91 and 92 (Concentrated Animal Feeding Operations) and Chapter 83 (Nutrient Management) of Title 25 of the *Pennsylvania Code* (10.13.2004)	9
2004	Testimony 4	Testimony of James S. Junkin on behalf of Pennsylvania Farm Bureau to the Environmental Quality Board and the State Conservation Commission regarding the Proposed Regulations Amendments to Chapters 91 and 92 (10.13.2004)	6

2005	Testimony 5	EPA Air Quality Compliance Agreement Comments Submitted on behalf of the Pennsylvania Farm Bureau (03.01.2005)	7
2005	Testimony 6	Pennsylvania Farm Bureau Testimony Before The Pennsylvania Senate Agriculture And Rural Affairs Committee (09.06.2005)	6
2005	Testimony 7	Testimony of the Pennsylvania Farm Bureau, Pennsylvania State Grange and Penn Ag Industries Association Before the Senate Environmental Resources and Energy Committee and Agriculture and Rural Affairs Committee Regarding the Department of Environmental Protection's Chesapeake Bay Tributary Strategy (09.20.2005)	6
2006	Testimony 8	Shaffer Testimony To: US House Committee on Agriculture Subcommittee on Conservation, Credit, Rural Development & Research (05.01.2006)	5
2006	Testimony 9	Hearing sponsored by PA Hunger Action Center (06.06.2006)	2
2005	Testimony 10	Testimony of Stephen Burkholder of Berks County before the House Agriculture and Rural Affairs Committee on Illegal Local Ordinances August 19, 2004 (08.19.2005)	3
	Total		*69*

Citizens For Pennsylvania's Future

Year	*Type*	*Title*	*Pages*
2000	Fact Sheet 1	The Answer, My Friend (#219)	2
2001	Fact Sheet 2	A Pig in a Poke (#313)	4
2001	Fact Sheet 3	Creating Deadlier Bacteria (#321)	3
2002	Fact Sheet 4	SOOEY! Calling Hogs in Harrisburg (#410)	3
2002	Fact Sheet 5	Food for Thought (#416)	2
2002	Fact Sheet 6	Politics and Manure: Just Tricks, No Treats (#422)	3
2003	Fact Sheet 7	Tax Relief, Through the Looking Glass (#512)	2
2003	Fact Sheet 8	Old MacDonald Had a ... Factory (#521)	4

2003	Fact Sheet 9	Day of Reckoning (#526)	2
2004	Fact Sheet 10	Halftime Report from the Manure Bowl (#601)	2
2004	Fact Sheet 11	The Pile of Manure in the Middle of the Room (#615)	2
2004	Fact Sheet 12	Hurricane Warning (#620)	2
2006	Fact Sheet 13	Guess What's Coming to Dinner (#812)	2
2004	Testimony 1	Testimony on Proposed Factory Farm Regulation Changes by Kim Snell-Zarcone, (10.13.2004)	3
2004	Testimony 2	Comments on Pennsylvania's Proposed Water Quality Management and Concentrated Animal Feeding Operation (CAFO) Regulations by Kim Snell-Zarcone,	72
2004	Testimony 3	Comments on Pennsylvania's Proposed Nutrient Management Plan Regulations by Kim Snell-Zarcone	67
	Total		*173*

The Pennsylvania Association for Sustainable Agriculture

Year	*Type*	*Title*	*Pages*
2004	Newsletter Article 1	In for the long haul (Newsletter #48)	1
2004	Newsletter Article 2	The Challenge of Sustainability (Newsletter #48)	1
2004	Newsletter Article 3	In Constrast (Newsletter #49)	1
2004	Newsletter Article 4	Food For thought: Opinion, A perspective on Farmland (Newsletter #50)	2
2004	Newsletter Article 5	The Unfolding Story of Raw Milk (Newsletter #50)	1
2004	Newsletter Article 6	Plenty of Work to do (Newsletter #50)	1
2004	Newsletter Article 7	From Here to There (Newsletter #51)	1
2004	Newsletter Article 8	The rebirth of hope (Newsletter #51)	1
2004	Newsletter Article 9	When Quality Becomes King (Newsletter #52)	1
2004	Newsletter Article 10	The Challenge of Education King, p7. (Newsletter #52)	1
2005	Newsletter Article 11	Farewell to Woe is me Farming (Newsletter #53)	1
2005	Newsletter Article 12	Leftovers (Newsletter #53)	1
	Total		*13*

Bedford County Case Study

2006	SWCD Strategy	Bedford Soil and Water Conservation District – Chesapeake Bay Tributary Strategy, Bedford County Implementation Plan	34
2004	SAC Report	Southern Allegheny Conservancy Project Report	11
	Total		*45*

Appendix C: Question Schedules

Question Schedule: Ireland

1. How does agriculture contribute to the quality of life in Ireland?

2. How does agriculture contribute to the quality of the natural environment in Ireland?

3. What factors undermine agriculture's contribution to the quality of the natural environment in Ireland?

4. How does agriculture detract from the quality of the natural environment in Ireland?

5. Who do you believe has responsibility for maximizing the benefits associated with agriculture and minimizing the costs?

6. Does the rural environmental protection scheme enhance the contribution of agriculture to the quality of the natural environment in Ireland? If so, how?

7. What do you consider the strengths of the rural environmental protection scheme to be?

8. What do you consider the weaknesses of the rural environmental protection scheme to be?

9. What lessons do you think the Irish Government could learn from its experience of implementing the rural environmental protection scheme?

10. What lessons do you think the European Directorate General for Agriculture and Food could learn form the experience of implementing the rural environmental protection scheme?

11. How can the rural environmental protection scheme be improved?

Question Schedule: The Burren Co Clare

1. How does agriculture contribute to the quality of life in the Burren Co Clare?

2. How does agriculture contribute to the quality of the natural environment in the Burren Co Clare?

3. What factors undermine agriculture's contribution to the quality of the natural environment in the Burren Co Clare?

4. How does agriculture detract from the quality of the natural environment in the Burren Co Clare?

5. Who do you believe has responsibility for maximizing the benefits associated with agriculture and minimizing the costs?

6. Does the rural environmental protection scheme enhance the contribution of agriculture to the quality of the natural environment in the Burren Co Clare? If so, how?

7. What do you consider the strengths of the rural environmental protection scheme to be?

8. What do you consider the weaknesses of the rural environmental protection scheme to be?

9. What lessons do you think the Irish Government could learn from its experience of implementing the rural environmental protection scheme in the Burren Co Clare?

10. What lessons do you think the European Directorate General for Agriculture and Food could learn form the experience of implementing the rural environmental protection scheme in the Burren Co Clare?

11. How can the rural environmental protection scheme be improved?

Question Schedule: Pennsylvania

1. How does agriculture contribute to the quality of life in Pennsylvania?

2. How does agriculture contribute to the quality of the natural environment in Pennsylvania?

3. What factors undermine agriculture's contribution to the quality of the natural environment in Pennsylvania?

4. How does agriculture detract from the quality of the natural environment in Pennsylvania?

5. Who do you believe has responsibility for maximizing the benefits associated with agriculture and minimizing the costs?

6. Does the conservation security program enhance the contribution of agriculture to the quality of the natural environment? If so, how?

7. What do you consider the strengths of the conservation security program to be?

8. What do you consider the weaknesses of the conservation security program to be?

9. What lessons do you think the Federal Government could learn from implementing the conservation security program?

10. How can the conservation security program be improved?

Question Schedule: Bedford County

12. How does agriculture contribute to the quality of life in Bedford County?

13. How does agriculture contribute to the quality of the natural environment in Bedford County?

14. What factors undermine agriculture's contribution to the quality of the natural environment in Bedford Co?

15. How does agriculture detract from the quality of the natural environment in Bedford Co?

16. Who do you believe has responsibility for maximizing the benefits associated with agriculture and minimizing the costs?

17. Does the conservation security program enhance the contribution of agriculture to the quality of the natural environment in Bedford County? If so, how?

18. What do you consider the strengths of the conservation security program as it is being implemented in Bedford County to be?

19. What do you consider the weaknesses of the conservation security program to be, as it is being implemented in Bedford County?

20. What lessons do you think the Federal Government could learn from implementing the conservation security program in Bedford County?

21. How can the conservation security program be improved?

VITA: MARTIN H. LENIHAN

Education

PhD in Rural Sociology, The Pennsylvania State University, 2006

MSc Rural Development, National University of Ireland Dublin, 1998.

BA Sociology and Geography, National University of Ireland Maynooth, 1996

Employment History

August 2003 – December 2006: Graduate Research Assistant, Department of Agricultural Economics and Rural Sociology, The Pennsylvania State University

July 2001 – June 2003: Food Security Project Officer, Trocaire (Irish Aid Agency) & Catholic Relief Services, Ouagadougou, Burkina Faso.

November 1998 – June 2001 Research and Evaluation Officer for People Against Unemployment Limerick (PAUL) Partnership, Limerick City, Ireland.

December 1997 – November 1998: Enterprise and Employment Advisor for the Mountmellick Community Development Association, Mountmellick, Co, Laois, Ireland.

Honors & Awards

May 2006: Recipient of the Department of Agricultural Economics and Rural Sociology Kenneth P Wilkinson Award ($750)

Dec 2005: Recipient of The Pennsylvania State University Alumni Dissertation Award, Competitively Awarded ($5000)

Sept 2005: Travel grant for field research in Ireland secured from the College of Agricultural Science's International Program's Office ($750).

Aug 2005: Recipient of the Rural Sociological Society Dissertation Award, Competitively Awarded ($3250)