INCREASING COMMUNICATION EFFECTIVENESS AND EFFICIENCY 
BETWEEN THE DEPARTMENT OF AGRICULTURE AND 
THE CYPRIOT FARMERS THEY SERVE 

A Dissertation in 
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by 
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ABSTRACT

An exploratory research study was conducted to determine the current practices of communicating information between the officers of the Cypriot Department of Agriculture and farmers in Cyprus. The study included the farmers’ perceptions of the communication effectiveness and efficiency. The variables studied were type and content of information, method of communication, and training which farmers received during 2009.

The study was a first attempt to identify the current communication links between the Department of Agriculture in Cyprus and the Cypriot farmers and to suggest ways to improve communication both in terms of effectiveness and efficiency. This study provides an opportunity to assess the methods and practices that the officers in the Department of Agriculture in Cyprus use to communicate with the people they serve, the farmers. By identifying possible strengths, weaknesses and problems in communication, this study aims to strengthen the Extension Service of the Department of Agriculture. This study also invites ideas and suggestions from farmers regarding how they believe the communication between the Department of Agriculture and themselves can be improved.

The study used a descriptive survey research methodology. The study was organized into three phases and two interview schedules were developed to collect the data. During phase one, preliminary information was gathered by the researcher to determine broad parameters for questions to be developed for use in phase two of the study. For phase two, an interview schedule was used to gather information from key
personnel representing producer organizations in Cyprus. Information gathered during phase two was utilized to develop an interview schedule for phase three. In phase three, data were collected from a stratified random sample of 225 Cypriot farmers. A total of 124 farmers were interviewed during phase three of the study, resulting in a 55% response rate.

A large number of the farmers participating in the research indicated that they did not receive information or training from the Department of Agriculture during 2009; several farmers reported, however, that they receive information and training from other sources. When the communication methods were analyzed, the farmers indicated that they prefer written materials to be sent to them (such as leaflets in the mail, specialized newsletters, and the “farmer” magazine). In addition, visits from both agricultural specialists and district Extension officers were also high on the farmers’ preference list. Although the farmers indicated that they would like to see the farming television program “Countryside” to continue, they would prefer it on a different day and time. Their enthusiasm for the radio program “The hour of the countryside” was not as great. Finally, only few farmers, mainly the larger commercial farms, preferred electronic communication methods, such as email and the internet.

Given the findings from the study, it is recommended that a communication strategy should be developed, by which the Department of Agriculture becomes more apparent and relevant to the farmers it serves.
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Chapter 1

INTRODUCTION

Importance of the Study

The need for further development of the Extension Service in Cyprus has been recognized in the past (Neocleous, 1995). The Extension Service needs to be reorganized and strengthened as well as operate with more efficiency (Neocleous, 1995). Extension officers appear to use most of their working time dealing with regulatory work. With the expansion of part time farming in Cyprus, Extension employees find it difficult to establish contact with farmers. Additionally the Extension Service has been weakened as a result of urbanization and migration of youth to towns (Neocleous, 1995).

After the presidential elections in Cyprus in February 2008, the new Minister for Agriculture placed communication with farmers high on his agenda. The Extension Service in Cyprus is a main function of the Department of Agriculture (DOA). Disseminating information, knowledge and skills have always been the cornerstone of the Department of Agriculture (DOA, 2010); however there is no record of evaluation of the Extension Service in recent years. Therefore, this researcher was charged by the Director of the Department of Agriculture with evaluating the current level, type, and quality of communication between the Department of Agriculture and farmers. Further, the researcher was charged with determining if there is a communication breakdown, and if one exists, to assess the extent of the problem and to provide recommendations to remedy
the problem. This study could be the first step in an ongoing communications strategy. As the agricultural sector’s contribution to GDP continues to decline from 3.4% in 2000 to 2.2% in 2007 (CY Statistics, 2007), it is important that the Department of Agriculture provides full educational support to the remaining farmers to stop even further deterioration of the sector and further loss of farming. The Extension program and the rest of the Department of Agriculture can develop many “technical programs” to assist the farming community. Unless strong communication exists among officers and between officers and farmers, then each officer may be running the risk of not addressing the real needs of the farming community (Blackburn, 1984).

**Background and Significance of the Problem**

Cyprus is a small island located in the eastern Mediterranean Sea. A map of the Country is shown in Figure 1.1. The total area of the island is 9,251 sq Km. However following a military invasion by Turkey in 1974, the island has been forcibly divided (Markou & Stavris, 2006). The southern part of the island, which is approximately 63% of the total area of the island, is controlled under the officially and internationally recognized Government of the Republic of Cyprus. The remaining 37% in the northern part remains under Turkish occupation which is not internationally recognized by any country with the exception of Turkey (Neocleous, 1995; Markou & Stavris, 2006). In 2006 the population of Cyprus was 779,000 (CY Statistics, 2007).
Figure 1.1 - Map of Cyprus. (Source: Cyprus Tourist Organization)
Traditionally Cyprus had a farming character. Today, however, agriculture’s contribution to Gross Domestic Product (GDP) has declined to only 2.2% (CY Statistics, 2007). Additionally employment in agriculture is only 6.6% of the total economically active population, and Agricultural exports contribute 23.8% to total exports (CY Statistics, 2007).

Because of its strategic location between Europe, Asia and Africa and the Suez Canal (Figure 1.1), Cyprus has always been subject to foreign rule until its independence from Britain in 1960. Most of the governing structure for Cyprus was organized by the British Government while Cyprus was still under colonial rule and the structure remained much the same after Cyprus gained independence in 1960.

Under this structure, the Extension Service in Cyprus is a major function of the Department of Agriculture (DOA). The DOA is one of 12 departments that come under the jurisdiction of the Ministry of Agriculture (and hence under the political influence of the Minister of Agriculture) (MOA online, 2010). The Extension Service provides educational outreach programs to farmers by making available to them up-to-date research-based information. Prior to independence from Britain, limited alternative opportunities for education existed and agriculture was the main employment for the population (Persianis, 1996; Rappas, 2009). Therefore, the Extension Service played a critical role in agricultural development by helping to improve the quality and quantity of agricultural products (Andrew, 1975).

However after independence from Britain, other educational opportunities were soon available to all Cypriots. Cypriot citizens were given the opportunity to attend universities in Greece at no cost and with no required entrance exams (no universities
existed in Cyprus until 1990) (Persianis, 1996). Younger generations chose to be educated in fields other than agriculture which was considered a physically demanding profession. This factor, together with the fact that other sectors like tourism and services also developed, meant that the Extension Service lost its importance and the entire agricultural sector declined. Employment in agriculture decreased considerably and the sector became dominated by the older generation especially as many younger people moved to urban areas. Furthermore, much of the traditionally agricultural land, particularly by the sea, has been converted to tourist developments.

Since Cyprus’ accession to the European Union (EU) in May 2004, the DOA and the agricultural sector in general have been challenged even further (About Cyprus, PIO, 2007). The DOA’s role has changed from providing an Extension Service with outreach programs to Regulation Policing. Under the EU rules, farmers and other beneficiaries can only gain funding if they meet certain criteria. Therefore, the DOA officers’ primary job is to certify that the farmers who receive benefits abide by the EU’s standards and requirements in order to protect the environment, to protect the public, animal and plant health as well as to safeguard animal welfare and keep the land in good agricultural and environmental condition (European Union, 2010). Furthermore, for any new Extension programs to be developed and implemented within the framework of the Cyprus Rural Development Program, prior approval by the European Commission is now required.

Moreover, the agricultural sector was further challenged by cheaper (mainly European) imports that flooded the domestic market, resulting in much of the Cypriot produce remaining unsold. As a consequence, farms are being abandoned or converted into housing or tourist developments.
The reduction in the number of citizens who enter university programs in agriculture has also had a negative impact on the DOA. This trend led to a shortfall in the number of graduates suitable for employment by the Department of Agriculture. For many years the DOA was understaffed and communication between the DOA and the farmers entered a period of decline. Another problem that the officers’ confronted is the fact that they were all foreign-trained (since no University existed in Cyprus) and hence much of their knowledge was not always relevant to Cypriot farming. Recently, in 2007, the new Technological University of Cyprus opened, offering a limited number of agricultural courses.

**Purpose of the Study**

The purpose of this study was to identify the current communication links between the Department of Agriculture in Cyprus and the Cypriot farmers and suggest ways to strengthen communication both in terms of effectiveness and efficiency. This study provides an opportunity to assess the existing methods and practices that the officers in the Department of Agriculture in Cyprus use to communicate with the people they serve, the farmers. By identifying possible strengths, weaknesses and problems in communication, this study aims to strengthen the Extension Service of the Department of Agriculture. Finally, this study also invited ideas and suggestions from farmers regarding how they believe the communication between the Department of Agriculture and themselves can further improve.
Research Questions

Four major questions guided the research.

1. What type of agriculture-related information do farmers receive from the Department of Agriculture or other sources? How do the participants rate the quality of this information?

2. What type of agriculture-related training do farmers receive from the Department of Agriculture or other sources? How do the participants rate the quality of this training?

3. What methods of communication are used between the Department of Agriculture and Cypriot farmers? Are these the methods that farmers prefer?

4. What recommendations do farmers have to improve the information, training, and contact between them and the Department of Agriculture?

Limitations of the Study

This study can be characterized as “action research”. The limitations that should be noted with this study relate to generalizability and frame.

1. The results are only applicable to the Republic of Cyprus and to the specific population studied.

2. Although the respondents were drawn from a random sample provided by the farmers’ registers within the Department of Agriculture, the danger exists that not all the farming population are included in that register. In addition, the frame included several different registers and not a complete one since data are held by agricultural sector. Each register may not have been collected or updated to the same level as the
others. Finally, the registers may not reflect all of the real farmers as sometimes the land owners’ names are listed, rather than the names of those actually farming the land.
Chapter 2

REVIEW OF LITERATURE

This chapter will present literature regarding agricultural Extension in Cyprus and what the profession considers to be agricultural extension education. In this chapter, the theoretical framework of this study will also be presented. Finally, the chapter will present measurements for extension effectiveness.

Cyprus Agricultural Extension

The history of Cyprus dates back to 8200 BC (About Cyprus, PIO, 2007). Because of the strategic location of the island, Cyprus was conquered by various nations in the past. The last foreign ruling power, Britain, took over the island from the Ottoman Turks in 1878. Cyprus remained a British colony until 1960, the year that the island was granted independence (About Cyprus, PIO, 2007).

Prior to Independence (1960)

During the early years of the British administration, the colonial government realized that their colonial educational policy was not appropriate for Cyprus. Cyprus had certain characteristics that made it distinct from most of the other British Colonies. Cypriots were white, mostly Christians, with a western culture. The society was not tribal and prior to Colonization, Cyprus had developed a primary and secondary school system
In addition, Cypriots did not feel “culturally inferior” (Persianis, 1996, p.48) as they considered themselves to be “descendants of the ancient Greeks” (Persianis, 1996, p.48). Therefore, the colonial educational policy had to be adapted to fit the particularities of Cyprus. Furthermore, during that same era, about 83% of the Cypriot population was living in rural areas and did not typically travel outside their local villages. This, along with the language barrier (Cypriots did not speak English and the British did not speak Greek or Turkish), made communication between rulers and subjects even more difficult.

After the British occupied Egypt in 1882, Cyprus became less important to the Colonial rulers since Britain could control the Suez Canal from Egypt. Therefore, the British Government adopted a policy of a “necessary minimum expenditure” for the island (Persianis, 1996, p. 47). As a result, the island’s administration decided that primary education was adequate for the Cypriots and there was no justification for secondary education (Persianis, 1996). Furthermore, they recommended an alternative to secondary education in the form of “agricultural, industrial and technical education” (Persianis, 1996, p.54). This policy remained only a recommendation. Two main reasons the latter recommendation was not implemented were the considerable costs involved in setting up the alternative education and the negative attitudes of the Greek Cypriots toward agricultural and technical qualifications (Persianis, 1996). Cypriots considered technical and agricultural schools as an inferior and low-class education. (Persianis, 1996)

From the beginning, however, the British administration included agricultural education within the newly adapted education policy since it believed that rural education
was vital to meet the needs and the socioeconomic conditions of the islanders (Persianis, 1996). Therefore, the administration tried to subsidize the establishment of elementary schools and use those elementary schools as a vehicle for rural development. In addition, an attempt was made to establish a governmental agricultural school in Nicosia with the aim to “afford a moderate agricultural instruction to students of the farming class, so as to fit them to go back to their villages with enlightened views and some practical knowledge of modern methods of husbandry” (Persianis, 1996, p.55). Additionally, the Department of Agriculture Extension Services provided gardening training to elementary school boys in the school gardens and needlework training to the school girls. Finally, the British administration encouraged the establishment of the Agricultural Teaching College in Morphou, which was strategically located near the central government farm. Both the college and the farms aimed to provide “practical and theoretical training in agriculture, suitable to rural conditions in Cyprus” (Persianis, 1996, p. 60). However, these measures were considered inadequate and they became outdated very quickly (Persianis, 1996).

After Independence (1960)

The British policies had a distinct influence on the Cypriot post-colonial structures and policies (Persianis, 1996). Although the agricultural sector in Cyprus expanded after the independence in 1960, the Turkish invasion in 1974 halted that expansion and agriculture has been declining rapidly ever since (About Cyprus, PIO, 2007). Agriculture’s contribution to GDP has declined from 3.4% in 2000 to 2.2% in 2007 (CY Statistics, 2007). The invasion meant the subsequent loss of the most fertile agricultural land, which accounted for about 46% of the total crop production; it also
meant that many farmers were displaced to less productive parts of the country (About Cyprus, PIO, 2007; Markou & Stavri, 2006). Furthermore, the Turkish invasion meant that another major industry, tourism, also suffered a devastating blow since the two main tourist areas of Kyrenia and Famagusta came under Turkish control. As a result, the government has undertaken measures to rebuild tourism as it was believed that doing so was the way for fast economic growth (About Cyprus, PIO, 2007). This policy, however, caused direct competition between tourism and agriculture for the remaining land. At the same time, agriculture had to compete with the expanding service industry for labor resources.

A fundamental barrier that Cypriot agriculture faced was the fragmentation of landholdings (Burton, 1988). This fragmentation is the result of the traditional inheritance system where land is divided into shares and passed from generation to generation. Land fragmentation imposed a barrier on the development of agriculture since farmers waste time and money to move among plots. Plots may be too small or of an irregular shape so that farm machinery can either not be used at all or not be used efficiently (Burton, 1988). Additionally, in Cyprus there is no river with running water or lakes, therefore, chronic water shortages are very common. Land fragmentation may also mean that irrigation systems cannot be managed effectively (Burton, 1988; Markou & Stavri, 2006). In summary, land fragmentation is a major barrier to economies of scale in agricultural production (Markou & Stavri, 2006). In an attempt to overcome this difficulty, the Cyprus government has pursued a land consolidation policy by which land was taken away, redistributed and given back as bigger but fewer plots to farmers (Burton, 1988).
To some extent, this procedure has helped production agriculture become more capital-intensive (Burton, 1988).

In addition to the land consolidation policy, the Cypriot government adopted “an enormous unique investment programme” (Neocleous, 1995, p.1-2) aiming to overcome the various natural handicaps, develop agriculture further and as a result to improve the standard of living in the rural areas (Neocleous, 1995). This program, in which the Extension Service was deeply involved, included reinforcement of the research and extension services, reallocation of water resources to certain endangered areas, expansion of the irrigated areas and maintenance of endangered plantations, and increased production and productivity. The program was designed to encourage increased exports of agricultural products and reduce imports by encouraging farmers to grow local substitutes for these imports (Neocleous, 1995). Finally, the program also aimed to keep the agricultural population in the rural areas. Therefore another project was running at the same time, the project to encourage youth (up to the age 35) to stay in rural areas (Neocleous, 1995; Aristides, 1995). This youth project included 1) financial assistance in the form of long-term low interest loans in order to establish viable agricultural holdings and 2) training to the eligible youth for a period of up to three months (Aristides, 1995). The Extension Service of the Department of Agriculture was responsible for providing support and guidance for applicants to complete an agroeconomic study which would demonstrate viability of the holdings. Extension was also responsible to provide the practical and theoretical training to all participants (Aristides, 1995).

In 2005, the agricultural sector, including forestry and hunting, contributed 2.7% to the Gross Domestic Product and employed 7.9% of the total economically active
population (About Cyprus, PIO, 2007). Main agricultural products included potatoes (especially early varieties), salad vegetables, olives and olive oil, citrus fruit, vine products (grapes and wine), meat (beef, pork and poultry) as well as milk (cow, sheep and goat) (Cyprus NSP, 2006).

Cypriot agriculture is characterized by part-time farming. This phenomenon is not unique to Cyprus since part-time farming is a feature of agriculture in all countries no matter what their stage of development, economic system, political creed or culture (Gasson, 1983). According to a study conducted by Ansell, Bishop and Upton (1984), in 1977, 54% of all agricultural holders in Cyprus were part-time farmers. Farming was not the main source of income for the majority of farmers in Cyprus. A reasonable explanation for this occurrence can be found in the system of land inheritance in Cyprus. Younger generations although employed in occupations other than farming, receive land from their parents usually as a dowry. Since the land can be divided among several children, the land given to each is often inadequate to create a viable full time farm for most farmers. Furthermore, the attitude to part time farming should be noted. Few people in Cyprus are willing to sell land and many “feel under a traditional obligation to cultivate their inherited land” (Ansell, Bishop, & Upton, 1984, p.viii). In addition, many people who migrate to the towns for employment believe that they will return to retire to their villages, and therefore, they cultivate the land in preparation for their retirement.


In May 2004, Cyprus became a full member of the European Union and this accession has created a new environment for Cypriot agriculture. In addition, accession
has increased competition for agricultural products (About Cyprus, PIO, 2007). The Extension Service has operated during all of the aforementioned developments and has tried to support Cypriot farmers through the transition, by informing farmers of the anticipated changes affecting agriculture and thus making farmers more receptive to change (Phokaides, 2002). During this time, the Extension Service has helped to transform agriculture in Cyprus by helping to improve cultivation and crop protection methods. Extension also worked to develop husbandry standards and encouraged producers to focus on producing quality products (Andrew, 1975; Andrew, 1976).

One thing, however, that has changed little since 1960 is the structure of the Extension Service. As already mentioned, the Extension Service in Cyprus is the responsibility of the Department of Agriculture, one of the twelve departments under the jurisdiction of the Ministry of Agriculture, Natural Resources and Environment. The Ministry of Agriculture, Natural Resources and Environment in Cyprus consists of three divisions, namely the Agriculture division, the Natural Resources division and the Environment Division. The Department of Agriculture belongs to the Agricultural division of the Ministry of Agriculture, Natural Resources and Environment (MOA, 2010). The structure of the Cypriot Ministry of Agriculture, Natural Resources and Environment is illustrated in Figure 2.1.
The Department of Agriculture is managed by a Director and three Deputy Directors. The organizational structure of the Department of Agriculture is shown in Figure 2.2 (DOA, 2010). The head office in Nicosia and the Viticulture and Oenology section in Limassol employ approximately 101 officers and 120 assistants. Extension work is mainly coordinated by the Extension Section at the headquarters in Nicosia in association with six District Agricultural Offices of the Department. Together, the Extension section and the six District offices form the Agricultural Extension Service (Neocleous, 1995). The Extension section includes five sectors: Extension Program Planning and Implementation, Program Evaluation, Publicity, Home Economics, and National Rural Network (Neocleous, 1995; DOA, 2010). The Extension section coordinates all of the Extension activities with the close cooperation of the District
offices and the other specialist sections of the Department of Agriculture. Furthermore, wherever and whenever needed, the Extension sector communicates with other Departments within the Ministry of Agriculture so that a comprehensive solution can be initiated to resolve a farming problem (Neocleous, 1995).

The six Extension District Offices employ approximately 41 officers and 68 assistants who are responsible for all the towns and villages in the areas under the control of the government of the Republic of Cyprus. A map with the six District offices is shown in Figure 2.3. Since the Turkish occupation of 1974, the District Office in Kyrenia is not operational. This “refugee office” is sharing premises with the Nicosia District Office. For practical purposes and for facilitation of extension activities, the District offices are subdivided further into 30 areas called “agricultural beats” (Neocleous, 1995, p.26). The number of villages within each beat differs depending on the density of the
population as well as the intensity of production in the area. Each beat in theory is served by an Extension agricultural officer, who is a university graduate with an agricultural degree. The agricultural officers are assisted by agricultural or animal husbandry technicians (Neocleous, 1995).

Figure 2-3. The Cyprus Agriculture District Offices.

The objectives of the Agricultural Extension Service in Cyprus is to inform the Ministry of Agriculture, Natural Resources and Environment as well as the Agricultural Research Institute about problems that farmers encounter, to train farmers on innovations regarding agriculture and home economics, and to plan, promote and evaluate Extension programs and other agricultural projects (Neocleous, 1995). Extension employees use extension communication methods to carry out those objectives. The communication
methods used by the Extension Service in Cyprus are classified into three categories (Neocleous, 1995; DOA, 2010):

1) *Individual* methods, which include personal contacts, telephone contacts and written letters,

2) *Group* methods, which include result and method demonstrations, lectures, seminars, short training courses, educational field trips, and

3) *Mass* methods, which include television and radio agricultural programs, leaflets, bulletins, publications, a quarterly magazine, a biannual agricultural fair, information campaigns and daily press.

**Agricultural Extension Education**

Agricultural Extension has different functions throughout the world. Agricultural Extension can trace its origins back to 1850 both in the United States and the United Kingdom. In the United Kingdom, two of the oldest universities in England, Oxford and Cambridge, tried to identify methods to better “serve the educational needs, near to their homes, of the rapidly growing populations in the industrial, urban area” (Jones & Garforth, 1997, p.3). At the same time, the Morrill Act and the Land grant movement were emerging in the United States (Jones & Garforth, 1997). Jones and Garforth (1997) argued that Extension and more specifically University extension, was born as a result of the success that the “Society for the Diffusion of Useful Knowledge” had in England. University extension initially focused on literary and social topics. Agricultural topics started to emerge by the end of the 19th Century and they were more apparent in rural areas (Jones & Garforth, 1997). Jones and Garforth (1997) also argued that the English
model was the one that influenced the creation of Extension Services in other places in the world. According to Van den Ban and Hawkins (1996), the widely acceptable meaning of extension “involves the conscious use of communication of information to help people form sound opinions and make good decisions” (p. 9).

In order for agricultural Extension to be successful, several “ingredients” need to be present (Jones & Garforth, 1997). These ingredients included the need for innovative and relevant information to be assembled and systematized. Furthermore, this information should be made available and used to educate agriculturists so that they can disseminate the knowledge even further, to the end user. In addition, Extension needed legislation to support it, protect it and provide a framework by which the various activities (scheduled or unplanned/emergency) could be carried out. Last, a successful Extension incorporates a variety of methods used to disseminate all the necessary information (Jones & Garforth, 1997). This last ingredient is particularly critical to extension as the success of the service relies not only on the content of the information but also in the way that the information is delivered (Campbell & Barker, 1997).

Appropriateness is, however, dependent on the recipient; therefore, extension has to acknowledge that “one size does not fit all”. Extension’s clientele can be diverse in many ways (age, gender, ethnicity and cultural background, education, access to resources such as land, water, labor, capital markets) (Campbell & Barker, 1997). Therefore, recognizing those differences in a variety of delivery/communication methods is vital in order to disseminate the information to the largest possible audience/clientele.

Extension involves a series of interactions and interventions (Leeuwis, 2004). The aim of Extension is to achieve “cognitive changes” and consequently bring about other
changes such as “human practices, growth of crops” (Leeuwis, 2004, p.27). Literature shows that traditionally farmers receive information from various sources (Van den Ban & Hawkins, 1996). These sources include extension organizations (governmental or private, i.e. consultants), companies supplying input goods such as fertilizers and pesticides, or companies and organizations (such as farming organizations) which buy produce or act as middle men to the sale. Other sources include radio, television and print materials such as journals, magazines, and newsletters (Van den Ban & Hawkins, 1996). Additionally, farmers’ experiences are also becoming a source of information and this information is shared among themselves.

A strong linkage between agricultural research and extension is vital for the future of agriculture. However, this linkage is very weak in many countries (Van den Ban & Hawkins, 1996). To strengthen the linkage, researchers and extension officers need to make field visits together. The researchers’ knowledge of the problem and the extension officers’ knowledge of the farming system are complementary to each other and will provide an informed solution to a specific farming problem (Van den Ban & Hawkins, 1996). Many extension officers, however, do not seem to understand the importance of strengthening this bond because “lack of transportation and/or paperwork too often confine them (the extension officers) to the office” (Van den Ban & Hawkins, 1996, p.27).

Although in general literature confirms the importance of Extension and its vital role in increasing farm performance, some recent articles appear to criticize Extension arguing that public funds allocated to Extension have been a waste of money (Anderson, 2007). Governments are becoming more aware of the public’s frustration in using tax
money for services that do not seem of high priority. An underlying explanation of this frustration could be the fact that Extension does not reach as many clients as it used to in the past. The number of farmers that Extension is serving has been steadily decreasing (Richardson, 2005). Critics have suggested that Extension personnel “like to hide” behind multiple tasks (Richardson, 2005, p.196). In many cases, Extension still produces effective programs. However, in the cases where the programs prove unsuccessful or the impacts of the programs are not evident to the tax-paying public, then there is an obvious unwillingness to support funding of those Extension programs (Richardson, 2005).

Since the agricultural sector is changing, the needs of the farmers are also changing. These needs relate to the quality, quantity and nature of the information that the farmers require (Alex, Zijp, & Byerlee, 2002). Agriculture is becoming more and more commercialized, hence farmers are moving away from traditional cultivation methods in their efforts to become more competitive and increase productivity. Therefore, extension services have to be refocused in order to provide information and tools so farmers can remain competitive and earn a living. The programs that Extension delivers have to be relevant to the farmers’ needs. Continuous monitoring and evaluation of these programs should occur to guarantee their value and relevance as well as return on investment (Alex, Zijp, & Byerlee, 2002). New production methods are needed to increase productivity or diversify production. An example would be to produce crops for niche markets or high-value crops such as organic fruits and vegetables (Alex, Zijp, & Byerlee, 2002).

Extension services need to readjust to understand and absorb all the new technology that is emerging from science. Advances in information technology and the
The communication channels now available provide extension with new tools by which extension officers can disseminate information to the farmers (Umali & Schwartz, 1994). Unfortunately, even these new communication channels and tools have some major challenges. The new technologies can promote mass media extension programs. Access to such mass media extension systems could be uneven. For example, poor people who live in remote areas may not have access to newspapers, computers, television, etc. In addition, pre-determined technology packages may not be appropriate for all farmers; extension officers need to address the individual needs of each farmer and provide case-by-case specific solutions and recommendations. (Alex, Zijp, & Byerlee, 2002).

Extension may also be forced to expand its services. Most governments and organizations are shifting their focus from an agricultural to a rural focus. This change in focus is in line with the recognition that agricultural productivity may not be the best approach to improve the standard of living for people living in rural areas (Alex, Zijp, & Byerlee, 2002; Rivera & Alex, 2005). In certain areas, lack of resources such as land or capital may restrict agricultural production. In those areas, Extension needs to provide information and assistance so that rural people can find alternative employment by diversifying their activities. A few examples of diversification include value-added processing, agro-tourism development, and farm livestock expansion.

Another area that Extension needs to address is the environment. Environmental issues are becoming increasingly important and they are high on many governments’ political agendas. Someone could argue that as food security is achieved, taxpayers consider agricultural programs less important and environmental issues more significant.
These issues relate to conservation of natural resources, livestock waste management, water quality preservation, and food safety including pesticide safety and residue minimization (Alex, Zijp, & Byerlee, 2002).

Another problem that Extension needs to address in many countries is the internal issue of performance. This issue is particularly acute in cases where Extension is operated by the public sector. Public sector extension has been criticized as inefficient and ineffective, technologically deficient, lacking in clear objectives, badly managed, and not accountable to the clients it serves (Haug, 1999). Public sector extension has also been criticized for failing to be relevant to farmers since a top-down bureaucracy prevents farmers from influencing extension decisions (Alex, Zijp, & Byerlee, 2002). However, public extension funding is in most cases inadequate. As a result, public extension officers are expected to deliver results without sufficient resources.

Researchers at an Extension World Bank workshop in 2002 analyzed 44 case studies and highlighted three general observations (Rivera & Alex, 2005). The first observation refers to the nature of extension; extension needs to be restructured in a less traditional format in order to provide broader information and services. Extension services have to cover home economics, a wide-range of agricultural production topics (including marketing, environmental issues and producer organizations) and rural development. Observation two, relates to the involvement of the private sector in the delivery of extension services. Although a fully private extension system may have limitations (missing framework and funding), nevertheless the idea of including the private sector in the extension process cannot be totally discarded. Research has shown that medium and larger scale farmers favor the involvement of private consultants in the
extension process (Mercy, 2008). The private sector can play an important role in agricultural knowledge systems since many commercial companies are already providing information and services to farmers. What is missing, however, is the policy, funding and management framework so that the private sector can be involved in extension in an official manner. The final observation refers to participation and demand-driven extension. Programs delivered through the Extension service have to address the needs and demands of the people it serves. However, these same programs will become more efficient, effective and sustainable if participatory development is embedded in their implementation (Rivera & Alex, 2005).

In addition to the three observations mentioned already, the case studies presented at the World Bank workshop also supported the following findings (Rivera & Alex, 2005, p.264-267):

- “Extension reforms do not happen overnight; new approaches can take many years to be fully institutionalized. Therefore, the government, which implements the extension service, needs to commit long term to reform.
- The creation of a stakeholder coordination mechanism may be essential. This mechanism will assist in organizing strategies such as funding and prioritization, as well as guiding the people involved with extension as to what their responsibilities will be, i.e., who will do what.
- The implementation of some cost recovery methods may be necessary. These methods can include cost sharing programs and fee-for-service extension. These methods are currently used by some farmer organizations around the world.
• Extension employees need access to timely information and new knowledge. Therefore, the provision of necessary research support is crucial to the extension service.

• Monitoring and evaluation is of paramount importance to any program or service. The extension service is no exception to this statement. Developing a strong system to monitor and evaluate the programs and services offered will improve the quality of those same programs and services and in some instances reduce the potential of political interference.

• The assumption that a successful extension approach can be used universally could be a trap. A method that worked in one situation may not necessarily be suitable in another. An extension system that worked in one country is not automatically transferable to a different country. A situational analysis is always necessary; an extension approach can be used from country to country as long as the necessary modifications have been carried out” (Rivera & Alex, 2005, p.264-267).

Any change to the Extension service, however, comes with risks and challenges. Governments have to deal with many “on-going, emerging, and capacity-related challenges” (Rivera & Alex, 2005, p. 267). These challenges are affected by each country’s socioeconomic status, the political situation and sometimes the political stability, globalization pressures and the industrialization of agriculture (Wolf, 1998). Extension systems have been challenged to provide broader support and address wider issues, such as those concerning the environment, food security and food quality,
agricultural sustainability, and new technology. Furthermore, as mentioned above, the inclusion of the private sector in the whole extension system is a brand new challenge by itself. The private sector can become an asset to public extension sector because it can provide complementary extension services to the farming population. In many developed countries, private sector employees and public research and extension officers work together to transfer new agricultural knowledge to farmers (Rivera & Alex, 2005).

Another trend that could affect extension reform is urbanization, which is happening worldwide. Therefore a “new” extension is necessary to deal with urban agriculture and develop new programs that address food security, employment of young people in agriculture, and other related problems that have arisen from urbanization (Rivera & Alex, 2005).

Moreover, Extension has to adapt to deal with globalization and diversification. This adaptation is necessary in order for the agricultural industry of a country to compete in the world market. Therefore, extension has to assist farmers in introducing new high-value crops and non-traditional products so that they can increase productivity, improve quality and become competitive with other farmers (Rivera & Alex, 2005).

**Theoretical Framework**

Three theories associated with Extension are discussed in more detail in the section below. These theories aid understanding of the mechanisms of information flow between the Department of Agriculture and farmers. Although appearing individually distinct, the theoretical framework below will show that the three theories are in fact
interrelated and a combined model can be formulated using the best elements from each theory. The three theories which the theoretical framework of this study is based are the following:

1) The Adoption-Diffusion theory
2) The Communication Process
3) The Participatory Approach

*The Adoption-Diffusion Theory (Rogers)*

The Adoption-Diffusion theory was developed by Rogers in order to explain why farmers chose to adopt new ideas (Rogers, 1995). Diffusion, therefore, has been defined as “the process by which an innovation is communicated through certain channels over time among the members of a social system. It is a special type of communication, in that the messages are concerned with new ideas” (Rogers, 1995, p. 35). From the definition, that there are four important elements in the Diffusion of Innovations theory: 1) the innovation (idea, practice or object that is perceived to be new by the receiver), 2) the communication channel (the means by which information gets from the sender to the receiver), 3) time (for the adoption to materialize), and 4) the social system (the members of the group associated with the process) (Rogers, 1995).

Innovations are characterized by Rogers (1995) as having five characteristics: 1) relative advantage (the new idea is perceived as an improvement on what it replaces), 2) compatibility (the innovation fits in with the values, needs, experiences of the adopters, 3) complexity (the perception of difficulty in understanding and adopting the innovation),
4) trialability (the innovation can be tested prior to adoption), and 5) observability (the visibility to others of the results of the innovation).

Regarding the communication channels, Rogers (1995) argues “that mass media channels are more effective in creating knowledge of innovations, whereas interpersonal channels are more effective in forming and changing attitudes toward a new idea, and thus in influencing the decision to adopt or reject a new idea” (Rogers, 1995, p.36).

Adoption defines the decision made to accept and use the innovation (Seevers et al., 1997). The time needed as well as the rate of adoption depend on the innovation itself and the characteristics of the receivers. The theory classifies farmers into five different adopter categories according to the speed that they decide to adopt the innovation. These categories are: 1) innovators, 2) early adopters, 3) early majority, 4) late majority and 5) laggards (Van den Ban & Hawkins, 1996). There are five stages for adoption to happen, namely: 1) awareness, 2) interest, 3) evaluation, 4) trial, and 5) adoption. The communication process in adoption-diffusion is illustrated in Figure 2.4.
When the receiver accepts the message or information via one of the communication channels, the message is processed using one or more of the five senses (hearing, seeing, smelling, tasting, and feeling). After the receiver becomes aware of the innovation, it is assumed that interest in the innovation should be generated and further information required. When the information is received, then the receiver can evaluate whether the innovation is appropriate to be used. A trial of the innovation may take place for better evaluation, and if satisfactory, then the innovation is adopted (Seevers et al., 1997). Realistically, the adoption-diffusion process can take a long time.

In this study, the sender, i.e. the Department of Agriculture is the one responsible for the diffusion of innovations. In this instance, innovations can include any kind of
information and training that would improve farming activities. The communicators in this instance will be the officers of the Department of Agriculture. The message will include new information and training and it should be disseminated in an Extension program format. The channel methods are the variety of communication techniques that the communicators will choose to use to transmit the message (innovations). The receiver, i.e. the farmers in Cyprus, will receive the information and “process” via one of the senses according to the individual’s cognitive style (ways of acquiring knowledge). Assuming that the Department of Agriculture’s message has created awareness of the innovation and the innovation is relevant to the farmer, then the farmer will show interest in this innovation. Thus, the farmer will evaluate whether the innovation is valuable to his/her activities or not. This can be done either by mental evaluation or by trialing the innovation. Finally, the farmer will make an informed decision whether to adopt the innovation or not.

The receiver’s (in this case, the farmer’s) perception is an integral part of the adoption-diffusion process. Van den Ban and Hawkins (1996) argued that the farmers have to be aware of the existence of information. “Perception is the process by which we receive information or stimuli from our environment and transform it into psychological awareness” (Van den Ban & Hawkins, 1996, p. 59). Extension officers are expected to have a basic understanding of how different perceptions affect communication (Van den Ban & Hawkins, 1996). Perception is characterized by:

- Relativity - relating to the surroundings and the background
- Selectivity - only limited perceptions absorbed by the receiver depending on physical and psychological factors
Organization - perceptions are organized in a way that are understandable by the receiver

Direction - the way that the communicator is pointing the mind of the receiver to receive and interpret the information, and

Cognitive style of an individual - the way that an individual acquires knowledge (Van den Ban & Hawkins, 1996).

The adoption-diffusion theory is useful in Extension as it can predict how and at what rate an innovation will be adopted by farmers in a community (Van den Ban & Hawkins, 1996). Additionally by using the theory, the Extension officers can assist farmers to “develop an accurate cognitive map of their environment” (Van den Ban & Hawkins, 1996, p.117) which will influence their decisions to accept or reject the innovation (Van den Ban & Hawkins, 1996).

The Communication Process

Communication has been defined as “the process of exchanging messages and signals between social actors” (Leeuwis, 2004, p. 84). In the field of Extension, it is very important to get the right message across. Extension officers should be farmer-oriented and as such should “find common ground for discussions with farmers before they attempt to introduce new or complex ideas” (Van den Ban & Hawkins, 1996, p.69).

Literature supports that in Extension, the Source, Message, Channel, Receiver, Effect (SMCRE) Communication Model has been especially useful when analysis of
communication factors is needed. The Source, which includes knowledge, skills, and attitudes of the extension officers creates (encodes) a Message, which could be the information that needs to be transmitted to the farmer. The source assesses which Channel, i.e. communication method will be used to transmit the message to the Receiver. The receiver decodes the message according to his/her skills, knowledge, socioeconomic status and attitudes and makes a decision whether to use the information or not. This decision is the Effect. Finally, the source evaluates the effect and the impact that the message had on the receiver (Van den Ban & Hawkins, 1996). The SMCRE communication model is shown in Figure 2.5.

Some literature supports a more simplified version of the SMCRE model. In this simplified version, the communication process consists of three elements: 1) the source of information, i.e. the sender, 2) the information itself, and 3) the receiver of the information (Seevers et al., 1997).

![Figure 2-5. The SMCRE communication model.](image)
The Participatory Approach Applied to Extension

The participatory framework describes “approaches and methods to enable local people to share, enhance, and analyze their knowledge of life and conditions to plan and to act” (Chambers, 1994, p.1437). These approaches and methods aim to involve the farmers (and other rural people) to carry out their own analysis of their farming needs and priorities and make those known to the scientists or other officers who can assist them in fulfilling those needs. The participatory approach is particularly important in Extension as many farming systems can be diverse and complex and one solution may not be appropriate for all areas (Chambers, 1994).

Additionally, literature has shown that participatory research methods tend to produce more detailed, accurate and in depth information resulting from the participants’ motivation (Chambers, 1994). Participation increases the levels of trust and understanding among the participants and the facilitators and the process has the farmer at the heart of it (Feder, Willett, & Zijp, 1999). Participatory research can produce local leaders who can complement Extension services (Feder, Willett, & Zijp, 1999). This approach supports that participation is beneficial for various reasons. One reason is the acknowledgement that farmers are not ignorant; they are experienced, skilled and knowledgeable in their field of work (Chambers, 2002). Additionally, conditions differ from area to area and from the research station to the actual field and as such, research would be best if done “in situ” (Chambers, 2002).

The first two theories that guided this study, i.e. the adoption-diffusion theory and the SMCRE communication model, are based on the more traditional Extension Transfer-
of-Technology (TOT). These approaches are “top-down.” The needs and priorities are decided by the scientists or the officers and the innovations are introduced by outsiders. (Alex, Zijp, & Byerlee, 2002; Chambers, 2002).

The farmer participatory approach contrasts with the more traditional Extension model, Transfer-of-Technology (TOT), in which the needs and priorities are decided by the scientists or the officers, solutions are identified and passed down to the farmers (Chambers, 2002). In contrast, the role of extension employees in the participatory approach develops into one of “facilitating, problem definition and prioritizing technology solutions among farmers, through critical reflection of past experiences, and then designing and using training packages for presentation back to them” (Coldevin & FAO, 2003, p.4). In Extension, all three theories/approaches are important and can be interrelated as shown in Figure 2.6.

![Figure 2-6. The three theoretical models of the study.](image-url)
Communication Methods in Extension

This study focuses on the Channel (communication methods) in the theories that have been described. Over the years many methods of disseminating information have been identified or invented and introduced worldwide. How are the methods utilized in Extension? The question that Extension officers have to ask is: Is the choice of delivery method the appropriate one considering the knowledge, skills, socioeconomic status, needs and attitude of the farmers? (Campbell & Barker, 1997). If effective dissemination of information is going to be achieved, Extension officers should identify information based on the age, education and farm size of the farmer (Riesenber & Gor, 1989). In addition, segmentation can prove an effective way to disseminate information (Brown & Bewsell, 2007). Segmentation is the process by which a big group (e.g. farmers) is divided into smaller, more homogenous groups (e.g. vegetable producers, beef producers etc). In this way, information becomes more targeted. Segmentation does not necessarily need to happen by product characteristics; it can also be done by geographical information, education, age, or size of farm.

The methods that Extension uses can be classified into categories according to the method used. For example, they can be classified by the contact method. This classification method has three categories 1) Mass contact, 2) Group contact, and 3) Individual contact (Seevers et al., 1997). The mass contact category includes newspapers, magazines, publications, exhibitions, internet, radio, and television (Seevers et al., 1997). Mass media are considered to be the least expensive way of sending information to a large number of people (Van den Ban & Hawkins, 1996). However, it has been proven
that although mass media are important in making people aware of information and can accelerate existing change processes, they are rarely influential enough to bring about behavioral change (Van den Ban & Hawkins, 1996, p.121). Furthermore, certain audiences may have different mass media preferences or dislikes (e.g. never listen to the radio) or may have inadequate literacy skills to respond to written mass media (Leeuwis, 2004).

The group contact category is exemplified by speeches, meetings, talks and seminars, demonstrations, and group discussions (Seevers et al., 1997). Group methods are direct methods that can be used by Extension. The biggest advantage in using these channels is the provision of direct feedback and hence an improvement in communication between Extension and its clientele. Group methods can be highly focused and tailor-made to the group’s interests, plus they allow for interactivity. They are also much more flexible than mass contact methods (Leeuwis, 2004). However we must not forget that these methods are also more costly per person and usually they only target a specific smaller audience each time (Van den Ban & Hawkins, 1996; Leeuwis, 2004).

Finally, individual contact methods include one-to-one discussions, farm visits, office visits, telephone calls and written correspondence (Seevers et al., 1997). Individual extension includes the traditional extension method of one-on-one discussion. The advantage of such a method is that it addresses specific problems faced by particular farmers. The communication channel between the farmer and Extension can be at its optimal since this method can generate close relationships and trust. However, this approach is costly in terms of time and money. In addition, this method can carry hidden risks such as the unsuitability of a particular Extension Officer in dealing with a specific
issue. Furthermore, the officer may not realize that the issue affects other clients too and hence his work will not be as efficient as it could be (Van den Ban & Hawkins, 1996).

Both the group and individual contact methods require a certain level of interpersonal skills from all parties involved (Leeuwis, 2004). Additionally, extension officers need to have the additional skills of empathy, monitoring and listening, self-reflection, providing good and consistent immediate feedback, activating discovery by posing questions and probing, and of course managing group dynamics and structure (Leeuwis, 2004).

Another way to classify methods used in Extension is by the form of communication. This classification has three categories: 1) Written, 2) Spoken, and 3) Visual. Leaflets, fact sheets, newsletters, news articles, and written correspondence fall within the written category. Examples of methods that are included in the spoken category are meetings, telephone conversations, farm visits and radio programs. Finally, the methods included in the visual category include television, videos, exhibitions, posters, and demonstrations (Seevers et al., 1997).

The last approach by which to classify Extension methods is by function. In this approach, the methods are split into three categories, namely: 1) information delivery (where information passes from the Extension officer to the farmer), 2) educational program delivery (where the aim is to improve the knowledge and the skills of the farmer), and 3) problem solving (where there is a specific problem that needs immediate solution) (Seevers et al., 1997).

Over the last couple of decades, the world has also experienced major advancements in information and communication technologies (ICT). Since the usage
costs of these technologies seem to be declining, their potential for use is increasing (Shapiro & Varian, 1999). Examples of the new ICT methods are mostly computer-based dissemination and include CD-ROMs, electronic conferencing, and the internet (Leeuwis, 2004). Additionally, mobile phones have also become a method of communication both for spoken contact as well as written contact (SMS –text messaging). ICT methods can intercept all other Extension methods and can be characterized as “vertical”. Many refer to this last category as “electronic extension” (Relado, 2008, p.22). Electronic extension can be a less expensive method of reaching many clients. It requires, however, that the technology is in place and available to clients and both clients and officers are comfortable using the technology. This method can also appear very impersonal and unappealing to more traditional clientele. The most common usage of the internet within Extension is the delivery of information via electronic mail and file transfer, the set-up of newsgroups and online forums for discussions, and of course, the publication of a plethora of information on a website (Leeuwis, 2004).

A study carried out among county extension educators in the United States by Harder and Lindner (2008) on the adoption of electronic extension found that the electronic extension channel is still in its early stages. Additionally, Abbott (1989) in his survey among farmers identified that demand for the traditional information channels will not decline as a result of the internet revolution. One reason that could explain the demand for traditional delivery methods is the lack of skills and confidence among the farmers in using new information sources (Riesenberg & Gor, 1989). Howell and Habron (2004) reported that farmers lack interest in technological communication strategies like computers, email and internet. Younger farmers expressed more support for electronic
communication methods than older farmers, indicating that this communication channel maybe preferred in the future. Howell and Habron’s study (2004) indicated that the use of electronic communication methods is related to demographic characteristic such as education level. This relationship was also identified in earlier studies by Amponsah (1995) and by Putler and Zilberman (2001). These studies found that computer technology was more readily adopted by well-educated farmers or farmers with larger holdings, and in particular livestock farmers. Howell and Habron (2004) suggested that Extension should educate farmers on the use of computers in agriculture and demonstrate to the farmers the benefits that electronic communication could provide to them (Howell and Habron, 2004). The study by Riesenberg and Gor (1989) reported that farmers preferred to receive information via interpersonal methods, such as on-farm demonstrations, field trips, group discussions, workshops, seminars and consultations.

Communicating Effectively with Farmers

Effectiveness is determined by how closely the result achieves the original goal (Damrongkiattisak, 1984). Communication is considered effective when the receiver comprehends exactly what the sender wanted to transmit (Damrongkiattisak, 1984).

The World Bank and the Food and Agriculture Organization (FAO) have established a set of guidelines to which an effective extension service should adhere (Alex, Zijp, & Byerlee, 2002). Future changes in Extension need to recognize and address the limitations of the public sector. In order for the transition to be successful, the government needs to generate a policy framework for extension services. This framework will be the basis to strengthen demand for extension and to improve the efficiency,
effectiveness and sustainability of the service. Extension will have to become demand-driven (i.e., reacting to the needs of the farmers), participatory (i.e., mobilizing and empowering local people to solve problems), and provide quality services (Alex, Zijp, & Byerlee, 2002).

Summary

A review of literature established the importance of agricultural Extension Service and Extension education among the farming communities. This is also true for the farming communities in Cyprus.

The literature agreed that Extension needs to disseminate information that is innovative, relevant and responds to the needs of the people that would use it. The characteristics of the population that Extension reaches are diverse, and therefore, Extension officers have to adapt the information to the characteristics of the recipients of the information.

Agricultural Extension is guided by three theories/processes: 1) The Adoption-Diffusion theory, 2) The Communication Process, and 3) The Participatory Approach. The adoption-diffusion theory and the SMCRE communication model are considered to be the traditional “top-down” Extension models of Transfer-of-Technology (TOT). Much of the literature supports the movement of the Extension model towards Participatory approaches. This way, Extension programming would be demand driven and not supply driven and the Extension service could eventually become more accountable (Fleischer et al., 2002).
The literature does not specify which communication method is best for disseminating information. It is recognized that each individual’s cognitive style is different, and as such, a variety of methods should be used to disseminate information to Extension’s diverse audience. In order to achieve effective dissemination of information, Extension employees should choose a delivery method that takes into account the knowledge, skills, socioeconomic status, needs and attitudes of farmers. The farmers’ perception of the information they receive and the way they receive it is also an influential factor in the success of program delivery.
Chapter 3

METHODOLOGY

This chapter describes the methods and procedures used in this research study. The chapter includes the following sections: 1) purpose of the study, 2) research questions, 3) research design, 4) population and sample, 5) instrumentation, 6) data collection, and 7) data analysis.

Purpose of the Study

The purpose of the study was to identify the current communication channels used between the Department of Agriculture in Cyprus and the Cypriot farmers and suggest ways to strengthen communication both in terms of effectiveness and efficiency. This study provides an opportunity to assess the existing methods and practices that the officers in the Department of Agriculture in Cyprus use to communicate with the people they serve, the farmers. By identifying strengths, as well as possible weaknesses in communication, this study aims to strengthen the Extension Service of the Department of Agriculture. Finally, this study attempts to invite ideas and suggestions from farmers regarding how they believe the communication between the Department of Agriculture and themselves can further improve.
Research Questions

The following research questions guided the study.

1. What type of agriculture-related information do farmers receive from the Department of Agriculture or other sources? How do the participants rate the quality of this information?

2. What type of agriculture-related training do farmers receive from the Department of Agriculture or other sources? How do the participants rate the quality of this training?

3. What methods of communication are used between the Department of Agriculture and Cypriot farmers? Are these the methods that farmers prefer?

4. What recommendations do farmers have to improve the information, training, and contact between them and the Department of Agriculture?

Research Design

The aim of this research study was to explore the current perceptions and knowledge of the farmers in Cyprus regarding the Extension Service. To answer the research questions, the study used a descriptive survey research methodology. According to Fraenkel and Wallen (2003), the survey research method is used to collect information describing opinions, beliefs, knowledge and attitudes of the participants through questions and answers. The study is a cross-sectional survey since the information was collected from a predetermined sample only once. The study used only primary data that the researcher collected in person. Data were collected via two interview instruments, one for phase two and one for phase three of the study. The study was structured in three
phases. Phase one was designed to gather preliminary information to determine broad parameters for questions to be developed for use in phase two of the study. Phase two consisted of interviews with key personnel representing producer and farmer organizations to further develop an appropriate range of questions for data collection in phase three of the study. In phase three, data were collected from a stratified random sample of farmers in Cyprus.

**Office of Research Protection (ORP) Approval**

The study and the personal interview instruments in both the English and Greek languages received human subject approval from the Office of Research Protection (ORP) at The Pennsylvania State University (IRB#30627). All phases of the study were conducted in Greek.

**Phase I**

This exploratory phase was designed to establish background information. An investigation was conducted to document 1) the communication methods that currently exist between the Department of Agriculture in Cyprus and the farmers, and 2) the number of Cypriot farmers and in which farming sectors these farmers are active.

The researcher personally interviewed the Director of the Department of Agriculture and employees from the Extension and the Horticulture sectors of the Department of Agriculture in Cyprus and asked the following questions:
1) What communications methods exist currently between the Department of Agriculture and the farmers and how frequently are these communication methods used?

2) How many farmers exist per sector in Cyprus?

Responses were recorded in writing.

An estimate of the number of the Cypriot farmers was provided by data held within the Statistical Service of the Republic of Cyprus and within archives and records held within the Department of Agriculture in Cyprus. A further examination of these records showed that in some sectors farmers were organized into Producer Organizations. After discussions during phase one at the doctoral committee level as well as at the Management Level of the Department of Agriculture (i.e. the Director), it was determined that these Producer Organizations would be ideal for phase two of the research.

Phase II

Population and Sample

To identify participants for phase two of the study, the researcher was provided with a list of all the Producer Organizations that had been approved and recognized for operation by the Director of the Department of Agriculture. The Director of the Department of Agriculture is the Competent Authority, based on National Legislation (Regulation CY 164 (I)/2002 as amended by Regulation CY 160(I)/2004).

Additionally, the researcher was provided with the names and telephone numbers of the owners of a poultry farm and an herb farm (for these two sectors are not organized in...
Producer Organizations). The researcher did not want to exclude these groups from this phase since feedback received from the Department of Agriculture indicated that these sectors are also economically important. The leader of each Producer Organization or the key person corresponding with the Department of Agriculture was selected to participate in the phase two interviews. The farming sectors that these Producer Organizations represented as well as the estimated number of members are provided in Table 3-1.

Table 3-1. Producer Organizations / Farmers participating in Phase Two

<table>
<thead>
<tr>
<th>Farming Sectors</th>
<th>Number of Participants</th>
<th>Farmers Served</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Horticulture</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Producer Organizations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Citrus</td>
<td>4</td>
<td>1,513</td>
</tr>
<tr>
<td>Fruit and Vegetables</td>
<td>7</td>
<td>878</td>
</tr>
<tr>
<td>Grapes and Wine</td>
<td>1</td>
<td>29 Wineries</td>
</tr>
<tr>
<td>Olive and Olive Oil</td>
<td>1</td>
<td>3,000</td>
</tr>
<tr>
<td>Potatoes</td>
<td>4</td>
<td>1,064</td>
</tr>
<tr>
<td>Ornamental Plants/ Fresh Flowers</td>
<td>2</td>
<td>70</td>
</tr>
<tr>
<td>Bananas</td>
<td>1</td>
<td>263</td>
</tr>
<tr>
<td><strong>Farmer Owner</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Herbs and essential oils</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Agronomy</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Producer Organizations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cereals</td>
<td>1</td>
<td>6,000</td>
</tr>
<tr>
<td><strong>Livestock</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Producer Organizations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Swine</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Cattle and Dairy</td>
<td>1</td>
<td>177</td>
</tr>
<tr>
<td><strong>Farmer Owner</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poultry</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>25</strong></td>
</tr>
</tbody>
</table>
Instrumentation

The interview schedule for phase two of the study was essential in establishing both research reliability and internal consistency, in order to ensure that the questions for the phase three interview schedule would be appropriate. The interview schedule for phase two was developed from a review of literature, a study of the background of the Extension Service in Cyprus, and through consultations with the management of the Department of Agriculture; key employees in the Department of Agriculture in the Extension Section, Horticultural Sector and Animal Production Sector; and the coordinator of the Producer Organizations within the Department of Agriculture. Additionally, the researcher’s doctoral committee at The Pennsylvania State University and a data specialist from the Department of Agricultural and Extension Education of the same university also provided constructive feedback for the development of the interview schedule.

The interview schedule included open-ended questions in order to encourage the opinions of the interviewees and facilitate discussion. Questions 1-3 addressed general characteristics of the farming sector and questions 4-6 asked about the frequency, method and quality of information flowing between the Department of Agriculture and the participants. Questions 7-9 asked about training and visits received both from employees of the Department of Agriculture and from others. Question 10 prompted participants to express their opinions on what would make the Department of Agriculture their preferred information provider. Question 11 asked the participants for their opinions regarding the communication methods the Department of Agriculture should use. Questions 12 and 13
explored types of information participants currently receive from the Department of Agriculture and what further information they would like to receive. Question 14 asked participants about their perceptions on possible barriers to effective communication between the Department of Agriculture and farmers. Finally, questions 15-21 collected demographic data on the participants. The interview schedule for phase two is in Appendix A.

*Data Collection*

The researcher originally planned to conduct phase two as focus groups with a representative from each Producer organization attending these focus groups. However, the respondents were not willing to meet in groups since most of the Producer Organizations seemed to perceive each other as competitors.

Therefore, the researcher arranged individual on-location meetings with the leaders of the Producer Organizations. The researcher contacted by telephone the Leader or key representative of each of the Producer Organizations that was listed on the document provided to her as well as the owners of the poultry farm and of the herb farm. On-location visits were chosen in order to make the interview process more friendly and personal. The process was positively received by the respondents. A total of 25 interviews were conducted and varied between 30 minutes and 3 hours. With the permission of the respondents, all but one of the discussions was also voice-recorded. The recordings were used to maintain accuracy when the data were analyzed.
The instruments were assigned a number such that each participant received a unique identifier, and the participants’ responses were kept separate from their personal identification information. Furthermore, the instruments were translated into Greek, the native language of the researcher and the participants. The Greek instruments were used during data collection.

**Data Analysis**

Using content analysis, the participants’ responses were coded for frequency of specific patterns that were indicative of the research questions and the data were analyzed for similarities across responses.

**Phase III**

**Population and Sample**

The population frame for phase three of the study included farmer registry lists that were provided by the Cyprus Department of Agriculture. The main reason for using these registries was to capture farmers that were not members of Producer Organizations. The researcher encountered several obstacles in identifying farmers through these lists. The main problem was that there was not one complete register that included all of the farmers. Each sector of the department had its own registry. Additionally, not all records and lists were updated for the same period; some registry lists were updated in 2007 and some in 2008. In addition, there is the added risk that the lists held by the Department may not be inclusive of all farmers since the Department of Agriculture will not be aware
of farmers that chose not to identify themselves as such. This risk is particularly high among part-time farmers who are registered under a different occupation within the social security system. Hence the number of farmers per sector which the Department of Agriculture provided was not identical with those estimates provided by the individual Producer Organizations. Finally, although Regulation (EC) No 1290/2005 as amended by Council Regulation (EC) No 1437/2007 and Commission Regulation (EC) No 259/2008 states that all beneficiaries of European funding should be published for transparency, there were still hesitations in releasing the farmer lists to the researcher because of confidentiality and data protection concerns. The number of farmers provided by the Department of Agriculture is shown in Table 3-2.

Table 3-2. Farmers by sector registered with The Cyprus Department of Agriculture

<table>
<thead>
<tr>
<th>Farming Sectors</th>
<th>Farmers Registered</th>
<th>Sample Selected</th>
<th>Response Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Horticulture</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Citrus</td>
<td>269</td>
<td>8</td>
<td>75%</td>
</tr>
<tr>
<td>Fruit and Vegetables</td>
<td>510</td>
<td>15</td>
<td>73%</td>
</tr>
<tr>
<td>Grapes and Wine</td>
<td>779</td>
<td>23</td>
<td>65%</td>
</tr>
<tr>
<td>Olive and Olive Oil</td>
<td>600</td>
<td>18</td>
<td>67%</td>
</tr>
<tr>
<td>Potatoes</td>
<td>281</td>
<td>8</td>
<td>75%</td>
</tr>
<tr>
<td>Ornamental Plants/Fresh Flowers</td>
<td>12</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Bananas</td>
<td>48</td>
<td>1</td>
<td>100%</td>
</tr>
<tr>
<td>Other (Medlar, Fig trees, etc)</td>
<td>363</td>
<td>10</td>
<td>50%</td>
</tr>
<tr>
<td>Horticulture Total</td>
<td>2,862</td>
<td>83</td>
<td>75%</td>
</tr>
<tr>
<td><strong>Agronomy</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cereals</td>
<td>2,707</td>
<td>80</td>
<td>28%</td>
</tr>
<tr>
<td>Agronomy Total</td>
<td>2,707</td>
<td>80</td>
<td>28%</td>
</tr>
<tr>
<td><strong>Livestock</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Swine</td>
<td>96</td>
<td>3</td>
<td>67%</td>
</tr>
<tr>
<td>Poultry and eggs</td>
<td>89</td>
<td>3</td>
<td>100%</td>
</tr>
<tr>
<td>Cattle and Dairy</td>
<td>223</td>
<td>7</td>
<td>71%</td>
</tr>
<tr>
<td>Sheep and goats*</td>
<td>1,676</td>
<td>49</td>
<td>71%</td>
</tr>
<tr>
<td>Livestock Total</td>
<td>2,084</td>
<td>62</td>
<td>74%</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td>7,653</td>
<td>225</td>
<td>55%</td>
</tr>
</tbody>
</table>

*For the sheep and goat sectors only farmers with 50 or more animals were considered in the population.
In order to reduce bias and increase consistency, all data were collected by the researcher. Consistency in both the phase two personal interview responses and in the data collection methodology allowed for the selection of a smaller sample size. Using a published table, a sample size of ± 7% precision giving a confidence level of 95% and P=.5 was selected (Israel, 2009) which was equivalent to 225 farmers.

All farmers identified by the DOA registers were categorized into strata according to the farming sector in which they were active. Then, a proportionate stratified random sample was chosen so that most of the groups would be represented. The number of farmers represented per farming sector is shown in Table 3-2. An internet-based random generator, Stattrek, (http://stattrek.com/Tables/Random.aspx) was used to select the sample of farmers.

Instrumentation

For phase three, a second interview schedule was developed based on the results and data collected during phase two. This second instrument included 23 questions. Most of the answers were measured on a 5 or 6 point Likert-type scale (5= 10 or more times; 4= 7-9 times per year; 3= 4-6 times per year; 2= 1-3 times per year; and 1= Never) and (5= Excellent; 4= Very Good; 3= Acceptable/OK; 2= Of Low Value; 1= Useless; and 0= Not Applicable). Examples of the different Likert-type scale responses are shown in Appendix B (Questions 6 and 12). Similar to phase two, questions 1-5 established farming characteristics (e.g. type and size of farm of the respondent). Questions 6-10 addressed agricultural information received from the DOA and other sources during 2009 and the methods by which the information was received. Questions 12 and 13 asked
participants to rate the quality of information received from both the Department of Agriculture and from other sources. Question 14 asked participants to express their preferred communication methods. Questions 15 and 16 were open-ended and asked participants to indicate what additional information they would like to receive as well as their perceptions on possible barriers to effective communication between the Department of Agriculture and themselves. Finally questions 17-23 collected demographic data on the participants. The interview schedule for phase three is in Appendix B.

In order to ensure the validity of the research study, the researcher had to ensure that the instruments for both phases were accurate, correct and useful and they measured what it was intended (Fraenkel & Wallen, 2003). In order to establish validity, the interview schedules were reviewed by experts for content validity. These experts included data specialists from the Department of Agricultural and Extension Education of The Pennsylvania State University and the Director and officers from the Extension and the Horticulture sectors of the Department of Agriculture in Cyprus. In addition, the officer in-charge of coordinating the Producer Organizations was also asked to provide feedback on the instruments. The experts were asked to evaluate the content and construction of the instrument to determine if it would measure what it was intended to measure, whether it was comprehensive enough to answer the research questions, and whether the questions asked were appropriate for the population (clear and simple). Adjustments were made to the questionnaire based on feedback from the expert reviewers. To establish “criterion validity” (correlation between instruments and determination that the measures are valid), sample questionnaires taken from the
Statistical Service of the Republic of Cyprus were compared with the questionnaires designed for this study. The Statistical Service of the Republic of Cyprus carries out an agricultural census every year. The comparison confirmed that the questions developed for the instrument were feasible to answer by the participants and the information in theory should be easily obtained.

Similar to phase two, the instruments for phase three were also assigned a number so that each participant received a unique identifier, and again the participants’ responses were kept separate from their personal identification information. The researcher administered the Greek instruments during data collection in phase three.

Data collection

In phase three, the survey of farmers, interviews were carried out by the researcher primarily by telephone interview. Telephone interviews seemed to be the preferred method for the farmers when contacted since the farmers did not want to commit to a specific interview time or location for a face-to-face interview. The farmers were asked to answer a Likert-scale type survey on their perceptions on the services provided by the Department of Agriculture. The researcher made up to three attempts to contact the farmers within the sample. The total number of responses for phase two was 124. Table 3.2 reports the number of respondents for each farming sector. The low response rate for the agronomy sector results from the unwillingness of these farmers to respond for various reasons such as: they did not harvest a crop in recent years due to drought or although they were the registered farmers they were, in fact, renting the land
to other farmers. In addition, many of the livestock farmers also cultivate cereals, mainly for fodder, hence some of the agronomy farmers are included within the livestock numbers.

**Data analyses**

The surveys were coded, entered and analyzed using the Statistical Package for the Social Sciences (SPSS version 17.0.1) for Windows. Because participants were selected randomly, initially the intent was to analyze the data using both descriptive and inferential statistics. Because the Likert-type scale information is being used as individual item by item rather than as a summated Likert scale, the Likert scale represents ordinal data at best (Good & Hardin, 2008). Miller (1991) indicated that it is permissible “to collapse” ordinal data to nominal data especially when the frequency distribution for the Likert scale is bimodal. Descriptive statistics include frequency distributions and percentages.

Initially the intent was to use Chi–square analysis to examine whether there was dependency between the variables. Prior to doing the Chi-square analysis, the researcher conducted an exploratory data analysis to examine the distribution of responses. It became apparent that there were many individual items that had no responses. Knowing that potentially that was going to be a problem, the researcher did, in fact, run a Chi-square analysis to verify if a problem existed. Specifically, the problem was that the assumption for Chi-square was not met. The requirement for a valid Chi-square is that no more than 20% of the cells (Harris, 1998, p. 447-476) in a Chi-square table have an expected frequency of less than 5. The researcher even after collapsing the response
categories to try and resolve this issue still had Chi-square contingency tables with as many as 50% of the cells with an expected frequency of less than 5. Babbie (1990) emphasized the importance of examining the distribution of responses for each response option prior to doing a Chi-square analysis. Therefore, after a very detailed and persistent effort to solve the issue and in consultation with the researcher’s graduate committee, the decision was made to not use inferential statistics. It is important to realize that the data provided by the participants and used in the descriptive analysis represent legitimate and valid responses from the participants. The use of inferential statistics in this research is not used because the statistical assumptions for the inferential statistics cannot be met.

**Operational Definitions**

* Agronomy farmer:
  A farmer that cultivates arable field crops such as wheat, barley, durum wheat, and so on.

* Communication Efficiency:
  Communication efficiency relates to whether the methods and strategies used to communicate material and information to the farmers are the preferred ones and that these methods and strategies are achieving the desired results with the minimum use of resources, effort and time.

  Efficient communication in this research means that the methods currently used by the Department of Agriculture to deliver information to the farmers are appropriate for the farmers.
Communication Effectiveness:

Communication effectiveness relates to whether the appropriate, desired and relevant material and information are communicated to the farmers and whether the methods used to deliver the information are appropriate for the audience.

In this research, effective communication means farmers will rate the quality of the information and the training they receive from the Department of Agriculture compared to similar information and training they receive from other sources.

Extension Assistant:

An employee of the Department of Agriculture who works in one of the District offices. The employee does not hold an agricultural degree.

Extension Officer:

An officer who works in one of the District offices of the Department of Agriculture. The officer holds a university agricultural degree.

Horticultural farmer:

A farmer that cultivates horticultural crops such as fruit, vegetables, greenhouse crops, flowers, vines.

Less Favored Area (LFA) as described by Council Regulation (EC) No. 1698/2005:

Areas are characterized as "less-favored" when agricultural production or activity is more difficult because of natural handicaps, e.g. difficult climatic conditions, steep slopes in mountain areas, or low soil productivity. Under Council Regulation (EC) No.
1698/2005, these areas attract additional compensatory financial support since the aforementioned handicap to farming significantly increases the risk of agricultural land abandonment.

*Livestock farmer:*

A farmer that breeds, raises and sells farm animals, such as beef and dairy cattle, swine, sheep, goats and poultry, for food or other products.

*Rural Development Program (RDP):*

A set of measures (schemes) available to Member States of the European Union which govern the policy for rural development. The guidelines for Rural Development are specified by the Council Regulation (EC) No. 1698/2005. The programs are focused on four areas called axes. These axes aim to (1) improve the competitiveness of the agricultural and forestry sector, (2) improve the environment and the countryside, (3) improve the quality of life in rural areas and encourage diversification of the rural economy, and 4) encourage the Leader approach (local development strategies).

*Specialist Officer:*

An employee of the Department of Agriculture who works in a specialized section at the head office in Nicosia (or in Limassol in the case of viticulture). This employee has a university degree in an agricultural discipline.
Young Farmer as described by Council Regulation (EC) No. 1698/2005:

Persons that are under 40 years of age and who are preparing to head an agricultural holding for the first time. These persons have to possess adequate occupational skills and competence by proving that they have either an agricultural qualification or at least 250 hours of agricultural training. Furthermore, eligibility is also dependant on the submission of a viable business plan. Financial support is a one-time payment in an amount of no more than 40,000 Euros. The actual amount is dependent on the amount invested in the holding by the young farmer and it is also dependant on the location of the holding with holdings in Less Favor Areas receiving more.
Chapter 4

FINDINGS

Findings in this chapter are organized into the following sections: 1) demographic characteristics of the participants and 2) findings related to communication methods and effectiveness.

Demographic Characteristics

This section describes the demographic characteristics of the farmers that participated in phase three of the research. These characteristics are presented in Table 4.1.

Among the participants 83% were male; 17% were female. Almost four in five (79%) were age 47 or over; only 21% were younger. Nearly half (48.8%) of the participants had an elementary school education; one in five (19%) had a high school education; and less than one in ten (9%) had a university education. The participants adequately represented all districts in the country controlled by the government of the Republic of Cyprus. A higher percentage of respondents were from the district of Larnaca (30.6%).
Table 4-1. Demographic characteristics of the participant farmers (n=124)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>103</td>
<td>83.1</td>
</tr>
<tr>
<td>Female</td>
<td>21</td>
<td>16.9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>124</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-26</td>
<td>1</td>
<td>0.8</td>
</tr>
<tr>
<td>27-36</td>
<td>7</td>
<td>5.6</td>
</tr>
<tr>
<td>37-46</td>
<td>18</td>
<td>14.5</td>
</tr>
<tr>
<td>47-56</td>
<td>34</td>
<td>27.4</td>
</tr>
<tr>
<td>57-66</td>
<td>35</td>
<td>28.2</td>
</tr>
<tr>
<td>67-76</td>
<td>23</td>
<td>18.5</td>
</tr>
<tr>
<td>77-86</td>
<td>6</td>
<td>4.8</td>
</tr>
<tr>
<td>Over 87</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>124</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Highest Level of Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elementary</td>
<td>60</td>
<td>48.4</td>
</tr>
<tr>
<td>Middle School</td>
<td>15</td>
<td>12.1</td>
</tr>
<tr>
<td>High School</td>
<td>24</td>
<td>19.4</td>
</tr>
<tr>
<td>BS Degree</td>
<td>9</td>
<td>7.3</td>
</tr>
<tr>
<td>MS Degree</td>
<td>2</td>
<td>1.6</td>
</tr>
<tr>
<td>Vocational Training</td>
<td>14</td>
<td>11.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>124</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Farming District</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nicosia</td>
<td>19</td>
<td>15.3</td>
</tr>
<tr>
<td>Famagusta</td>
<td>11</td>
<td>8.9</td>
</tr>
<tr>
<td>Larnaca</td>
<td>38</td>
<td>30.6</td>
</tr>
<tr>
<td>Limassol</td>
<td>22</td>
<td>17.7</td>
</tr>
<tr>
<td>Paphos</td>
<td>24</td>
<td>19.4</td>
</tr>
<tr>
<td>Pitsilia</td>
<td>10</td>
<td>8.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>124</td>
<td>100.0</td>
</tr>
</tbody>
</table>
The majority of respondents were horticultural farmers (43.5%) who grow mainly citrus fruit, grapes, vegetables, greenhouse crops, fruit, nuts and potatoes, and livestock farmers (33.9%) who raise goats, sheep, cattle, poultry, and swine. Just over 11% were both livestock and agronomy farmers. Nearly 6% percent (5.6%) of the respondents produced only agronomy products; less than 2% were both livestock and horticultural farmers, see Table 4.2.

Slightly more than half of the participants were full-time farmers (52.4%) whose income is dependent on agriculture. The remaining participants (42.7%) were part-time farmers who had other sources of income. Table 4.2 presents the farming sectors in which the participants were active and their level of farming.

Table 4.2. Farming sectors and occupations (n=124)

<table>
<thead>
<tr>
<th>Type</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sector</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Horticulture only</td>
<td>54</td>
<td>43.5</td>
</tr>
<tr>
<td>Livestock only</td>
<td>42</td>
<td>33.9</td>
</tr>
<tr>
<td>Livestock and Agronomy</td>
<td>14</td>
<td>11.3</td>
</tr>
<tr>
<td>Agronomy only</td>
<td>7</td>
<td>5.6</td>
</tr>
<tr>
<td>Horticulture and Agronomy</td>
<td>5</td>
<td>4.0</td>
</tr>
<tr>
<td>Livestock and Horticulture</td>
<td>2</td>
<td>1.6</td>
</tr>
<tr>
<td>Total</td>
<td>124</td>
<td>100.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full time farmer (livelihood dependent on farming)</td>
<td>65</td>
<td>52.4</td>
</tr>
<tr>
<td>Part time farmer (livelihood not dependent on farming)</td>
<td>53</td>
<td>42.7</td>
</tr>
<tr>
<td>Commercial farms</td>
<td>6</td>
<td>4.8</td>
</tr>
<tr>
<td>Total</td>
<td>124</td>
<td>100.0</td>
</tr>
</tbody>
</table>

In all sectors, the percentage of male farmers was higher than the percentage of female farmers. The percentage difference appears smaller in the agronomy sector where male respondents represent 57.1% and female respondents represent 42.9% of the participants, see Table 4.3.
Table 4-3. Percentage of male and female farmers per sector (n=124).

<table>
<thead>
<tr>
<th>Type of farming</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Livestock only</td>
<td>90.5%</td>
<td>9.5%</td>
</tr>
<tr>
<td>Horticulture only</td>
<td>79.6%</td>
<td>20.4%</td>
</tr>
<tr>
<td>Agronomy only (cereals)</td>
<td>57.1%</td>
<td>42.9%</td>
</tr>
<tr>
<td>Livestock and Agronomy</td>
<td>92.9%</td>
<td>7.1%</td>
</tr>
<tr>
<td>Livestock and Horticulture</td>
<td>100.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Horticulture and Agronomy</td>
<td>60.0%</td>
<td>40.0%</td>
</tr>
</tbody>
</table>

The horticultural sector has a higher percentage of part-time farmers (57.4%) than full time farmers (40.7%). In all other sectors, the percentages of full-time farmers were considerably higher than the percentages of part-time farmers, see Table 4.4.

Table 4-4. Percentage of full time and part time farmers per sector (n=124)

<table>
<thead>
<tr>
<th>Type of farming</th>
<th>Full Time Farmer</th>
<th>Part Time Farmer</th>
<th>Commercial Farm*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Livestock only</td>
<td>52.4%</td>
<td>35.7%</td>
<td>11.9%</td>
</tr>
<tr>
<td>Horticulture only</td>
<td>40.7%</td>
<td>57.4%</td>
<td>1.9%</td>
</tr>
<tr>
<td>Agronomy only</td>
<td>71.4%</td>
<td>28.6%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Livestock and Agronomy</td>
<td>78.6%</td>
<td>21.4%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Livestock and Horticulture</td>
<td>100.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Horticulture and Agronomy</td>
<td>60.0%</td>
<td>40.0%</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

* Commercial farms refer to large agricultural businesses which are mainly registered companies.

When the participants were asked if they had internet access, over three fourths (77.4%) answered negatively, see Table 4.5.

Table 4-5. Percentage of participants with internet access (n=124)

<table>
<thead>
<tr>
<th>Internet access</th>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percent</td>
</tr>
<tr>
<td>Internet access</td>
<td>96</td>
<td>77.4%</td>
</tr>
</tbody>
</table>
The size of the respondents’ farms varied greatly. The smallest land size reported was one decare (0.1 hectare) and the largest was 1,700 decares (170 hectares). In the horticultural sector, the largest farm size reported was only 130 decares (13 hectares). In the agronomy sector the smallest farm size reported was seven decares.

Table 4-6. Land size of farms in decares (n=124)

<table>
<thead>
<tr>
<th>Land size</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horticulture</td>
<td>1.00</td>
<td>130.00</td>
</tr>
<tr>
<td>Agronomy</td>
<td>7.00</td>
<td>1,700.00</td>
</tr>
</tbody>
</table>

The number of animals on farms ranged from 4 to 150,000. Specifically, poultry farms varied between 30,000 animals and 150,000 animals; swine farms between 1,520 animals and 17,000 animals; cattle and dairy farms between 80 and 550 animals and finally sheep and goat farms between 4 and 1,000 animals. Only sheep and goat farms with 50 or more animals were intended for sample selection. However, when the participants were asked for the number of animals owned at the time of the data collection, in some cases the number was as low as four. The participants explained that the registered number of animals differed from the actual number of animals because the registers provided to the researcher by the Department of Agriculture were out-of-date and because some animals had died, were stolen or sold.

Table 4-7. Number of animals (n=124)

<table>
<thead>
<tr>
<th>Number of Animals</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poultry</td>
<td>30,000</td>
<td>150,000</td>
</tr>
<tr>
<td>Swine</td>
<td>1,520</td>
<td>17,000</td>
</tr>
<tr>
<td>Sheep and Goat</td>
<td>4</td>
<td>1,000</td>
</tr>
<tr>
<td>Cattle and Dairy</td>
<td>80</td>
<td>550</td>
</tr>
</tbody>
</table>
Among the farmers that participated in the survey, only 4.8% were classified as “Young Farmers” (under the age of 40) as described by Council Regulation (EC) No 1698/2005 of 20 September 2005 on support for rural development by the European Agricultural Fund for Rural Development.

Table 4-8. Percent of young farmers among the participants (n=124)

<table>
<thead>
<tr>
<th></th>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Young farmer</td>
<td>95.2%</td>
<td>4.8%</td>
</tr>
</tbody>
</table>

Findings related to communication methods and effectiveness

1. What type of agriculture-related information do farmers receive from the Department of Agriculture or other sources? How do the participants rate the quality of this information?

Just over 45% of farmers receive information from the Department of Agriculture regarding the Rural Development Program and 87.4% of those who receive the information rate this information acceptable or higher. Only a small percentage of farmers (between 0.8% - 25%) receive any other type of information from the Department of Agriculture, mainly for diseases, pesticides and subsidies. Most of the farmers who received such information rated it as acceptable or higher. Most farmers indicate they are not aware of receiving any additional information. Table 4.9 reports the farmers’ rating of the quality of the information they receive from the Department of Agriculture.
Table 4-9. Farmers’ rating of the quality of information received from the Department of Agriculture (n=124).

<table>
<thead>
<tr>
<th>Department of Agriculture</th>
<th>Not received</th>
<th>Received</th>
<th>Rating from those who received information</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Useless / Low value</td>
</tr>
<tr>
<td>Quality:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural Dev Program</td>
<td>54.8% (68)</td>
<td>45.2% (56)</td>
<td>12.4% (7)</td>
</tr>
<tr>
<td>Diseases livestock</td>
<td>92.7% (115)</td>
<td>7.3% (9)</td>
<td>0.0% (0)</td>
</tr>
<tr>
<td>Diseases agriculture</td>
<td>81.5% (101)</td>
<td>18.5% (23)</td>
<td>0.0% (0)</td>
</tr>
<tr>
<td>Pesticides/Food Safety</td>
<td>75.0% (93)</td>
<td>25.0% (31)</td>
<td>0.0% (0)</td>
</tr>
<tr>
<td>Subsidies</td>
<td>78.2% (97)</td>
<td>21.8% (27)</td>
<td>11.0% (3)</td>
</tr>
<tr>
<td>New policies</td>
<td>91.1% (113)</td>
<td>8.9% (11)</td>
<td>9.0% (1)</td>
</tr>
<tr>
<td>New technology</td>
<td>91.1% (113)</td>
<td>8.9% (11)</td>
<td>9.0% (1)</td>
</tr>
<tr>
<td>News Cyprus</td>
<td>94.4% (117)</td>
<td>5.6% (7)</td>
<td>14.3% (1)</td>
</tr>
<tr>
<td>News Europe</td>
<td>94.4% (117)</td>
<td>5.6% (7)</td>
<td>14.3% (1)</td>
</tr>
<tr>
<td>News World</td>
<td>94.4% (117)</td>
<td>5.6% (7)</td>
<td>14.3% (1)</td>
</tr>
<tr>
<td>New techniques</td>
<td>91.9% (114)</td>
<td>8.1% (10)</td>
<td>0.0% (0)</td>
</tr>
<tr>
<td>Cultivations</td>
<td>90.3% (112)</td>
<td>9.7% (12)</td>
<td>0.0% (0)</td>
</tr>
<tr>
<td>Farm management</td>
<td>95.2% (118)</td>
<td>4.8% (6)</td>
<td>16.7% (1)</td>
</tr>
<tr>
<td>Marketing</td>
<td>96.0% (119)</td>
<td>4.0% (5)</td>
<td>20.0% (1)</td>
</tr>
<tr>
<td>Other</td>
<td>99.2% (123)</td>
<td>0.8% (1)</td>
<td>100.0% (1)</td>
</tr>
</tbody>
</table>

When asked if they received information from other sources, 10.5% of the farmers indicated that they received information on the Rural Development Program from other sources and 55.6% of the farmers indicated that they received information about farming subsidies from other sources, mainly the Cyprus Agricultural Payments Organization (CAPO), see Table 4.10. Almost two in three (61.3%) of the participants indicated that they receive information about pesticides from other sources and 29.8% of the farmers indicated that they receive information about agricultural diseases from other
sources, mainly private consultants and sales persons from agricultural companies that sell agricultural products, such as pesticides.

As far as provision of marketing information materials, 42.7% of the farmers indicated that they receive information from other sources, mainly from Producer Organizations in which they are members, with 3.2% of these farmers citing the same organizations as providers of news on Cypriot, European and worldwide agriculture.

Finally, 2.4% of the farmers indicated that they are getting information on farm management on their own initiative and research. Similarly, 12.1% of the participants indicated that they locate information on new technology from machinery salespeople, the internet or from other farmers with previous experience.

In all of the above categories except the subsidies category, the farmers have rated the information they received from other sources as very good or excellent. For the subsidies category, the majority of farmers rated the quality of the information they receive as acceptable. For the marketing category, rating was split between very good/excellent (41.5%) and acceptable (43.3%). The categories that received the highest dissatisfaction rating were the Rural Development Program category and the Marketing category, in which 22.9% and 15.2% respectively of those receiving information rated that information as useless or of low value. Table 4.10 reports the farmers’ ratings of the quality of the information they receive from other sources.
Table 4-10. Farmers’ rating of the quality of the information they receive from sources other than the Department of Agriculture (n=124).

<table>
<thead>
<tr>
<th>Sources other than the Department of Agriculture</th>
<th>Not received</th>
<th>Received</th>
<th>Rating from those who received training</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Useless / Low value</td>
</tr>
<tr>
<td>Quality:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural Dev Program</td>
<td>89.5% (111)</td>
<td>10.5% (13)</td>
<td>22.9% (3)</td>
</tr>
<tr>
<td>Diseases livestock</td>
<td>66.1% (82)</td>
<td>33.9% (42)</td>
<td>4.7% (2)</td>
</tr>
<tr>
<td>Diseases agriculture</td>
<td>70.2% (87)</td>
<td>29.8% (37)</td>
<td>5.4% (2)</td>
</tr>
<tr>
<td>Pesticides/Food Safety</td>
<td>38.7% (48)</td>
<td>61.3% (76)</td>
<td>5.2% (4)</td>
</tr>
<tr>
<td>Subsidies</td>
<td>44.4% (55)</td>
<td>55.6% (69)</td>
<td>2.9% (2)</td>
</tr>
<tr>
<td>New policies</td>
<td>97.6% (121)</td>
<td>2.4% (3)</td>
<td>0.0% (0)</td>
</tr>
<tr>
<td>New technology</td>
<td>87.9% (109)</td>
<td>12.1% (15)</td>
<td>6.6% (1)</td>
</tr>
<tr>
<td>News Cyprus</td>
<td>96.8% (120)</td>
<td>3.2% (4)</td>
<td>0.0% (0)</td>
</tr>
<tr>
<td>News Europe</td>
<td>96.8% (120)</td>
<td>3.2% (4)</td>
<td>0.0% (0)</td>
</tr>
<tr>
<td>News World</td>
<td>96.8% (120)</td>
<td>3.2% (4)</td>
<td>0.0% (0)</td>
</tr>
<tr>
<td>New techniques</td>
<td>96.8% (120)</td>
<td>3.2% (4)</td>
<td>0.0% (0)</td>
</tr>
<tr>
<td>Cultivations</td>
<td>94.4% (117)</td>
<td>5.6% (7)</td>
<td>0.0% (0)</td>
</tr>
<tr>
<td>Farm management</td>
<td>97.6% (121)</td>
<td>2.4% (3)</td>
<td>0.0% (0)</td>
</tr>
<tr>
<td>Marketing</td>
<td>57.3% (71)</td>
<td>42.7% (53)</td>
<td>15.2% (8)</td>
</tr>
<tr>
<td>Other</td>
<td>98.4% (122)</td>
<td>1.6% (2)</td>
<td>50.0% (1)</td>
</tr>
</tbody>
</table>

2. What type of agriculture-related training do farmers receive from the Department of Agriculture or other sources? How do the participants rate the quality of this training?

Generally, farmers remember training and visits from officers from other services rather than from the Department of Agriculture, see Table 4.11. The officers, from whom they receive visits or training, are mainly employees of the Veterinary Service of the Ministry of Agriculture, officers from the Cyprus Agricultural Payments Organization and officers from the Agricultural Research Institute. However, in the cases of the
Veterinary Services and the Cyprus Agricultural Payments Organization, the farmers could not remember whether the visits related to training or checkups (monitoring) required by European and National legislation. Almost 18% of the farmers indicated that they received training from other services during 2009, while 5.6% of the farmers remembered attending training or informational seminars organized locally by the Department of Agriculture. Few farmers (0.8%) attended training at the head office in Nicosia and a similar number of farmers (0.8%) remembered attending training in a location other than their locality or the head office. No one (0%) remembered attending a seminar held at the head office of the Department of Agriculture in Nicosia, however 4.8% of the farmers attended seminars locally and 3.2% attended seminars at a location other than their locality or the head office. It must be noted that these training options were not mutually exclusive (i.e. a farmer could attend any training or seminar in any location). Table 4.11 summarizes the farmers’ perception regarding the frequency of the training they received.
Table 4.11. Farmers’ perception of the frequency of the training they receive (n=124)

<table>
<thead>
<tr>
<th>Training</th>
<th>Never</th>
<th>1-3 times per year</th>
<th>more than 4 times per year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department of Agriculture:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training locally</td>
<td>94.4% (117)</td>
<td>4.0% (5)</td>
<td>1.6% (2)</td>
</tr>
<tr>
<td>Training at head office</td>
<td>99.2% (123)</td>
<td>0.8% (1)</td>
<td>0.0% (0)</td>
</tr>
<tr>
<td>Training elsewhere</td>
<td>99.2% (123)</td>
<td>0.0% (0)</td>
<td>0.8% (1)</td>
</tr>
<tr>
<td>Seminar locally</td>
<td>95.2% (118)</td>
<td>4.0% (5)</td>
<td>0.8% (1)</td>
</tr>
<tr>
<td>Seminar at head office</td>
<td>100.0% (124)</td>
<td>0.0% (0)</td>
<td>0.0% (0)</td>
</tr>
<tr>
<td>Seminar elsewhere</td>
<td>96.8% (120)</td>
<td>2.4% (3)</td>
<td>0.8% (1)</td>
</tr>
<tr>
<td>Other sources:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visits</td>
<td>66.1% (82)</td>
<td>27.4% (34)</td>
<td>6.5% (8)</td>
</tr>
<tr>
<td>Training/ Seminars</td>
<td>82.3% (102)</td>
<td>16.1% (20)</td>
<td>1.6% (2)</td>
</tr>
</tbody>
</table>

The percentage of farmers who reported they attended training during 2009 is higher among “young farmers”, see Table 4.12. Half of the young farmers (N=3) indicated that they received training while only 5.1% of the remaining farmers indicated that they received any kind of training. Table 4.12 reports the frequency of training that farmers received in 2009 and the split between “young farmers” and “non-young farmers”.

Table 4.12. Training frequency of young farmers and non-young farmers (n=124)

<table>
<thead>
<tr>
<th>Type of Farmer</th>
<th>Did not receive training</th>
<th>Received Training</th>
<th>Frequency of trainings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>%</td>
<td>1-3 times per year</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Young farmer (N=6)</td>
<td>50.0% (3)</td>
<td>50.0% (3)</td>
<td>33.3% (2)</td>
</tr>
<tr>
<td>Non-young farmer (N=118)</td>
<td>94.9% (112)</td>
<td>5.1% (6)</td>
<td>3.4% (4)</td>
</tr>
</tbody>
</table>
Regarding all of the farmers’ perception about the quality of the training they received, 79% of the farmers reported that they did not receive any training from the DOA during 2009, see Table 4.13. For the farmers indicating that they received training, 57.62% rated the quality of the training as very good or excellent, 38.57% rated the training as acceptable and only 3.81% rated the training as useless or of low value.

Regarding the farmers’ perceptions about the quality of the training they received from other sources, 95.2% of the participants reported not receiving any training during 2009. All (100%) of the remaining of the participants (4.8%), however, rated the training received as very good or excellent.

Table 4-13. Rating of training received (n=124)

<table>
<thead>
<tr>
<th>Training Received</th>
<th>Not received</th>
<th>Received</th>
<th>Rating from those who received training</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Useless or Low value</td>
</tr>
<tr>
<td>From DOA</td>
<td>79.0% (98)</td>
<td>21.0% (26)</td>
<td>3.8% (1)</td>
</tr>
<tr>
<td>From Other Sources</td>
<td>95.2% (118)</td>
<td>4.8% (6)</td>
<td>0.0% (0)</td>
</tr>
</tbody>
</table>

3. What methods of communication exist between the Department of Agriculture and Cypriot farmers? Are these the methods that farmers prefer?

Farmers’ responses indicate that communication with the Department of Agriculture is not frequent. In general, the most commonly viewed mass source of information is the television program “Countryside” since 62.9 % of farmers indicate that they watch it, see Table 4.14iii. On the individual communication methods, 32.6% of the farmers receive information via a District employee visit and via written correspondence (38.7%).
The majority of farmers (58.9%) indicated that they do not receive the “Farmer” magazine, see Table 4.14i, but they would like to receive it in the future. Almost half of the participants (46.8%) admitted that they never read a newspaper and only 21.8% of the participants read a newspaper daily, see Table 4.14ii. The majority of farmers do not telephone (97.6%) or visit the head office (91.9%) of the Department of Agriculture; however some do communicate with the District offices; 25% by telephone and 27.3% by visiting the District office, see Table 4.14iii. Less than 1% (0.8%) of farmers have electronic information sent to them and less than 4% (3.2%) have fax communication with the Department of Agriculture. Table 4.14iii summarizes the farmers’ responses regarding the methods of communication with the Department of Agriculture.

Table 4-14i. Methods of communication between the Department of Agriculture and Farmers (n=124).

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>1-2 times per year</th>
<th>3-4 times per year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmer Magazine</td>
<td>58.9% (73)</td>
<td>11.3% (14)</td>
<td>29.8% (37)</td>
</tr>
</tbody>
</table>

Table 4-14ii. Methods of communication between the Department of Agriculture and Farmers (n=124).

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Daily</th>
<th>Certain days</th>
<th>Random days</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newspaper</td>
<td>46.8% (58)</td>
<td>21.8% (27)</td>
<td>5.6% (7)</td>
<td>24.2% (30)</td>
<td>1.6% (2)</td>
</tr>
</tbody>
</table>
Table 4-14iii. Methods of communication between the Department of Agriculture and Farmers (n=124).

<table>
<thead>
<tr>
<th>Method</th>
<th>Never</th>
<th>1-3 times per year</th>
<th>more than 4 times per year</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mass methods:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radio Program</td>
<td>72.6% (90)</td>
<td>2.4% (3)</td>
<td>25.0% (31)</td>
</tr>
<tr>
<td>TV Program</td>
<td>37.1% (46)</td>
<td>16.9% (21)</td>
<td>46.0% (57)</td>
</tr>
<tr>
<td><strong>Individual methods:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Written Correspondence</td>
<td>61.3% (76)</td>
<td>28.2% (35)</td>
<td>10.5% (13)</td>
</tr>
<tr>
<td>Electronic Correspondence</td>
<td>99.2% (123)</td>
<td>0.0% (0)</td>
<td>0.8% (1)</td>
</tr>
<tr>
<td>Fax Correspondence</td>
<td>96.8% (120)</td>
<td>2.4% (3)</td>
<td>0.8% (1)</td>
</tr>
<tr>
<td>Telephone District Office</td>
<td>75.0% (93)</td>
<td>17.7% (22)</td>
<td>7.3% (9)</td>
</tr>
<tr>
<td>Visit District Office</td>
<td>72.6% (90)</td>
<td>19.4% (24)</td>
<td>8.1% (10)</td>
</tr>
<tr>
<td>Telephone Head Office</td>
<td>91.9% (114)</td>
<td>4.0% (5)</td>
<td>4.0% (5)</td>
</tr>
<tr>
<td>Visit Head Office</td>
<td>97.6% (121)</td>
<td>0.8% (1)</td>
<td>1.6% (2)</td>
</tr>
<tr>
<td>Specialist Visit</td>
<td>91.9% (114)</td>
<td>7.3% (9)</td>
<td>0.8% (1)</td>
</tr>
<tr>
<td>District Employee Visit</td>
<td>67.7% (84)</td>
<td>14.5% (18)</td>
<td>17.7% (22)</td>
</tr>
</tbody>
</table>

When asked about their preferred communication methods, 93.5% of the farmers indicated that they prefer leaflets by mail, see Table 4.15. Factsheets (79.8%), a specialist officer visit (79.8%), the telephone (79%) and a visit by a district officer (78.2%) were also highly preferred by the farmers. Video/DVDs and CDs were least preferred with only 4.8% and 7.3% of the farmers, respectively indicating them as their preferred methods. Only 11.3% of the participants indicated that they prefer internet or email communications. Just over 70% of the participants (71.8%) indicated that they prefer presentations and seminars in their locality, whereas only 14.5% indicated that they prefer presentations and seminars at the head office of the Department of Agriculture in Nicosia. Although written communication methods were generally high among the
farmers’ preference, only 31.5% reported that they would like leaflets to be dropped off at a central location (e.g. community centre, local co-operative bank and so on) for them to pick up from that central location. Only one in four participants (25%) chose demonstration plots to be a preferred communication method and even slightly less (23.4%) chose field trips among their preferred communication methods.

More than half of the farmers (54%) like watching the television program “Countryside”, however only 28.2% listen to the radio program, “The hour of the countryside”. Only 21% choose the newspaper as a channel of information. Just less than one in six of the farmers (16.1%) indicated that they prefer magazines other than or in addition to the “Farmer” magazine.

Table 4.15 lists in order of preference the methods by which farmers indicated that they prefer to receive communication from the Department of Agriculture.
<table>
<thead>
<tr>
<th>Methods</th>
<th>Prefer*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leaflets by mail</td>
<td>93.5% (116)</td>
</tr>
<tr>
<td>Fact sheets</td>
<td>79.8% (99)</td>
</tr>
<tr>
<td>Specialist officer visit</td>
<td>79.8% (99)</td>
</tr>
<tr>
<td>Telephone</td>
<td>79.0% (98)</td>
</tr>
<tr>
<td>District officer visit</td>
<td>78.2% (97)</td>
</tr>
<tr>
<td>Farmer magazine</td>
<td>73.4% (91)</td>
</tr>
<tr>
<td>Local seminar</td>
<td>71.8% (89)</td>
</tr>
<tr>
<td>Local presentation</td>
<td>71.8% (89)</td>
</tr>
<tr>
<td>TV program</td>
<td>54.0% (67)</td>
</tr>
<tr>
<td>Leaflets at central point</td>
<td>31.5% (39)</td>
</tr>
<tr>
<td>Radio program</td>
<td>28.2% (35)</td>
</tr>
<tr>
<td>SMS Text messaging</td>
<td>27.4% (34)</td>
</tr>
<tr>
<td>Demonstration plots</td>
<td>25.0% (31)</td>
</tr>
<tr>
<td>Field trips</td>
<td>23.4% (29)</td>
</tr>
<tr>
<td>Newspaper articles</td>
<td>21.0% (26)</td>
</tr>
<tr>
<td>Other magazines</td>
<td>16.1% (20)</td>
</tr>
<tr>
<td>Head office seminar</td>
<td>14.5% (18)</td>
</tr>
<tr>
<td>Head office presentation</td>
<td>14.5% (18)</td>
</tr>
<tr>
<td>Fax</td>
<td>12.9% (16)</td>
</tr>
<tr>
<td>Internet</td>
<td>11.3% (14)</td>
</tr>
<tr>
<td>Email</td>
<td>11.3% (14)</td>
</tr>
<tr>
<td>Website</td>
<td>8.9% (11)</td>
</tr>
<tr>
<td>CD</td>
<td>7.3% (9)</td>
</tr>
<tr>
<td>Video/DVD</td>
<td>4.8% (6)</td>
</tr>
</tbody>
</table>

*Note: Percentages do not add to 100% as respondents could select multiple choices.
When the farmers’ preferred communication methods were further analyzed by farming sector, the results varied. The farming sector with the greatest preference for internet communications was the livestock sector with 16.7% of the livestock farmers indicating that they preferred the information to reach them by internet and email, whereas 11.9% indicated that they would use the Department of Agriculture’s website to obtain information, see Table 4.16a. Farmers belonging to the agronomy sector do not prefer any of the electronic communication methods since they responded negatively to all (internet, email, fax, CD, and website) methods (0%). Additionally, several farmers reported to the researcher that they do not have the equipment (computers, fax machines, etc), the skills, or the knowledge needed to use internet communications.

Farmers in all sectors indicated their preference for the TV program “Countryside” over the radio program “The hour of the Countryside”. Farmers belonging to the horticultural sector indicated the highest preference for the TV program (75.9%). The livestock farmers scored the lowest preference of all sectors for both the TV program (35.7%) and the radio program (19%).

Farmers across all sectors indicated that they prefer local seminars and presentations with percentages ranging between 69% for livestock farmers and 85.7% for the agronomy sector, see Table 4.16a. In contrast, seminars and presentations taking place at the head office scored lower with preference ranging from 13% for horticultural farmers to 14.3% for both livestock and agronomy farmers. Regarding demonstration plots and field trips as communication methods to disseminate information, farmers in the horticultural sector indicated the greatest interest; 40.70% for demonstration plots and 38.9% for field trips.
Farmers in all sectors indicated a high regard for printed material. All farmers (100%) in the agronomy sector expressed a preference to receive informational leaflets by mail, whereas 96.3% of horticultural farmers and 88.1% of livestock farmers also indicated their preference to receive leaflets by mail. Specialized (by sector) fact sheets were also highly regarded across each sector; farmers in the horticultural sector expressed the greatest preference at 88.9%. Farmers in the livestock sector indicated that they prefer to be visited by a specialized officer more (85.7%) than by a district officer (81%), whereas the farmers’ preference for the two types of visits did not differ between the horticultural (77.8%) and agronomy (71.4%) sectors.

Livestock farmers indicated much less interest (57.1%) in receiving the farmer magazine whereas the preference of the other two sectors was very similar with 85.2% of the horticultural farmers and 85.7% of the agronomy farmers indicating that they would like to receive the magazine.
The livestock section within the Department of Agriculture in Cyprus is further divided into four subsectors (Poultry, Swine, Cattle and Dairy, and Sheep and Goat), whereas the other two sections (horticulture and agronomy) are entities. Since each livestock subsection is individually responsible for communicating with the respective farmers, further analysis of the livestock sector was conducted, see Table 4.15b. All
(100%) of the swine farmers indicated that they only prefer communication by visits (district officer and specialist officer), fact sheets and leaflets via mail, telephone, fax, internet and email. Half (50%) of the swine farmers indicated that they would like farming magazines other than the “Farmer” magazine. None (0%) of the swine farmers indicated a preference for any of the other communication methods.

Poultry farmers expressed preference for communicating more with the head office. All (100%) expressed preference for the specialized officer visit, whereas only one (33.3%) preferred a visit from the district officer. All of the poultry farmers (100%) indicated that they prefer specialized fact sheets whereas only 66.7% reported that they would like other leaflets by mail, or SMS text messaging. Furthermore, all of the poultry farmers (100%) preferred information to reach them by internet, email or the Department of Agriculture’s website.

All of the cattle and dairy farmers (100%) indicated preference for receiving communication via mailed leaflets, visits by either specialist officers or district officers, and telephone. A large number of the cattle farmers (83.3%) also indicated that they would attend seminars and presentations in their locality. Two-thirds of farmers (66.7%) preferred seminars and presentations at the head office, as well as the Farmer magazine and SMS text messaging.

Farmers in the sheep and goat subsector indicated receiving leaflets by mail (89.4%) as their highest preference. Visits from either the district officer (80.9%) or specialist officer (80.9%) followed. Next came communication via telephone (76.6%) and fact sheets (72.3%). Nearly two-thirds of farmers prefer local seminars and
presentation (66%) and the Farmer magazine (63.8%). The sheep and goat farmers indicated limited preference for electronic communication methods.

Table 4-16b. Preferred communication methods of livestock farmers by sector (n=45).

<table>
<thead>
<tr>
<th>Method</th>
<th>Poultry N=3</th>
<th>Swine N=2</th>
<th>Cattle N=5</th>
<th>Sheep / Goat N=35</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leaflets by mail</td>
<td>66.7% (2)</td>
<td>100.0% (2)</td>
<td>100.0% (5)</td>
<td>89.4% (31)</td>
</tr>
<tr>
<td>Fact sheets</td>
<td>100.0% (3)</td>
<td>100.0% (2)</td>
<td>66.7% (3)</td>
<td>72.3% (25)</td>
</tr>
<tr>
<td>Specialist Officer visit</td>
<td>100.0% (3)</td>
<td>100.0% (2)</td>
<td>100.0% (5)</td>
<td>80.9% (28)</td>
</tr>
<tr>
<td>Telephone</td>
<td>66.7% (2)</td>
<td>100.0% (2)</td>
<td>100.0% (5)</td>
<td>76.6% (27)</td>
</tr>
<tr>
<td>District Officer visit</td>
<td>33.3% (1)</td>
<td>100.0% (2)</td>
<td>100.0% (5)</td>
<td>80.9% (28)</td>
</tr>
<tr>
<td>Farmer magazine</td>
<td>33.3% (1)</td>
<td>0.0% (0)</td>
<td>66.7% (3)</td>
<td>63.8% (22)</td>
</tr>
<tr>
<td>Local seminar</td>
<td>100.0% (3)</td>
<td>0.0% (0)</td>
<td>83.3% (4)</td>
<td>66.0% (23)</td>
</tr>
<tr>
<td>Local presentation</td>
<td>100.0% (3)</td>
<td>0.0% (0)</td>
<td>83.3% (4)</td>
<td>66.0% (23)</td>
</tr>
<tr>
<td>TV program</td>
<td>33.3% (1)</td>
<td>0.0% (0)</td>
<td>16.7% (1)</td>
<td>40.4% (14)</td>
</tr>
<tr>
<td>Leaflets at central point</td>
<td>0.0% (0)</td>
<td>0.0% (0)</td>
<td>33.3% (2)</td>
<td>34.0% (12)</td>
</tr>
<tr>
<td>Radio program</td>
<td>0.0% (0)</td>
<td>0.0% (0)</td>
<td>16.7% (1)</td>
<td>29.8% (10)</td>
</tr>
<tr>
<td>SMS Text messaging</td>
<td>66.7% (2)</td>
<td>0.0% (0)</td>
<td>66.7% (3)</td>
<td>12.8% (4)</td>
</tr>
<tr>
<td>Demonstration plots</td>
<td>0.0% (0)</td>
<td>0.0% (0)</td>
<td>16.7% (1)</td>
<td>12.8% (4)</td>
</tr>
<tr>
<td>Field trips</td>
<td>0.0% (0)</td>
<td>0.0% (0)</td>
<td>16.7% (1)</td>
<td>8.5% (3)</td>
</tr>
<tr>
<td>Newspaper articles</td>
<td>33.3% (1)</td>
<td>0.0% (0)</td>
<td>16.7% (1)</td>
<td>14.9% (5)</td>
</tr>
<tr>
<td>Other magazines</td>
<td>33.3% (1)</td>
<td>50.0% (1)</td>
<td>16.7% (1)</td>
<td>12.8% (4)</td>
</tr>
<tr>
<td>Head office seminar</td>
<td>100.0% (3)</td>
<td>0.0% (0)</td>
<td>66.7% (3)</td>
<td>4.3% (2)</td>
</tr>
<tr>
<td>Head office presentation</td>
<td>100.0% (3)</td>
<td>0.0% (0)</td>
<td>66.7% (3)</td>
<td>4.3% (2)</td>
</tr>
<tr>
<td>Fax</td>
<td>66.7% (2)</td>
<td>100.0% (2)</td>
<td>66.7% (3)</td>
<td>0.0% (0)</td>
</tr>
<tr>
<td>Internet</td>
<td>100.0% (3)</td>
<td>100.0% (2)</td>
<td>33.3% (2)</td>
<td>2.1% (1)</td>
</tr>
<tr>
<td>Email</td>
<td>100.0% (3)</td>
<td>100.0% (2)</td>
<td>33.3% (2)</td>
<td>2.1% (1)</td>
</tr>
<tr>
<td>Website</td>
<td>100.0% (3)</td>
<td>0.0% (0)</td>
<td>33.3% (2)</td>
<td>2.1% (1)</td>
</tr>
<tr>
<td>CD</td>
<td>66.7% (2)</td>
<td>0.0% (0)</td>
<td>16.7% (1)</td>
<td>2.1% (1)</td>
</tr>
<tr>
<td>Video/DVD</td>
<td>0.0% (0)</td>
<td>0.0% (0)</td>
<td>0.0% (0)</td>
<td>2.1% (1)</td>
</tr>
</tbody>
</table>
4. What recommendations do farmers have to improve the information, training, and contact between them and the Department of Agriculture?

When farmers were asked what improvement should be made to the radio program “The hour of the countryside” in order for them to listen to it more frequently, 69.4% of the participants replied that they would not listen to the program no matter what changes were made, see Table 4.17. Almost one in five (18.5%) indicated satisfaction with the program. Nearly six percent (5.6%) recommended changes in the day and time of transmission whereas a similar percentage of farmers (5.6%) indicated other reasons (such as work shifts) prevent them from listening to the program.

Table 4-17. Suggestions to improve the radio program (n=124).

<table>
<thead>
<tr>
<th>Radio Program</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Will not listen to the program whatever changes are made</td>
<td>86</td>
<td>69.4%</td>
</tr>
<tr>
<td>Satisfied – no recommendation offered</td>
<td>23</td>
<td>18.5%</td>
</tr>
<tr>
<td>Something else (not influenced by the program) e.g. work shifts</td>
<td>7</td>
<td>5.6%</td>
</tr>
<tr>
<td>The program to be transmitted on a weekday in the evening</td>
<td>3</td>
<td>2.4%</td>
</tr>
<tr>
<td>The program to be transmitted in the evening (any day)</td>
<td>2</td>
<td>1.6%</td>
</tr>
<tr>
<td>The program to be transmitted on a weekday (no specific time indicated)</td>
<td>2</td>
<td>1.6%</td>
</tr>
<tr>
<td>Will only listen if topic is interesting</td>
<td>1</td>
<td>0.8%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>124</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

The responses regarding the television program “Countryside”, however, were different. Only 11.3% claim that they would not watch the television program no matter the changes, see Table 4.18. Just over 15% (N=19) indicated that they are satisfied with the current program and would like it to continue as it is. Over half of the participants (51.6%) indicated a problem with either the day or the time the program is transmitted. More than one in four farmers (27.4%) would prefer the program, to be moved to a
weekday during the evening hours. Just over seven percent of the participants (N=9) indicated that they would only watch the program if the topics were interesting to them.

Finally, 14.5% of the farmers reported that they do not watch the program for reasons not related to the program, such as shift work or irregular hours.

Table 4-18. Suggestions to improve the television program (n=124)

<table>
<thead>
<tr>
<th>Television Program</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>The program to be transmitted on a weekday in the evening</td>
<td>34</td>
<td>27.4%</td>
</tr>
<tr>
<td>The program to be transmitted on a weekday (no specific time indicated)</td>
<td>28</td>
<td>22.6%</td>
</tr>
<tr>
<td>Satisfied – no recommendation offered</td>
<td>19</td>
<td>15.3%</td>
</tr>
<tr>
<td>Something else (not influenced by the program)</td>
<td>18</td>
<td>14.5%</td>
</tr>
<tr>
<td>Will not watch the program whatever changes are made</td>
<td>14</td>
<td>11.3%</td>
</tr>
<tr>
<td>Will only watch if topic is interesting</td>
<td>9</td>
<td>7.3%</td>
</tr>
<tr>
<td>The program to be transmitted in the evening (any day)</td>
<td>2</td>
<td>1.6%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>124</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Over half of the participants (58.9%) did not receive the farmer magazine and therefore could not make recommendations, see Table 4.19. Only 6.5% of the participants read the magazine from cover to cover which is only 15.5% of the farmers actually receiving the magazine. Just over 23.4% of the farmers prefer to read articles on their farming sector and maybe some other articles that may “catch their eye”. This represents 55.8% of the people that receive the magazine.
Table 4-19. Indication of interest in the “Farmer” magazine (n=124)

<table>
<thead>
<tr>
<th>Farmer magazine</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>I do not receive the magazine</td>
<td>73</td>
<td>58.9%</td>
</tr>
<tr>
<td>Read articles on my farming sector and some other I find interesting</td>
<td>29</td>
<td>23.4%</td>
</tr>
<tr>
<td>Read only articles on my farming sector</td>
<td>9</td>
<td>7.3%</td>
</tr>
<tr>
<td>Read all from cover to cover</td>
<td>8</td>
<td>6.5%</td>
</tr>
<tr>
<td>Other</td>
<td>5</td>
<td>4.0%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>124</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Results and suggestions regarding visits by specialist officers were varied. More than one in five participants (21.8%) indicated that there is no need for a specialized officer to visit them, see Table 4.20. Another 20.2% of the participants, however, indicated that they would like to be visited by a specialist officer at least 1-3 times per year, and a further 9.7% indicated that they would like the specialist visits to be even more frequent, four or more times per year. In contrast, 14.5% of the farmers believed that they either have enough personal experience or their own experience is superior to the experience of the officers. Just over one in six of the participants (16.9%) were satisfied with the service and visits they receive by the District employees and did not believe that a visit from a specialized officer was needed or would add any additional value. Only 5.6% reported satisfaction with the visits currently received from a specialized officer.
Table 4-20. Suggestions to improve the visits by Specialist officers (n=124).

<table>
<thead>
<tr>
<th>Specialist Visit</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>No need to be visited</td>
<td>27</td>
<td>21.8%</td>
</tr>
<tr>
<td>Would like to be visited 1-3 times per year</td>
<td>25</td>
<td>20.2%</td>
</tr>
<tr>
<td>Satisfied with the visits by the district officer</td>
<td>21</td>
<td>16.9%</td>
</tr>
<tr>
<td>Satisfied with own experience, more than officer's</td>
<td>18</td>
<td>14.5%</td>
</tr>
<tr>
<td>Something else (not relating to the officer)</td>
<td>11</td>
<td>8.9%</td>
</tr>
<tr>
<td>Would like to be visited more than 5 times per year</td>
<td>9</td>
<td>7.3%</td>
</tr>
<tr>
<td>Satisfied with current visits from specialist - no change needed</td>
<td>7</td>
<td>5.6%</td>
</tr>
<tr>
<td>Would like to be visited 4-5 times per year</td>
<td>3</td>
<td>2.4%</td>
</tr>
<tr>
<td>Satisfied with someone else's service</td>
<td>3</td>
<td>2.4%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>124</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

When the percentage of participants who are satisfied with visits by specialist officers are disaggregated by District, less than 10% of participants in each district are satisfied with specialist visits, see Table 4.21.

Table 4-21. Satisfaction of visits by Specialist officers by District (n=124).

<table>
<thead>
<tr>
<th>Specialist Visit by District</th>
<th>Satisfied</th>
<th>Dissatisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>Famagusta (N=11)</td>
<td>9.1%</td>
<td>90.9%</td>
</tr>
<tr>
<td>Limassol (N=22)</td>
<td>9.1%</td>
<td>90.9%</td>
</tr>
<tr>
<td>Paphos (N=24)</td>
<td>8.3%</td>
<td>91.7%</td>
</tr>
<tr>
<td>Nicosia (N=19)</td>
<td>5.3%</td>
<td>94.7%</td>
</tr>
<tr>
<td>Larnaca (N=38)</td>
<td>2.6%</td>
<td>97.4%</td>
</tr>
<tr>
<td>Pitsilia (N=10)</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>5.6%</strong></td>
<td><strong>94.4%</strong></td>
</tr>
</tbody>
</table>

A higher percentage of participants (24.2%) reported being satisfied with the current service they receive from a district employee, see Table 4.22. Only 4% claim that they would prefer a visit by a specialist officer. Nearly 30% of the farmers (29.8%) would like the district employee visits to be more frequent. The percentage of participants
believing that they have more experience than the district employee is 11.3%, and another 21% of the farmers indicated that they do not require a visit at all. Finally, 3.2% of the participants are satisfied with the service and visits from other sources.

Table 4.22. Suggestions to improve the visits by District employee (n=124).

<table>
<thead>
<tr>
<th>District Employee Visit</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfied with current visits from district employee - no change needed</td>
<td>30</td>
<td>24.2%</td>
</tr>
<tr>
<td>No need to be visited</td>
<td>26</td>
<td>21.0%</td>
</tr>
<tr>
<td>Would like to be visited 1-3 times per year</td>
<td>17</td>
<td>13.7%</td>
</tr>
<tr>
<td>Would like to be visited more than 5 times per year</td>
<td>15</td>
<td>12.1%</td>
</tr>
<tr>
<td>Satisfied with own experience, more than officer's</td>
<td>14</td>
<td>11.3%</td>
</tr>
<tr>
<td>Something else (not relating to the officer)</td>
<td>8</td>
<td>6.5%</td>
</tr>
<tr>
<td>Prefers to be visited by a Specialist officer</td>
<td>5</td>
<td>4.0%</td>
</tr>
<tr>
<td>Would like to be visited 4-5 times per year</td>
<td>5</td>
<td>4.0%</td>
</tr>
<tr>
<td>Satisfied with someone else's service</td>
<td>4</td>
<td>3.2%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>124</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

When analyzed by farming district, satisfaction results varied, see Table 4.23.

More than half (54.5%) of participants from the Famagusta district expressed satisfaction. In each of the other districts, the percentages of those satisfied were lower; 31.8% in Limassol, 25% in Paphos, 20% in Pitsilia and 15.8% in Nicosia and Larnaca, respectively. Table 4.23 shows the farmers’ satisfaction about district employee visits by each farming district.
Table 4.23. Satisfaction of visits by District employee by District (n=124).

<table>
<thead>
<tr>
<th>District Employee Visit by District</th>
<th>Satisfied</th>
<th>Dissatisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>Famagusta (N=11)</td>
<td>54.5%</td>
<td>45.5%</td>
</tr>
<tr>
<td>Limassol (N=22)</td>
<td>31.8%</td>
<td>68.2%</td>
</tr>
<tr>
<td>Paphos (N=24)</td>
<td>25.0%</td>
<td>75.0%</td>
</tr>
<tr>
<td>Pitsilia (N=10)</td>
<td>20.0%</td>
<td>80.0%</td>
</tr>
<tr>
<td>Larnaca (N=38)</td>
<td>15.8%</td>
<td>84.2%</td>
</tr>
<tr>
<td>Nicosia (N=19)</td>
<td>15.8%</td>
<td>84.2%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>24.2%</strong></td>
<td><strong>75.8%</strong></td>
</tr>
</tbody>
</table>

The interview schedule also included open-ended questions. The responses were coded according to their similarity and then analyzed in a quantitative manner. Farmers offered suggestions on how to improve the communication between the Department of Agriculture and themselves.

Using open-ended questions, survey participants were also asked what further information they would like to receive from the Department of Agriculture. The majority (60.5%) did not provide any suggestions, see Table 4.24. Among the remaining participants, 8.9% requested marketing information or information regarding Producer Organizations and another 8.9% requested information of any kind. Nearly five percent, (4.8%) requested general advice whereas 5.6% commented that any advice they receive should be timely, accurate and simple for them to understand. Table 4.24 outlines the suggestions that the participants had regarding additional information they would like to receive from the Department of Agriculture.
Table 4-24. Suggestions for further information to be sent (n=124).

<table>
<thead>
<tr>
<th>Further information</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>No suggestion made</td>
<td>75</td>
<td>60.5%</td>
</tr>
<tr>
<td>Information on marketing or Producer Organization</td>
<td>11</td>
<td>8.9%</td>
</tr>
<tr>
<td>More information about everything</td>
<td>11</td>
<td>8.9%</td>
</tr>
<tr>
<td>Timely, accurate, simple information</td>
<td>7</td>
<td>5.6%</td>
</tr>
<tr>
<td>General Advice</td>
<td>6</td>
<td>4.8%</td>
</tr>
<tr>
<td>Other (farmer magazine, collaboration with ARI, visits)</td>
<td>4</td>
<td>3.2%</td>
</tr>
<tr>
<td>Information on innovations or machinery</td>
<td>3</td>
<td>2.4%</td>
</tr>
<tr>
<td>Information on the Rural Development Program</td>
<td>3</td>
<td>2.4%</td>
</tr>
<tr>
<td>Information on organic agriculture</td>
<td>2</td>
<td>1.6%</td>
</tr>
<tr>
<td>Information on pesticides</td>
<td>1</td>
<td>0.8%</td>
</tr>
<tr>
<td>District seminars</td>
<td>1</td>
<td>0.8%</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>124</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

Next, participants were asked to express their opinions on what they perceive as obstacles in the effective and efficient communication between the Department of Agriculture and themselves. Just over one in four (26.6%) of the participants expressed no opinion, Table 4.25, almost as many (23.4%) were satisfied with the current situation (21% were satisfied and 2.4% were content in the sense that when requested the officers addressed their problems). However, 33.9% of the participants perceived certain officer attributes, such as low knowledge, and bad attitude as obstacles. Furthermore, the farmers expressed their lack of trust and confidence in the officers. Most farmers reported that the officers do not visit as often as they did in the past; that they do not appear to care about the farmers; that they are young and inexperienced and many of the old experienced officers have retired. Table 4.25 outlines the perceptions of the participants regarding the obstacles to efficient and effective communication between the Department of Agriculture and themselves.
Table 4-25. Perceived obstacles to the efficient and effective communication between the Department of Agriculture and the farmers (n=124).

<table>
<thead>
<tr>
<th>Perceived obstacles</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Officer problem (trust, knowledge, attitude, no visits)</td>
<td>42</td>
<td>33.9%</td>
</tr>
<tr>
<td>No opinion expressed</td>
<td>33</td>
<td>26.6%</td>
</tr>
<tr>
<td>Satisfied - no complaints</td>
<td>26</td>
<td>21.0%</td>
</tr>
<tr>
<td>Officer and farmer problem (e.g. do not depend on DOA)</td>
<td>7</td>
<td>5.6%</td>
</tr>
<tr>
<td>Disorganization of the service</td>
<td>6</td>
<td>4.8%</td>
</tr>
<tr>
<td>Worldwide Agriculture Problem</td>
<td>5</td>
<td>4.0%</td>
</tr>
<tr>
<td>Satisfied - officers visiting when requested</td>
<td>3</td>
<td>2.4%</td>
</tr>
<tr>
<td>Lack of funding</td>
<td>1</td>
<td>0.8%</td>
</tr>
<tr>
<td>Same communication as in the past</td>
<td>1</td>
<td>0.8%</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>124</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

During data collection, participants provided the researcher with some additional qualitative data regarding ways to improve communication to make it more efficient and effective. Regarding training, seminars and presentations, farmers indicated that the venue and timing of these functions are sometimes not convenient (evenings were recommended as a more appropriate time to carry out such training). Farmers also indicated that a location near their place of farming or residence is more convenient.
Chapter 5

DISCUSSION AND RECOMMENDATIONS

Based on the literature reviewed, this chapter discusses the research findings reported in Chapter 4. On the basis of those findings, recommendations for possible future actions and further research are provided.

Discussion of Demographics

The largest group of the farmers (43.5%) that responded to the study was horticultural farmers. In Cyprus, many crops are included in this sector, such as citrus, grapes, potatoes, olive trees, nuts, vegetables, fruit trees, bananas, fresh flowers and ornamental plants, fig trees, and so on. Additionally the climatic and land characteristics of Cyprus favor this particular sector.

The livestock farmers who responded to the study constituted the second largest group. This sector consists of cattle, swine, poultry, as well as sheep and goats. The livestock sector had a larger number of goat and sheep farmers as a result of the proportionate stratified random sampling method. This particular sector is not as intensified in big units as the rest of the livestock sector (cattle, poultry and swine) and thus many farmers have smaller units. Livestock farming with the exception of sheep and goats are organized in businesses due to the intense capital that is required and the strict health safety guidelines.
Only seven participants (5.6%) were solely agronomy producers. The problem that the researcher faced with this category included inaccuracy in the registers. Many registered farmers were actually renting the land to others to cultivate and therefore the landlords were unwilling to answer any questions. Furthermore, some agronomy farmers felt that since they have been farming the same crops for many years the research interview would have nothing more to offer them. In addition, some farmers blamed the drought that affected their crops (no crops harvested) in the last two years and as such they felt that participating in the survey would not be appropriate as they had no reason to have contact with the Department of Agriculture. Additionally, just over 11% of the farmers were livestock farmers as well as growing agronomy crops (cereals), mainly barley, alfalfa and other fodder crops. These two activities appear to be complementary as farmers prefer to produce fodders for their own animals in an effort to reduce input costs.

The majority of the farmers (79%) were age 47 or older, an indication of the aging farm population in Cyprus. This result is consistent with the 2003 Agricultural Census of the Statistical Service of Cyprus which identified that 76.1% of the farmers were over the age of 45 (Rural Development Program 2007-2013; MOA, 2007). Regarding the educational level of the participants, almost half of them (48.4%) are educated only through the elementary level. These combined results (aging and limited education) appear to be consistent with the literature regarding the colonial educational policy in Cyprus prior to the country’s independence in 1960. An implication of these demographic characteristics is that the information that is communicated to farmers has to be adapted to their educational level in order to be understandable by the recipients.
The results regarding the farming districts indicate that almost one-third of the participants were from the Larnaca district (30.6%), also home to the third biggest town in Cyprus. The district with the capital city, Nicosia (N=19), appears to becoming more and more urban with residential areas continually replacing farming land. The second biggest town in Cyprus, Limassol, is also the main port in Cyprus since the Turkish invasion of 1974. Therefore, in both of those towns the service industry employs many residents. The Pitsilia farming district, with the fewest participants (N=10) includes the mountain villages between the three other districts (Nicosia, Limassol and Larnaca). The Famagusta farming district (11 participants) covers a small area, for the majority of the District is under occupation by the Turkish army. The findings suggest the farmers who participated in the research from the Famagusta district were the most satisfied when they rated the district employee visits.

For more than half of the participants (57.2%), farming is the main source of income. However, the percentage of part time farmers (42.7%) is high. This percentage reiterates previous literature results about the importance of part-time farming in Cyprus (Ansell, Bishop, & Upton, 1984). Horticulture is characterized by the largest number of part time farmers (57.4%). Horticultural crops are mainly seasonal (fruit) or are crops that do not need much cultivating care, such as nuts. Such crops can be grown on small holdings; some horticultural holdings are as small as one decare. Such small parcels of land cannot provide adequate income to a farmer.

In contrast, the livestock and agronomy sectors are characterized by a higher percentage of full time farmers. This is reasonable due to the labor intensity of the sectors. Part time farming in livestock was mainly driven by the goat and sheep sector.
where some rural residents keep these animals for meat and milk for their family’s use only. From the results, the sheep and goat farmers reported animal ownership as low as four animals. Although sheep and goat farmers with less than 50 registered animals were excluded from the original sample, during data collection some farmers reported to the researcher that the actual number of owned animals was less than the number registered with the Department of Agriculture. When the researcher inquired about the low numbers, the main reasons given were that the animals were sold or died or stolen since the latest registers were compiled.

Discussion of findings related to communication methods and effectiveness

1. What type of agriculture-related information do farmers receive from the Department of Agriculture or other sources? How do the participants rate the quality of this information?

    Farmers’ responses indicate that communication in most topics with the Department of Agriculture is either not frequent or not obvious, i.e. the farmers do not recognize the information they receive from the Department or they discard it. Farmers seem to be the most aware of the Department of Agriculture’s role in promoting and implementing the Rural Development Program. This role is new for the Department since the Rural Development Program was implemented for the first time in 2004, the year that Cyprus became a full Member of the European Union. The more traditional “extension type” agricultural information appears to be less obvious to the farmers. In particular, most farmers appear to be unaware of receiving information on diseases for both livestock and agriculture, on pesticides and food safety, on new agricultural technology that may be available and on new farming techniques and cultivations. Furthermore,
most of the farmers indicated that they are not receiving information on farm management and marketing as well as on news and developments affecting agriculture either in Cyprus, Europe or worldwide. Most of the livestock farmers indicated that they receive information on livestock diseases from other sources, mainly the Veterinary Service of the Ministry of Agriculture, Natural Resources and Environment and other private veterinary consultants. Additionally, a larger percentage of farmers indicated that they receive information on agricultural diseases from sources other than the Department of Agriculture, primarily from representatives/salespeople of pesticide companies, producer organizations of which some are members, or other private consultants. Similarly, more farmers indicated that they receive information about marketing from other sources such as producer organizations, of which they are members, or the Ministry of Commerce or even in the livestock sector, dairies which buy the milk produced.

From the above findings, it is obvious that there is a breakdown in the communication process. The message (information) does not appear to be reaching the receiver. If information is actually being sent to the farmers, then the Department of Agriculture needs to carry out further research to identify why the information is not received by the farmers or why the farmers do not realize that they receive the information. In addition, the Department of Agriculture needs to compare and evaluate the information that the farmers receive from other sources in order to identify the reasons why the farmers are more aware of receiving information from others but not from the Department of Agriculture.
2. What type of agriculture-related training do farmers receive from the Department of Agriculture or other sources? How do the participants rate the quality of this training?

More farmers remember training and visits from officers from other Departments in the Ministry of Agriculture rather than from the Department of Agriculture. The officers are mainly employees of the Veterinary Service and officers from the Agricultural Research Institute and officers from the Cyprus Agricultural Payments Organization. Although in the case of the Veterinary Services and the Cyprus Agricultural Payments Organization (an autonomous public organization), the farmers could not remember or distinguish whether the visits related to training or checkups (monitoring) required by European and National legislation, the visits from these two services appear to be more apparent to farmers. More farmers appear to attend training when the training takes place in their locality; no farmer remembered attending training at the head office of the Department of Agriculture in Nicosia. When the researcher contacted the Department of Agriculture to inquire about training offered, it emerged that during 2009 the Department organized 57 training sessions around the country.

Training percentages appear to be influenced by young farmers since there is an obligation to prove that the young farmers possess adequate occupational skills and competence. Therefore, for farmers that do not possess the skills, the Department of Agriculture is organizing in-house training compulsory for these young farmers. In the findings, half of the farmers that indicated eligible for the “young farmers” scheme reported that they attended training organized by the Department of Agriculture during 2009, whereas only a small percentage of non-young farmers indicated that they received any training. One of the reasons why only 50% of young farmers attended training and
not 100% could be that the rest of the young farmers have already received training in prior years (since the duration of the Rural Development program is between 2007-2013). Since it appears that training is being offered by the Department of Agriculture and most of the farmers that received training rated the training as very good or excellent, the fact that most farmers replied that they do not receive training may imply that farmers either are not aware of the availability of training or the content of the training is not relevant to them or they are unable to attend. In fact, in some instances the farmers provided the researcher with additional information indicating that the timing of the training is sometimes not convenient since it conflicts with their farming activities. Therefore an evaluation is needed to identify the reasons for the low response rates in the training participation.

3. **What methods of communication exist between the Department of Agriculture and Cypriot farmers? Are these the methods that farmers prefer?**

   Farmers’ responses indicate that their communication with the Department of Agriculture is not frequent. The findings indicate that the most popular source of information is the weekly television program which nearly two-thirds of farmers reported that they watch. Among individual communication methods, a District employee visit and written correspondence were the most common sources of information. Contacting the head office, either by telephone or in person does not appear to be a common practice among the participants. Instead, the participants indicated that in order to receive information they currently contact their local District office, either by telephone or by visiting. This indication is in line with the “rationale” of the existence and operation of
the District offices. The District offices are responsible for the planning and promotion of extension in the 30 “agricultural beats” (Neocleous, 1995).

The majority of the farmers indicated that they do not receive the “Farmer” magazine. Most of the farmers informed the researcher that they either did not know of the magazine’s existence or they did not know how to get the magazine. The “farmer” magazine is published four times per year. Some farmers, however, appear to have received the magazine less than four times in the last year. Some farmers indicated that although they do not receive the magazine personally, they find a copy in their local community centre or in the local coffee shop and they read it at that location. A large majority of the farmers, however, indicated that they would like to receive the magazine. The farmers who indicated that they do not want to receive the magazine expressed as reasons their intention to abandon farming, eye problems or literacy skills. Additionally, other magazines are lower in farmers’ preference, mainly due to the fact that they are not free, like the farmer magazine.

Almost half of the participants admitted that they never read a newspaper and only one in five of the participants read a newspaper daily. Newspaper readership is consistent with the newspaper being quite low in the preference of the farmers as a communication method as most of the participants believed that a newspaper is not the medium by which to communicate expert advice. Additionally, many indicated that if published in a newspaper, then the information would not be read since only a minority of farmers reads the newspapers daily.

Very few farmers have electronic information sent to them or have fax communication with the Department of Agriculture. The low usage of the electronic
communication methods is consistent with the fact that when asked if they have internet access, only one in five of the participants responded positively. With the exception of some organized groups (mainly companies), the telecommunications and internet technology has already been identified as a weakness within the Rural Development Program 2007-2013 (MOA, 2007). Cyprus has already received funding approval from the European Union for up to 900,000 Euros to improve broadband infrastructure in rural areas within the period 2010-2013 (Europa, 2009). Fax, internet, email and website communication methods ranked near the bottom on the farmers’ preference list. This low ranking is not surprising, since several farmers reported to the researcher that they do not have the equipment (computers, fax machines, etc), the skills, or the knowledge needed to use internet communications.

Farmers indicated that their most preferred communication method is written material with interpersonal communication a close second. Farmers also indicated that they prefer written materials in order to read these at their own convenience. Additionally, the farmers felt that written materials can be stored and be accessible to them for future use. Specialized fact sheets were also high among the farmers’ preference. The poultry and swine sectors already receive specialized newsletters and informed the researcher that they consider them to be of high value. Leaflet drop-off at a central location (e.g. community centre, local Co-operative bank) was ranked lower among farmers’ preference since many felt that these central points are not accessible to everybody.

Little difference in farmers’ preference exists between for the District employee visit and the specialist officer visit. Most farmers are satisfied with a visit, no matter who
visits them. The farmers informed the researcher that the discussion part and exchange of ideas is what they consider to be the most valuable from those visits. Most farmers expressed the belief that they have adequate farming experience and the visits would not provide them new information, however the discussion of ideas and experiences, they felt, were invaluable. The livestock sector expressed that because of the specialization in their sector, a specialist officer from the head office is more applicable in their situation. Furthermore, the livestock sector (with the exception of sheep and goat) informed the researcher that they only expect legislative support from the Department of Agriculture, since they employ their own consultants for in-house expert advice. When analyzed by District, farmers within the Famagusta District appear to be the most satisfied with the District employee visits.

The farmers indicated that they are willing to attend training and seminars in order to enhance their knowledge. This willingness, however, is dependent on location, time of the training/seminar, and content. They are much more willing to attend a training or seminar in their own locality rather than travelling to the head office. Additionally, many provided the researcher with an additional request that the seminars/training should take place in the evenings so that they will not conflict with their farming activities.

More than half of the farmers enjoy watching the television program, however fewer listen to the radio program. A comment expressed by many farmers, is that the timing of the transmission for both the television and the radio program is not convenient. The transmission timing (midday Sunday) conflicts with either farming activities or with family commitments. For the radio program, many farmers explained that they generally
do not listen to the radio; others explained that they only listen while driving in the car. Most of the farmers expressed the wish to watch the television program during the evening, preferably on a weekday, before or after the evening news. Some even expressed the wish to adopt the Greek television format in which five minutes of the daily weather report is dedicated to a farming report (information about the weather and farming advice).

Most farmers did not feel that they would utilize video/DVD or CDs as communication channels, either because they lack the technology or lack the available time. Demonstration plots and field trips were highly preferred for horticultural farmers because of the nature of the sector.

The findings indicate that some of the communication methods used to convey information are indeed the methods that the farmers prefer. However, an evaluation of all the methods currently used by the Department of Agriculture and the targeted audience of each method should be carried out in order to identify the strengths and weaknesses of each method. Additionally, the Department may need to abandon the radio program and expand the television program since this was a more preferable method of the participants. Finally, the visit method should be evaluated to identify how it can be strengthen further since again this appears to be one of the farmers’ favored information channels.
4. What recommendations do farmers have to improve the information, training, and contact between them and the Department of Agriculture?

The participants were offered an opportunity to offer suggestions identifying ways communication could be improved between the Department of Agriculture and themselves; if there is a problem what are the underlying reasons behind these problems and how in their opinion could these problems be either eliminated or reduced. This section of the survey is supported by the participatory theory as identified in the theoretical framework (i.e. bottom-up approach).

Some of the participants expressed satisfaction with the current communication between the Department of Agriculture and themselves. Others expressed dissatisfaction and they suggested various reasons behind this dissatisfaction. Some of these reasons relate to the decline of the agricultural sector worldwide and the lack of funding for the sector. However as an underlying reason, the farmers indicated that the Department of Agriculture is disorganized and many expressed lack of trust and confidence in the officers of the Department of Agriculture. Others felt that there had been a sudden exit of experienced officers of the Department due to mass retirements and the newer employees lack the skills and knowledge needed to assist the farmers. Several farmers also expressed their dissatisfaction in the officers’ attitudes towards the farming community. The farmers felt that the newer officers do not “care” as much since they visit much less than previous officers. This argument is consistent with some of the literature where public sector extension has been criticized as inefficient and ineffective, technologically deficient, lacking in clear objectives, badly managed, and not accountable to the clients it serves (Haug, 1999).
Finally, the participants were also asked to provide suggestions on further materials or information that they would like to receive from the Department of Agriculture. Some (N=11) expressed dissatisfaction about the way that producer organizations are functioning and requested assistance to improve the situation. Several others, such as the goat and sheep farmers, expressed the wish to receive more information and help to organize themselves into effective producer organization teams in order to strengthen the sector. Many farmers wished to receive information and help in marketing their products. More generally, the majority of farmers who expressed an opinion appeared to be “information thirsty” and they welcomed any type of information as long as the information is accurate, simple for them to understand and received by them in a timely manner.

Many farmers indicated that this was the first time their opinion had been sought regarding farming issues and were appreciative of this fact, expressing the hope that this type of dialogue should continue in the future. Therefore, going forward a bottom-up approach should be taken more frequently within Extension, with the participatory approach appearing to be the preferred communication strategy. However, in order to improve effectiveness, the farmers should be informed in advance when a dialogue will take place, what the topic of the discussion will be and encouraging them to participate actively by providing suggestions.

**Recommendations**

The Extension Service in Cyprus should explore how it can best adapt to the changing agricultural environment in Cyprus. The success of the Extension Service
depends on the improvement of the communication effectiveness and efficiency between the Department of Agriculture and the Cypriot farmers. Although the efficiency of the communication was thoroughly addressed in this study, the fact that many items had no responses cannot permit a definitive deduction of the effectiveness of the communication. Therefore the effectiveness should be researched further in the near future.

Recommendations for changes in Extension Service in Cyprus which arise from this study appear to be in-line with generic reform recommendations that were outlined in the literature. More specifically these recommendations are the following:

- Participatory Extension: The creation of a stakeholder coordination mechanism is crucial. This mechanism creates a demand-driven Extension that addresses the needs of the people it serves. Additionally, the mechanism will distribute responsibilities, and prioritize needs and funding. It was identified in the literature review in chapter 2, that Extension (and agriculture in general) in Cyprus is going through a transitional period (following EU membership). Since the agricultural sector is changing, the needs of the farmers for information (content and quality) are also changing (Alex, Zijp & Byerlee, 2002). The programs that Extension delivers have to be relevant to the farmer’s needs. This is where the bottom-up approach of participation is vital. Extension may also be forced to widen its services to include sectors other than production agriculture, such as the environment and food safety (Alex, Zijp & Byerlee, 2002). The farmers in Cyprus have expressed the wish to be consulted for any decisions that affect them and they are willing to have a continuous dialogue with the Department of Agriculture in order to identify and prioritize their needs.
The lack of trust and confidence in the agricultural officers’ knowledge and skills has been identified by the participants as the number one obstacle in the communication between the Department of Agriculture and the farmers. Extension employees need access to timely information and new knowledge. Therefore, the provision of necessary research support is crucial to the Extension Service. A partnership between the Agricultural Department of the new Technological University in Cyprus and the Department of Agriculture could be mutually beneficial to both organizations. Working together, the University could conduct research on specific topics directly related to Cypriot agriculture, while the Extension officers benefit by updating their knowledge in these areas. Otherwise, with the increasing workloads of the officers and time constraints, there is a danger that the knowledge of the officers and the Extension Service as a whole will become out-of-date.

Another way that the agricultural officers can update their knowledge and skills is by studying international extension systems. However, this process must be approached with caution, since a successful extension approach which may have worked in one country may not be transferable to another. However, the Extension Service in Cyprus might benefit from learning about the United States Extension model. The U.S. Extension program has been evolving successfully since 1914 and it has developed and implemented programs that reintroduce the younger generation back into the agricultural sector through the 4-H Program; the U.S. Extension organization has found a way to create new knowledge through research and transfer this knowledge to the officers as well as the farmers and their communities; U.S. Extension has developed ways to motivate its employees to update their knowledge.
By studying the US model (and other models), Extension employees in Cyprus can identify what is transferable in the Cyprus situation and learn by the experiences and mistakes of other systems.

- The Extension Service could conduct internal research in order to assess the skills and knowledge of the officers and address any weaknesses by offering further training. Some employees of the Department of Agriculture may not feel confident in using some of the communication methods (i.e. internet, website, presentation, etc.) which some of the farmers expressed as their preferred methods.

- Using the evaluation/feedback process of the communication theory, the Extension Service should learn from its success stories. Since the farmers served by the Famagusta District office were the most satisfied by the service received, the Extension Service should identify practices (visits and contact) in the Famagusta District office and assess transferability to the other District offices. Additionally, current Extension programs should be monitored and evaluated in order to improve the quality of programs and services.

- The Extension Service could compile a list of all communication methods and materials being sent out to the farmers by sector and coordinate the activities according to the farmer’s preferred communication methods. Additionally, all the material that is communicated to the farmers should be evaluated for literacy level, since almost half of the participant farmers indicated that they only received an elementary education.

- Further to the participants’ suggestions for improvement, there should be negotiations with the semi-government radio-television channel to change the transmission times
of both the television and the radio programs (if they are to continue) and re-evaluate whether farmers are watching/listening after the changes. Additionally, consideration should be made to the farmers’ suggestion to incorporate a short daily farming report with the daily news/weather.

- Farmers belonging to the sheep and goat subsector indicated that they would like to receive assistance in organizing themselves into a Producer Organization. Therefore, the Department of Agriculture should facilitate the process by providing guidance and training as required. Additionally, the Department should facilitate meetings among members of other Producer Organizations in order to identify problems reported by farmers which have led to their dissatisfaction in the organizations and facilitate the members to find solutions to those problems.

- The Extension Service should provide training on internet products to all the farmers that wish to learn and to motivate the others to want to learn by establishing the benefits that these farmers will have by adopting the new technology. This training is in line with the new guidelines received from the European Union in regards to expanding broadband into the rural areas.

- The Extension Service should identify a strategy to expand the frequency of communication between the Department of Agriculture and the farmers and hence build the trust and confidence the farmers have towards the Department.

- Participants requested further marketing information. Therefore, consultations with the Ministry of Commerce are required on how to collaborate on better provision of marketing information to the farmers. Furthermore, the Department of Agriculture should collaborate with other services, such as the Veterinary Service, the
Agricultural Research Institute, the Cyprus Agricultural Payments Authority, as well as with private consultants who provide services to the farmers, in order to coordinate with these other providers and together provide a complete and complementary service.

- Lack of awareness of the information the Department of Agriculture is sending out as well as the services that the Department provides to the farmers was evident among the participants of this study. The Department of Agriculture should have a marketing “campaign” of its own in an effort to publicize the services it provides, such as the “farmer” magazine, TV and radio programs, seminars, presentations, training, etc. This marketing campaign will make farmers aware of the services provided and will make the Department of Agricultural more visible to the farmers and the public. Methods of communication that could be used for this marketing “campaign” could include posters in central places within the communities, leaflets via mail advising farmers of the materials available to them, and television advertising (preferably in the evenings).

- Additionally a visitation or contact schedule between officers and farmers may be necessary in the beginning to re-establish contact. This procedure will again address the lack of confidence and trust that the farmers have towards the agricultural officers.

- The Department should try to accommodate the training needs of the farmers by finding local venues to conduct seminars, presentations and training. Additionally, a survey of farmers to identify their preferable time for such meetings would be
desirable, since the farming activities per sector differ. This survey can be conducted either via the telephone or during visits by the district officers.

**Recommendations for future research**

In addition to the recommendation made above for more detailed research into the effectiveness of the communication between the Department of Agriculture and the Cypriot farmers, further research should include the following:

- A more detailed survey of all the registered farmers in Cyprus should be conducted by sector to identify who are actual full-time farmers. Furthermore, these farmers should be contacted and involved in discussions to assess their own specific needs and assist the Extension Service in developing programs which will address those needs.

- More detailed research is needed within the agronomy sector since the low response rate in this group may have skewed the results and may not have provided the real trends of the sector. In some instances the communication responses of the participants of this sector did not follow the responses of the participants in the livestock and horticultural sector. Therefore further verification is needed before deciding how communication could be most effective for this particular sector.

As a final thought, Extension changes require major effort, long term commitment and can take time. However, the end result should improve communication between the Extension Service of the Department of Agriculture and the Cypriot farmers in
each agricultural sector especially if farmers actively participate and “buy-in” to the Extension change. Adapting the Extension Service to meet the needs of the modern farmer should become the vision for the Department of Agriculture and of the Cypriot government. Achieving this vision will not only strengthen the Agricultural Sector but the whole economy of the country.
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Appendix A

Interview Schedule for Phase Two

Questions for personal interviews / focus groups prior to the survey to Increase Communication Effectiveness and Efficiency between the Department of Agriculture and the Cypriot farmers they serve

(In partial fulfillment for the Degree of Doctor of Philosophy in Agricultural and Extension Education)

Investigator: Eftychia Charalambous-Snow, The Pennsylvania State University, Department of Agricultural and Extension Education, 114 Ferguson, University Park, PA 16802. exc259@psu.edu. Tel: (1) 814-321-1139

Academic Advisor: Dr Patreece D. Ingram, The Pennsylvania State University, Department of Agricultural and Extension Education, 2C Ferguson, University Park, PA 16802. pd1@psu.edu. Tel: (1) 814-863-7439

Instructions:
You are kindly invited to discuss your opinions relating to your perceptions on the communication between farmers and the Department of Agriculture in Cyprus.

1. Purpose of the Study: The purpose is to identify the communication links between the Department of Agriculture and the farmers in Cyprus and suggest ways to improve the communication.

2. Procedures to be followed: You will be asked several questions and a discussion will be followed. The discussion may be audio recorded only for the researchers benefit to refer back to if needed and assure accuracy during translation.

3. Benefits: By improving the communication between the Department of Agriculture and the farmers you will be benefited directly since you will receive information that is relevant and timely.

4. Duration: This discussion will take approximately 30-60 minutes.

5. Statement of Confidentiality: Your responses are confidential – your name will not be associated with your responses in reports or publications, and we will not allow anyone outside the research project to view your responses. With your permission the discussion may be audio and/or video recorded during this phase to ensure accuracy of information. The data and recordings will be stored and secured in 12 Ferguson, University Park in a locked file cabinet. In the event of a publication or presentation from the research, no personally identifiable information will be shared. Focus group confidentiality: If you speak about the contents of the focus group outside the group, it is expected that you will not tell others what individual participants said.

6. Right to Ask Questions: You can ask questions about this research. Contact Eftychia Charalambous-Snow on 99370719 / +18143211139 or email: exc259@psu.edu.

7. Voluntary Participation: Your decision to be in this research is voluntary. You can stop at any
time. You do not have to answer any questions or participate in any activities you do not feel comfortable participating in. Refusal to take part in or withdrawing from this study will involve no penalty or loss of benefits you would receive otherwise.

8. You must be 18 years of age or older to participate in this research study.

9. Please try to respond to ALL the questions.

10. Completion of participation in the focus groups/interviews implies your consent to participate in this research.

1) What kind of farming are you involved in?

   Livestock farmer only __
   Horticultural farmer only___
   Agronomy farmer only ___
   Livestock and agronomy farmer ___
   Livestock and horticultural farmer ___
   Horticultural and agronomy farmer ___
   Livestock and horticultural and agronomy farmer ___
   Other (please specify)________________________

2) Are you:

   Full time farmer (family income solely from farming) __________
   Full time farmer (personal income solely from farming but additional family income from elsewhere) __________
   Part time farmer (income mainly from farming) __________
   Part time farmer (some income from farming) __________

3) What is the size of your farm (approximately)?

   Hectares _________ Irrigated
   Hectares _________ Rainfed
   Number of animals _________ What animals ____________
   Number of animals _________ What animals ____________
   Number of animals _________ What animals ____________
   Number of animals _________ What animals ____________
4) How often, in 2008, did you receive communication from the Department of Agriculture?
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

5) By which communication method have you been receiving this information?
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

6) How would you describe the information you have received (content, quality, relevance):
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

7) What do you think about the training you have received by the Department of Agriculture in 2008?
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

8) What is your opinion about the visits you receive by employees of the Department of Agriculture (frequency, length, purpose, quality?) How have you used the information you received?
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
9) Do you receive better information or training from other sources? If yes, how do you
compare these with the ones you receive from the Department of Agriculture? How did
you find out about the training?

__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

10) If the Department of Agriculture was to provide a better service (quality, content etc)
would you consider receiving the information from them or from your current provider?

__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

11) By which communication methods in your opinion should the Department of
Agriculture focus on delivering the information and which ones to abandon? (examples:
radio and TV program, Farmer magazine, articles in newspapers, visits, leaflets/ newsletters via
post, Internet / email /fax, seminars/presentations, telephone conversations, demonstration
plots, field trips etc)

__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

12) What kind of information do you currently receive by the Department of Agriculture?
(examples: Rural Development Plan, Diseases (animal/plant) subsidies, New policies (EU and
Local), New technologies, Training, general news, new techniques/ cultivation techniques, farm
management, marketing, etc)

__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
13) If you were to receive more information, what kind of information would you like to receive?

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

14) What barriers do you think exist to effective communication with the Department of Agriculture?

_____________________________________________________________________________________
_____________________________________________________________________________________
_____________________________________________________________________________________
_____________________________________________________________________________________
_____________________________________________________________________________________
_____________________________________________________________________________________

15) Do you have internet access?

☐ No
☐ Yes

If yes, where?
At home_____
At a community centre_____
Other (please specify) ______________________________

16) Are you classified as a “young farmer” under EU Council Regulation 1698/2005 for RDP purposes? (Check one box)

☐ Yes
☐ No

17) Are you male or female? (Check one box)

☐ Male
☐ Female
18) Please indicate your age:

___ 18-26 years        ___ 27-36 years        ___ 37-46 years        ___ 47-56 years

___ 57-66 years        ___ 67-76 years        ___ 77-86 years        ___ 87-96 years

19) Please indicate the level of education you have received:

___ Elementary School        ___ Secondary school        ___ High School

___ B.Sc. Degree          ___ M.Sc. Degree        ___ Ph.D. Degree

___ Other (please specify)__________________

20a) Please indicate the village/ town and district where you live?

____________________________________

20b) Please indicate the village/ town and district where your farm is located?

____________________________________

21a) Are you living in a Less Favored Area (LFA) as described by EU Council Regulation 1698/2005:

(Check one box)

☐ Yes
☐ No

21b) Is your farm located in a Less Favored Area (LFA) as described by EU Council Regulation 1698/2005:

(Check one box)

☐ Yes
☐ No
Any additional comments:

______________________________________________________________________________

______________________________________________________________________________

______________________________________________________________________________

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______________________________________________________________________________

THANK YOU FOR TAKING THE TIME AND EFFORT TO DISCUSS WITH US YOUR
OPINIONS.
Ερωτηματολόγιο για προκαταρκτικές προσωπικές συνεντεύξεις και ομάδες συζητήσεων 
σχετικές με την έρευνα για την επαύξηση της Αποτελεσματικότητας και Αποδοτικότητας 
της Επικοινωνίας μεταξύ του Τμήματος Γεωργίας και των Κύπριων Αγροτών που 
εξυπηρετεί

(Προς μερική ικανοποίηση του Διδακτορικού Πτυχίου στον Κλάδο των Γεωργικών Εφαρμογών και 
Εκπαίδευσης)

Ερευνητής: Ευτυχία Χαραλάμπους - Σνόου, The Pennsylvania State University, Department of Agricultural and 
Extension Education, 114 Ferguson, University Park, PA 16802. exc259@psu.edu Τηλ: (1) 814-321-1139

Ακαδημαϊκός Σύμβουλος: Dr Patreese D. Ingram, The Pennsylvania State University, Department of 
Agricultural and Extension Education, 2C Ferguson, University Park, PA 16802. pdi1@psu.edu Τηλ: (1) 814-863- 
7439

Οδηγίες:

Προσκαλείστε για να συζητήσετε τις απόψεις σας και τις αντιλήψεις σας αναφορικά με την 
επικοινωνία μεταξύ του Τμήματος Γεωργίας και των αγροτών στη Κύπρο.

1. Σκοπός της μελέτης: Σκοπός είναι ο προσδιορισμός των καναλιών επικοινωνίας μεταξύ του 
Τμήματος Γεωργίας και των αγροτών στη Κύπρο και να προταθούν τρόποι βελτίωσης της 
επικοινωνίας.

2. Διαδικασίες που θα ακολουθηθούν: Θα σας υποβληθούν διάφορες ερωτήσεις και θα ακολουθηθεί 
συζήτηση. Εάν κρίθει απαραίτητο η συζήτηση μπορεί να ηχογραφηθεί μόνο για άψοφος των 
erπρονητών και για περισσότερη ακρίβεια στην μετάφραση.

3. Οφέλη: Με τη βελτίωση της επικοινωνίας μεταξύ του Τμήματος Γεωργίας και των αγροτών θα 
ωφεληθείτε ύψης δεδομένων ώστε στο μέλλον θα λαμβάνετε πληροφορίες που θα είναι σχετικές και 
έγκαιρες

4. Διάρκεια: Αυτή η συζήτηση θα διαρκέσει περίπου 30-60 λεπτά

5. Δήλωση της εμπιστευτικότητας: Οι απαντήσεις σας είναι εμπιστευτικές - το όνομά σας δεν θα 
συνδέθει με τις απαντήσεις σας στις εκθέσεις ή τις δημοσιεύσεις, και δεν θα επιτρέψουμε σε 
οποιοδήποτε άλλο του ερευνητικού προγράμματος να δει τις απαντήσεις σας. Τα στοιχεία και οι 
ηχογραφήσεις θα αποθηκευτούν και θα εξασφαλιστούν σε κλειδωμένο ντοκουλάκι στο δωμάτιο 12 
Ferguson, University Park. Σε περίπτωση δημοσίευσης ή παρουσίασης στοιχείων της έρευνας, κανένα 
προσωπικό δεδομένο δεν θα δοθεί στην δημοσιότητα. Δήλωση εμπιστευτικότητας των ομάδων 
συζητήσεων: Εάν επικοινωνήσετε αναφορικά με το περιεχόμενο της ομάδας συζήτησης εκτός της 
ομάδας, αναμένεται ότι δεν θα γνωστοποιηθείτε αναφορικά των άλλων συμμετεχόντων.

6. Δικαίωμα υποβολής ερωτήσεων: Μπορείτε να υποβάλετε ερωτήσεις για αυτήν την έρευνα στην 
Ευτυχία Χαραλάμπους – Σνόου στα τηλέφωνα 99370719/18143211139 ή στο ηλεκτρονικό 
ταχυδρομείο: exc259@psu.edu

7. Εθελοντική συμμετοχή: Η συμμετοχή σας σε αυτήν την έρευνα είναι εθελοντική. Μπορείτε να 
αποσυρθείτε οποιαδήποτε στιγμή. Δεν είναι απαραίτητο να απαντήσετε σε οποιεσδήποτε ερωτήσεις ή
να συμμετέχετε σε οποιεσδήποτε δραστηριότητες στις οποίες δεν αισθάνεστε άνετα. Δεν υπάρχουν ποινές για άρνηση συμμετοχής ή απόσυρση από αυτήν την μελέτη.

8. Πρέπει να είστε ένο ένο των 18 χρόνων για να συμμετέχετε σε αυτή την έρευνα.

9. Παρακαλώ προσπαθήστε να απαντήσετε σε ΟΛΕΣ τις ερωτήσεις.

10. Ολοκλήρωση της συμμετοχής σας στις ομάδες συζήτησεων υπονοεί τη συγκατάθεσή σας για συμμετοχή σας σε αυτή την έρευνα.

1) Με τι είδους γεωργία / κτηνοτροφία ασχολείστε:

- Μόνο Κτηνοτροφία ___
- Μόνο Οπωροκηπευτικά ___
- Μόνο Αγρονομία (Μεγάλες καλλιέργειες) ___
- Κτηνοτροφία και Αγρονομία μαζί ___
- Κτηνοτροφία και Οπωροκηπευτικά μαζί ___
- Οπωροκηπευτικά και Αγρονομία μαζί ___
- Κτηνοτροφία και Οπωροκηπευτικά και Αγρονομία μαζί ___
- Άλλο (παρακαλώ καθορίστε)________________________

2) Είστε:

- Αγρότης με πλήρη απασχόληση στην γεωργία (Οικογενειακό εισόδημα μόνο από την γεωργία )
  __________
- Αγρότης με πλήρη απασχόληση στην γεωργία (Προσωπικό εισόδημα μόνο από την γεωργία αλλά επιπλέον οικογενειακό εισόδημα από άλλες πηγές) __________
- Αγρότης με μερική απασχόληση στην γεωργία (Προσωπικό εισόδημα κυρίως από την γεωργία)
  __________
- Αγρότης με μερική απασχόληση στην γεωργία (Μερικό προσωπικό εισόδημα από την γεωργία)
  __________

3) Τι μέγεθος είναι η γεωργική σας εκμετάλλευση (περίπου):

- Εκτάρια __________ αρδεύσιμα
- Εκτάρια __________ ξηρικά
- Αριθμός ζώων__Eίδος________________
- Αριθμός ζώων__Eίδος________________
- Αριθμός ζώων__Eίδος________________
- Αριθμός ζώων__Eίδος________________
4) Πόσο συχνά, το 2008, έχετε λάβει πληροφόρηση από το Τμήμα Γεωργίας:
________________________________________________________________________________________________________________________________________
________________________________________________________________________________________________________________________________________
________________________________________________________________________________________________________________________________________

5) Με ποια μέθοδο επικοινωνίας έχετε λάβει αυτή την πληροφόρηση;
________________________________________________________________________________________________________________________________________
________________________________________________________________________________________________________________________________________
________________________________________________________________________________________________________________________________________

6) Πώς θα περιγράφατε την πληροφόρηση που έχετε λάβει (περιεχόμενο, ποιότητα, σχετικότητα);
________________________________________________________________________________________________________________________________________
________________________________________________________________________________________________________________________________________
________________________________________________________________________________________________________________________________________

7) Ποια είναι η άποτες σας σχετικά με την κατάρτιση που έχετε λάβει από το Τμήμα Γεωργίας κατά το 2008;
________________________________________________________________________________________________________________________________________
________________________________________________________________________________________________________________________________________
________________________________________________________________________________________________________________________________________

8) Ποια είναι η άποτες σας σχετικά με τις επισκέψεις που έχετε λάβει από τους υπαλλήλους του Τμήματος Γεωργίας (συχνότητα, διάρκεια, σκοπός, ποιότητα); Πώς έχετε χρησιμοποιήσει τις πληροφορίες που λάβατε;
________________________________________________________________________________________________________________________________________
________________________________________________________________________________________________________________________________________
________________________________________________________________________________________________________________________________________
9) Λαμβάνετε καλύτερη πληροφόρηση ή κατάρτιση από άλλες πηγές; Εάν ναι, πώς συγκρίνονται με αυτές που λαμβάνετε από το Τμήμα Γεωργίας; Πως μάθατε για την κατάρτιση;
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13) Εάν επρόκειτο να λάβετε περισσότερες πληροφορίες, τι είδους πληροφόρηση θα επιθυμούσατε να λάβετε;

______________________________________________________________________________________
______________________________________________________________________________________
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______________________________________________________________________________________
______________________________________________________________________________________

14) Τι θεωρείτε ως εμπόδια στην αποτελεσματική επικοινωνία μεταξύ του Τμήματος Γεωργίας και τους γεωργούς?

______________________________________________________________________________________
______________________________________________________________________________________
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______________________________________________________________________________________
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15) Έχετε πρόσβαση στο διαδίκτυο?

☐ Όχι
☐ Ναι

Εάν Ναι, ποιο;
Στο σπίτι _____
Στο Κοινωνικό κέντρο _____
Άλλο (παρακαλώ καθορίστε) ______________________________

16) Εξετάξτε ως «νέος αγρότης» στο πλαίσιο του Κανονισμού (ΕΕ) 1698/2005 για λόγους Προγράμματος Αγροτικής Ανάπτυξης; (Σημειώστε μόνο μία απάντηση)

☐ Ναι
☐ Όχι

17) Είσαστε άντρας ή γυναίκα; (Σημειώστε μόνο μία απάντηση)

☐ Άντρας
☐ Γυναίκα

18) Παρακαλώ προσδιορίστε την ηλικία σας:

___ 18-26 χρονών     ___ 27-36 χρονών     ___ 37-46 χρονών     ___ 47-56 χρονών

___ 57-66 χρονών     ___ 67-76 χρονών     ___ 77-86 χρονών     ___ 87-96 χρονών
19) Παρακαλώ περιγράψτε το επίπεδο μόρφωσης που έχετε λάβει:

___ Δημοτική εκπαίδευση
___ Γυμνασιακή εκπαίδευση
___ Πανεπιστημιακό Πτυχίο
___ Μεταπτυχιακή εκπαίδευση
___ Διδακτορικό πτυχίο
___ Άλλη (παρακαλώ καθορίστε)__________________

20α) Παρακαλώ προσδιορίστε το χωρίο/πόλη και επαρχία στην οποία κατοικείτε:

_____________________

20β) Παρακαλώ προσδιορίστε το χωρίο/πόλη και επαρχία στην οποία βρίσκεται η γεωργική σας εκμετάλλευση:

_____________________

21α) Κατοικείτε σε Μειονεκτική περιοχή όπως καθορίζεται από τον Κανονισμό (ΕΕ) 1698/2005; (Σημειώστε μόνο μία απάντηση)

☐ Ναι
☐ Όχι

21β) Η γεωργική σας εκμετάλλευση βρίσκεται σε Μειονεκτική περιοχή όπως καθορίζεται από τον Κανονισμό (ΕΕ) 1698/2005; (Σημειώστε μόνο μία απάντηση)

☐ Ναι
☐ Όχι

Οποιαδήποτε πρόσθετα σχόλια:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
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ΣΑΣ ΕΥΧΑΡΙΣΤΩ ΓΙΑ ΤΟΝ ΧΡΟΝΟ ΚΑΙ ΤΙΣ ΑΠΟΨΕΙΣ ΣΑΣ
Appendix B

Interview Schedule for Phase Three

Survey to Increase Communication Effectiveness and Efficiency between the Department of Agriculture and the Cypriot Farmers they serve

(In partial fulfillment for the Degree of Doctor of Philosophy in Agricultural and Extension Education)

Investigator: Eftychia Charalambous-Snow, The Pennsylvania State University, Department of Agricultural and Extension Education, 114 Ferguson, University Park, PA 16802. exc259@psu.edu. Tel: (1) 814-321-1139

Academic Advisor: Dr Patreese D. Ingram, The Pennsylvania State University, Department of Agricultural and Extension Education, 2C Ferguson, University Park, PA 16802. pdi1@psu.edu. Tel: (1) 814-863-7439

Instructions:

You are invited to complete this survey to provide information on communication between farmers and the Cyprus Department of Agriculture.

1. Purpose of the Study: The purpose is to identify the communication links between the Department of Agriculture and farmers in Cyprus and suggest ways to improve the communication.

2. Procedures to be followed: You will be asked to fill out a questionnaire asking about your knowledge and experience as a farmer.

3. Benefits: By improving the communication between the Department of Agriculture and farmers, you may benefit since you will receive information that is relevant and timely.

4. Duration: This survey will take approximately 15-20 minutes to complete.

5. Statement of Confidentiality: Your responses are confidential. Your name will not be associated with your responses in reports or publications, and we will not allow anyone outside the research project to view your responses. Data will be stored and secured in 12 Ferguson, University Park, PA, USA in a locked file cabinet. In any publication or presentation from the research, no personally identifiable information will be shared.

6. Right to Ask Questions: You can ask questions about this research. Contact Eftychia Charalambous-Snow on 99370719 or email: exc259@psu.edu.

7. Voluntary Participation: Your decision to participate in this research is voluntary. You can stop at any time. You do not have to answer any questions or participate in any activities in which
you do not feel comfortable. Refusal to take part in or withdrawing from this study will involve no penalty or loss of benefits you would receive otherwise.

8. You must be 18 years of age or older to participate in this research study.

9. Please try to answer ALL questions in the survey.

10. Completion of the survey/questionnaire implies your consent to participate in this research.

1) What kind of farming are you involved in? (Check one).

___Livestock farmer only
___Horticultural farmer only
___Agronomy farmer only
___Livestock and agronomy farmer
___Livestock and horticultural farmer
___Horticultural and agronomy farmer
___Livestock and horticultural and agronomy farmer
___Other (please specify)________________________

2) Are you: (Check one).

__________Full time farmer (family income solely from farming)
__________Full time farmer (personal income solely from farming but additional family income from elsewhere)
__________Part time farmer (income mainly from farming)
__________Part time farmer (some income from farming)

3) How many people are employed on your farm (please exclude yourself in the numbers)?

<table>
<thead>
<tr>
<th></th>
<th>Family Members</th>
<th>Other Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full Time</td>
<td></td>
<td></td>
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<tr>
<td>Part Time</td>
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</tbody>
</table>
4) What is the size of your farm (approximately)?

Hectares _________ Irrigated
Hectares _________ Rainfed

5) How many animals do you have in your farm (approximately)?

I do not have any animals _____________
Number of animals ___________ What animals _____________
Number of animals ___________ What animals _____________
Number of animals ___________ What animals _____________
Number of animals ___________ What animals _____________

6) How often, in 2009, did you: (Check one per row).

<table>
<thead>
<tr>
<th>Method</th>
<th>10 or more times per year</th>
<th>7-9 times per year</th>
<th>4-6 times per year</th>
<th>1-3 times per year</th>
<th>NEVER</th>
<th>Method not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receive paper communication from the DOA?</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
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<tr>
<td>Receive email communication from the DOA?</td>
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<td>Receive fax communication from the DOA?</td>
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<tr>
<td>Call your local Extension office for advice?</td>
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<tr>
<td>Visit your local Extension office for advice?</td>
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<tr>
<td>Call the Head offices of the DOA for advice?</td>
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<tr>
<td>Visit the Head offices of the DOA for advice?</td>
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<tr>
<td>Attend training by the DOA in your locality?</td>
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<tr>
<td>Attend training by the DOA at Head office?</td>
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<tr>
<td>Attend training by the DOA somewhere else?</td>
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<tr>
<td>Attend seminars by the DOA in your locality?</td>
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<tr>
<td>Attend seminars by the DOA at Head office?</td>
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<tr>
<td>Attend seminars by the DOA somewhere else?</td>
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<tr>
<td>Get a professional visit by other officers / professionals? (please specify by whom):</td>
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<tr>
<td>Received training by others (please specify by whom):</td>
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</table>
7a) How often do you listen to the “The hour of the countryside” on the radio (currently transmitting every Sunday 11am-12pm)? (Check one).

___ Never
___ 1-3 times per year
___ 4-6 times per year
___ 6-9 times per year
___ 10 or more times per year

7b) For you to listen more often the radio program should be on: (Check one).

___ Different day but same time. (Please specify which day) _____________
___ Same day (Sunday) different time. (Please specify what time) _____________
___ Different day and different time. (Please specify which day and what time) _____________
___ I would not listen to the radio program. (Please specify why) _____________
___ Other (Please specify): ______________________

8a) How often do you watch the “Countryside” program on the TV (currently shown on CYBC1 every Sunday 1pm-1:30pm)? (Check one).

___ Never
___ 1-3 times per year
___ 4-6 times per year
___ 6-9 times per year
___ 10 or more times per year

8b) For you to watch more often the TV program should be on: (Check one).

___ Different day but same time. (Please specify which day) _____________
___ Same day (Sunday) different time. (Please specify what time) _____________
___ Different day and different time. (Please specify which day and what time) _____________
___ I would not watch the TV program. (Please specify why) _____________
___ Other (Please specify): ______________________

9a) How often do you receive the “Farmer” magazine? (Check one).

___ Never (Please skip to Question 10a)
___ 1-2 times per year
___ 3-4 times per year
9b) When you receive the “Farmer” magazine do you? (Check all that apply).

___ Read it all from cover to cover?
___ Only read the articles relating to your sector?
___ Read the articles relating to your sector and some others that may interest you?
___ Technical articles or visits of the Minister/activities
___ I do not read the magazine. (Please specify why) ___________
___ I do not receive the magazine
___ Other (Please specify): ____________________________

10a) How often did you receive a visit from an Extension officer in 2009? (Check one).

___ Never
___ 1-3 times per year
___ 4-6 times per year
___ 6-9 times per year
___ 10 or more times per year

10b) Would you like to be visited by your Extension officer? (Check one).

___ More (Please specify how often) ____________________________
___ Less (Please specify how often) ____________________________
___ The visits are about right
___ I do not want to be visited by Extension. (Please specify why) ______________

10c) How often did you receive a visit from an Extension assistant in 2009? (Check one).

___ Never
___ 1-3 times per year
___ 4-6 times per year
___ 6-9 times per year
___ 10 or more times per year

10d) Would you like to be visited by your Extension assistant? (Check one).

___ More (Please specify how often) ____________________________
___ Less (Please specify how often) ____________________________
___ The visits are about right
___ I do not want to be visited by Extension. (Please specify why) __________________
11) How often do you buy a national newspaper? (Check one).

___ Never  
___ Everyday  
___ On specific days. (Please specify which) ______________________ 
___ Not on specific days (randomly)  
___ Other ___________________

12) The **Quality** of information you receive from the Department of Agriculture on the topics below is: (Check one per row).

<table>
<thead>
<tr>
<th>TOPICS</th>
<th>Excellent</th>
<th>Very Good</th>
<th>Acceptable / OK</th>
<th>Of low value</th>
<th>Useless</th>
<th>Not available</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
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<tr>
<td>Rural Development Plan</td>
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<tr>
<td>Animal Diseases</td>
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<td>Plant Diseases</td>
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<tr>
<td>Pesticides / Food Safety</td>
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<td>Subsidies</td>
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<td>New agricultural policies (European and Local)</td>
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<tr>
<td>New technology (equipment, computers, machinery, etc)</td>
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<tr>
<td>Agricultural training/ seminars</td>
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<tr>
<td>News / Changes in Cyprus agriculture</td>
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<td>News / Changes in European agriculture</td>
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<td>News / Changes in worldwide agriculture</td>
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<tr>
<td>New techniques in agriculture</td>
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<td>Cultivation techniques</td>
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<tr>
<td>Farm management</td>
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<tr>
<td>Marketing</td>
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<tr>
<td>Other (please specify)</td>
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</table>
13) Did you receive information from anybody else on the topics below and if so rate the quality: (Check one per row).

<table>
<thead>
<tr>
<th>TOPICS</th>
<th>FROM</th>
<th>Excellent</th>
<th>Very Good</th>
<th>Acceptable / Ok</th>
<th>Of low value</th>
<th>Useless</th>
<th>Not available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural Development Plan</td>
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<td>4</td>
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<td>1</td>
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<td>Subsidies</td>
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<td>Farm management</td>
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<td>Marketing</td>
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<tr>
<td>Other (please specify)</td>
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</tbody>
</table>

14) If you were to receive more information, how would you like to receive it? (Check all that apply)

<table>
<thead>
<tr>
<th>Information</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet</td>
<td>Telephone</td>
</tr>
<tr>
<td>Email</td>
<td>CD</td>
</tr>
<tr>
<td>Fax</td>
<td>Website Updates</td>
</tr>
<tr>
<td>SMS</td>
<td>Fact sheets</td>
</tr>
<tr>
<td>Informational Specialized Newsletter via the post</td>
<td>Person-to-person with Extension employee</td>
</tr>
<tr>
<td>Leaflets at key locations (community centres, etc)</td>
<td>Person-to-person with a specialist officer from Head office</td>
</tr>
<tr>
<td>Newspaper articles</td>
<td>Demonstration plots</td>
</tr>
<tr>
<td>The Farmer magazine</td>
<td>Field trips to other farms</td>
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<tr>
<td>Other magazine</td>
<td>Other (Please specify):</td>
</tr>
<tr>
<td>TV program</td>
<td></td>
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<tr>
<td>Radio program</td>
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<tr>
<td>Video / DVD</td>
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<td>Seminar at your locality</td>
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<tr>
<td>Seminar at head office</td>
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<tr>
<td>Presentation at your locality</td>
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<tr>
<td>Presentation at head office</td>
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</tbody>
</table>
15) If you were to receive more information, what kind of information would you like to receive?
______________________________________________________________________________________
______________________________________________________________________________________
______________________________________________________________________________________

16) What barriers do you think exist to effective communication with the Department of Agriculture?
______________________________________________________________________________________
______________________________________________________________________________________
______________________________________________________________________________________

17) Do you have internet access?

☐ No
☐ Yes

If yes, where? (Check all that apply).

   _____ At home
   _____ At a community centre
   _____ Other (please specify) __________________________________________

18) Are you classified as a “young farmer” under EU Council Regulation 1698/2005 for RDP purposes? (Check one box)

☐ Yes
☐ No

19) Are you? (Check one box)

☐ Male
☐ Female

20) Are you?: (Check one).

   ____ 18-26 years     ____ 27-36 years     ____ 37-46 years     ____ 47-56 years
   ____ 57-66 years     ____ 67-76 years     ____ 77-86 years     ____ 87 years or over
21) Please indicate your level of education: (Check one).

___ Elementary School
___ Secondary school
___ High School
___ B.Sc. Degree
___ M.Sc. Degree
___ Ph.D. Degree
___ Other (please specify)__________________

22a) Please indicate the village/town and district where you live? __________________________

22b) Please indicate the village/town and district where your farm is located? ________________

23a) Do you live in a Less Favored Area (LFA) as described by EU Council Regulation 1698/2005:
(Check one box)

☐ Yes
☐ No

23b) Is your farm located in a Less Favored Area (LFA) as described by EU Council Regulation 1698/2005:
(Check one box)

☐ Yes
☐ No

Comments:
__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________

THANK YOU FOR TAKING THE TIME AND EFFORT TO COMPLETE THIS SURVEY.
Ερωτηματολόγιο σχετικά με την έρευνα για την επαύξηση της Αποτελεσματικότητας και Αποδοτικότητας της Επικοινωνίας μεταξύ του Τμήματος Γεωργίας και των Κύπριων Αγροτών που εξυπηρετεί

(Προς μερική ικανοποίηση του Διδακτορικού Πτυχίου στον Κλάδο των Γεωργικών Εφαρμογών και Εκπαίδευσης)

Ερευνητής: Ευτυχία Χαραλάμπους – Σνόου, The Pennsylvania State University, Department of Agricultural and Extension Education, 114 Ferguson, University Park, PA 16802, exc259@psu.edu Τηλ: (1) 814-321-1139

Ακαδημαϊκός Σύμβουλος: Dr Patreese D. Ingram, The Pennsylvania State University, Department of Agricultural and Extension Education, 2C Ferguson, University Park, PA 16802, pdi1@psu.edu Τηλ: (1) 814-863-7439

Οδηγίες:
Προσκαλείστε για να συμπληρώσετε το ερωτηματολόγιο για παροχή πληροφοριών αναφορικά με την επικοινωνία μεταξύ του Τμήματος Γεωργίας και των αγροτών στην Κύπρο.

1. Σκοπός της μελέτης: Σκοπός είναι ο προσδιορισμός των καναλιών επικοινωνίας μεταξύ του Τμήματος Γεωργίας και των αγροτών στην Κύπρο και να προταθούν τρόποι βελτίωσης της επικοινωνίας.

2. Διαδικασίες που θα ακολουθηθούν: Θα κλήθετε να συμπληρώσετε ένα ερωτηματολόγιο σχετικά με τις γνώσεις σας και εμπειρίες σας ως αγρότης.

3. Όρειλή: Με τη βελτίωση της επικοινωνίας μεταξύ του Τμήματος Γεωργίας και των αγροτών θα ισορροπηθεί έμμεσα δεδομένου ότι στο μέλλον θα λαμβάνετε πληροφορίες που θα είναι σχετικές και έγκαιρες.

4. Διάρκεια: Αυτό το ερωτηματολόγιο θα διαρκέσει περίπου 15-20 λεπτά για να συμπληρωθεί.

5. Δήλωση της εμπιστευτικότητας: Οι απαντήσεις σας είναι εμπιστευτικές - το όνομά σας δεν θα συνδέθει με τις απαντήσεις σας στις εκθέσεις ή τις δημοσιεύσεις, και δεν θα επιτρέψουμε σε οποιονδήπως εκτός του ερευνητικού προγράμματος να δεί τις απαντήσεις σας. Τα στοιχεία θα αποθηκευτούν και θα εξασφαλιστούν σε κλειδωμένο ντουλάπι στο δωμάτιο 12 Ferguson, University Park, PA, USA. Σε περίπτωση δημοσίευσης ή παρουσίασης στοιχείων της έρευνας, κανένα προσωπικό δεδομένο δεν θα δοθεί στην δημοσιότητα.

6. Δικαίωμα υποβολής ερωτήσεων: Μπορείτε να υποβάλετε ερωτήσεις για αυτή την έρευνα στην Ευτυχία Χαραλάμπους – Σνόου στο τηλέφωνο 99370719 ή στο ηλεκτρονικό ταχυδρομείο: exc259@psu.edu

7. Εθελοντική συμμετοχή: Η συμμετοχή σας σε αυτήν την έρευνα είναι εθελοντική. Μπορείτε να αποσυρθείτε οποιαδήποτε στιγμή. Δεν είναι απαραίτητο να απαντήσετε σε οποιεσδήποτε ερωτήσεις ή να συμμετέχετε σε οποιεσδήποτε δραστηριότητες στις οποίες δεν αισθάνεστε άνετα. Δεν υπάρχουν ποινές για άρνηση συμμετοχής ή απόσυρση από αυτήν την μελέτη.
8. Πρέπει να είστε άνω των 18 χρόνων για να συμμετέχετε σε αυτή την έρευνα.

9. Παρακαλώ προσπαθήστε να απαντήστε σε ΟΛΕΣ τις ερωτήσεις.

10. Ολοκλήρωση του ερωτηματολογίου υπονοεί τη συγκατάθεσή σας για συμμετοχή σας σε αυτή την έρευνα.

1) Με τι είδους γεωργία / κτηνοτροφία ασχολείστε; (Σημειώστε μόνο μία απάντηση)

   _______ Μόνο Κτηνοτροφία
   _______ Μόνο Οπωροκηπευτικά
   _______ Μόνο Αγρονομία (Μεγάλες καλλιέργειες)
   _______ Κτηνοτροφία και Αγρονομία μαζί
   _______ Κτηνοτροφία και Οπωροκηπευτικά μαζί
   _______ Οπωροκηπευτικά και Αγρονομία μαζί
   _______ Κτηνοτροφία και Οπωροκηπευτικά και Αγρονομία μαζί
   _______ Άλλο (παρακαλώ καθορίστε)

2) Είστε; (Σημειώστε μόνο μία απάντηση)

   _______ Αγρότης με πλήρη απασχόληση στην γεωργία (Οικογενειακό εισόδημα μόνο από την γεωργία)
   _______ Αγρότης με πλήρη απασχόληση στην γεωργία (Προσωπικό εισόδημα μόνο από την γεωργία
   _______ αλλά επιπλέον οικογενειακό εισόδημα από άλλες πηγές)
   _______ Αγρότης με μερική απασχόληση στην γεωργία (Προσωπικό εισόδημα κυρίως από την γεωργία)
   _______ Αγρότης με μερική απασχόληση στην γεωργία (Μερικό προσωπικό εισόδημα από την γεωργία)

3) Πόσα άτομα απασχολούνται στην γεωργική σας εκμετάλλευση (εκτός του εαυτού σας);

<table>
<thead>
<tr>
<th>Μέλη της οικογένειας</th>
<th>Άλλοι εργαζόμενοι</th>
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<tbody>
<tr>
<td>Πλήρης απασχόληση</td>
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<tr>
<td>Μερική απασχόληση</td>
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</tbody>
</table>

4) Τι μέγεθος είναι η γεωργική σας εκμετάλλευση (περίπου);

   Εκτάρια _________ αρδεύσιμα
   Εκτάρια _________ ξηρικά
5) Πόσα ζώα έχετε στην γεωργική σας εκμετάλλευση (περίπου):

<table>
<thead>
<tr>
<th>Δεν έχω ζώα</th>
<th>Αριθμός ζώων</th>
<th>Είδος</th>
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6) Πόσο συχνά, το 2009, έχετε: (Σημειώστε μόνο μία απάντηση σε κάθε γραμμή)

<table>
<thead>
<tr>
<th>ΠΟΤΕ</th>
<th>1-3 φορές το χρόνο</th>
<th>4-6 φορές το χρόνο</th>
<th>7-9 φορές το χρόνο</th>
<th>10 ή ισότιμος το χρόνο</th>
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<tbody>
<tr>
<td>Λάβει γραπτή επικοινωνία από το Τμήμα Γεωργίας (ΤΓ);</td>
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<td>Λάβει ηλεκτρονική επικοινωνία από το Τμήμα Γεωργίας;</td>
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<td>Λάβει επικοινωνία μέσω Φαξ από το Τμήμα Γεωργίας;</td>
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<td>Τηλεφωνήσεις στο τοπικό Επαρχιακό γραφείο για οδηγίες;</td>
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<td>Επισκεφτεί το τοπικό Επαρχιακό γραφείο για οδηγίες;</td>
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<td>Τηλεφωνήσεις στα κεντρικά γραφεία του Τμήματος Γεωργίας για οδηγίες;</td>
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<td>Επισκεφτεί τα κεντρικά γραφεία του Τμήματος Γεωργίας για οδηγίες;</td>
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<td>Λάβει μέρος σε κατάρτιση του ΤΓ στην περιοχή σας;</td>
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<td>Λάβει μέρος σε κατάρτιση στα κεντρικά γραφεία του ΤΓ;</td>
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<td>Λάβει μέρος σε κατάρτιση του ΤΓ κάπου άλλου;</td>
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<td>Λάβει μέρος σε σεμινάρια του ΤΓ στην περιοχή σας;</td>
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<td>Λάβει μέρος σε σεμινάρια στα κεντρικά γραφεία του ΤΓ;</td>
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<tr>
<td>Λάβει μέρος σε σεμινάρια του ΤΓ κάπου άλλου;</td>
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<td>Λάβει επισκέψεις από Λειτουργούς / επαγγελματίες άλλων υπηρεσιών;</td>
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<td>(Παρακαλώ καθορίστε από ποίους)</td>
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| Λάβει κατάρτιση από άλλους; (Παρακαλώ καθορίστε από ποίους) | | | |
7α) Πόσο συχνά ακούς την “Όρα της Υπαίθρου” στο ραδιόφωνο (προς το παρόν μεταδίδεται κάθε Κυριακή 11πμ-12μμ); (Σημειώστε μόνο μία απάντηση)

_____ Ποτέ
_____ 1-3 φορές το χρόνο
_____ 4-6 φορές το χρόνο
_____ 6-9 φορές το χρόνο
_____ 10 ή περισσότερες φορές το χρόνο

7β) Για να ακούσετε το ραδιοφωνικό πρόγραμμα πιο συχνά θα έπρέπετε να ήταν; (Σημειώστε μόνο μία απάντηση)

_____ Άλλη μέρα. (Παρακαλώ προσδιορίστε ποια μέρα) __________
_____ ίδια μέρα (Κυριακή) άλλη ώρα. (Παρακαλώ προσδιορίστε ποια ώρα) ____________
_____ Άλλη μέρα και άλλη ώρα. (Παρακαλώ προσδιορίστε ποια μέρα και ώρα) ____________
_____ Δεν θα άκουγα ποτέ το ραδιοφωνικό πρόγραμμα. (Παρακαλώ εξηγήστε γιατί) ____________
_____ Άλλο (Παρακαλώ καθορίστε): ____________________

8α) Πόσο συχνά παρακολουθείτε το τηλεοπτικό πρόγραμμα “Υπαίθρος” (προς το παρόν μεταδίδεται κάθε Κυριακή στις 1μμ-1:30μμ στο ΡΙΚ1); (Σημειώστε μόνο μία απάντηση)

_____ Ποτέ
_____ 1-3 φορές το χρόνο
_____ 4-6 φορές το χρόνο
_____ 6-9 φορές το χρόνο
_____ 10 ή περισσότερες φορές το χρόνο

8β) Για να παρακολουθούσατε το τηλεοπτικό πρόγραμμα πιο συχνά θα έπρέπετε να ήταν; (Σημειώστε μόνο μία απάντηση)

_____ Άλλη μέρα. (Παρακαλώ προσδιορίστε ποια μέρα) __________
_____ ίδια μέρα (Κυριακή) άλλη ώρα. (Παρακαλώ προσδιορίστε ποια ώρα) __________
_____ Άλλη μέρα και άλλη ώρα. (Παρακαλώ προσδιορίστε ποια μέρα και ώρα) __________
_____ Δεν θα παρακολουθούσατε ποτέ το τηλεοπτικό πρόγραμμα. (Παρακαλώ εξηγήστε γιατί) __________
_____ Άλλο (Παρακαλώ καθορίστε): __________________________

9α) Πόσο συχνά λαμβάνετε το περιοδικό “Αγρότης”; (Σημειώστε μόνο μία απάντηση)

_____ Ποτέ (Παρακαλώ προχωρήστε στην ερώτηση 10α)
_____ 1-2 φορές το χρόνο
_____ 3-4 φορές το χρόνο
9β) Όταν λαμβάνετε το περιοδικό “Αγρότης” το : (Σημειώστε όλα όσα ισχύουν) :

_____ Διαβάζετε ολόκληρο (από φύλλο σε φύλλο) :
_____ Διαβάζετε μόνο τα άρθρα που αφορούν τον κλάδο σας:
_____ Διαβάζετε τα άρθρα που αφορούν τον κλάδο σας και μερικά άλλα που βρίσκετε ενδιαφέροντα:
_____ Τεχνικά άρθρα και επισκέψεις/ενέργειες του Υπουργού:
_____ Δεν διαβάζετε το περιοδικό (Παρακαλώ εξηγήστε γιατί) ________________
_____ Δεν λαμβάνω το περιοδικό
_____ Άλλο (Παρακαλώ καθορίστε): __________________________

10α) Πόσο συχνά σας έχει επισκεφτεί εμπειρογνώμονας Λειτουργός του Τμήματος Γεωργίας κατά το 2009: (Σημειώστε μόνο μία απάντηση)

_____ Ποτέ
_____ 1-3 φορές το χρόνο
_____ 4-6 φορές το χρόνο
_____ 6-9 φορές το χρόνο
_____ 10 ή περισσότερες φορές το χρόνο

10β) Πόσο συχνά θα θέλετε να σας επισκέπτεται εμπειρογνώμονας Λειτουργός του Τμήματος Γεωργίας: (Σημειώστε μόνο μία απάντηση)

_____ Πιο συχνά. (Παρακαλώ καθορίστε συχνότητα) ________________
_____ Πιο αραιά. (Παρακαλώ καθορίστε συχνότητα) ________________
_____ Οι επισκέψεις είναι αποδεκτές.
_____ Δεν θέλω να με επισκέπτεται Λειτουργός. (Παρακαλώ εξηγήστε γιατί) ________________________________

10γ) Πόσο συχνά σας έχει επισκεφτεί Λειτουργός / επιθεωρητής του Επαρχιακού Γεωργικού Γραφείου του Τμήματος Γεωργίας κατά το 2009: (Σημειώστε μόνο μία απάντηση)

_____ Ποτέ
_____ 1-3 φορές το χρόνο
_____ 4-6 φορές το χρόνο
_____ 6-9 φορές το χρόνο
_____ 10 ή περισσότερες φορές το χρόνο

10δ) Πόσο συχνά θα θέλετε να σας επισκέπτεται Λειτουργός / επιθεωρητής του Επαρχιακού Γεωργικού Γραφείου : (Σημειώστε μόνο μία απάντηση)

_____ Πιο συχνά. (Παρακαλώ καθορίστε συχνότητα) ________________
_____ Πιο αραιά. (Παρακαλώ καθορίστε συχνότητα) ________________
_____ Οι επισκέψεις είναι αποδεκτές.
_____ Δεν θέλω να με επισκέπτεται Λειτουργός. (Παρακαλώ εξηγήστε γιατί) ________________________________

10ε) Πόσο συχνά θα θέλετε να σας επισκέπτεται Λειτουργός / επιθεωρητής του Τμήματος Κατοίκιας κατά το 2009: (Σημειώστε μόνο μία απάντηση)

_____ Ποτέ
_____ 1-3 φορές το χρόνο
_____ 4-6 φορές το χρόνο
_____ 6-9 φορές το χρόνο
_____ 10 ή περισσότερες φορές το χρόνο

10ν) Πόσο συχνά θα θέλετε να σας επισκέπτεται Λειτουργός / επιθεωρητής του Επαρχιακού Κατοίκιας γραφείου του Τμήματος Κατοίκιας κατά το 2009: (Σημειώστε μόνο μία απάντηση)

_____ Ποτέ
_____ 1-3 φορές το χρόνο
_____ 4-6 φορές το χρόνο
_____ 6-9 φορές το χρόνο
_____ 10 ή περισσότερες φορές το χρόνο

10β) Πόσο συχνά θα θέλετε να σας επισκέπτεται Λειτουργός / επιθεωρητής του Τμήματος Κατοίκιας / επιθεωρητής του Επαρχιακού Κατοίκιας γραφείου : (Σημειώστε μόνο μία απάντηση)

_____ Πιο συχνά. (Παρακαλώ καθορίστε συχνότητα) ________________
_____ Πιο αραιά. (Παρακαλώ καθορίστε συχνότητα) ________________
_____ Οι επισκέψεις είναι αποδεκτές.
_____ Δεν θέλω να με επισκέπτεται Λειτουργός. (Παρακαλώ εξηγήστε γιατί) ________________________________
11) Πόσο συχνά αγοράζετε εφημερίδα: (Σημειώστε μόνο μία απάντηση)

- Ποτέ
- Κάθε μέρα
- Καθαρισμένες ημέρες. (Παρακαλώ καθαρίστε ποιες) _____________________________
- Τυχαίες μέρες (όχι τις ίδιες)
- Άλλο __________

12) Πιστεύετε ότι η Ποιότητα της πληροφόρησης που λαμβάνετε από το Τμήμα Γεωργίας στα πιο κάτω θέματα είναι: (Σημειώστε μόνο μία απάντηση σε κάθε γραμμή)

<table>
<thead>
<tr>
<th>ΘΕΜΑ</th>
<th>Αριθμ.</th>
<th>Πολύ καλή</th>
<th>Αποδεκτή</th>
<th>Χαμηλής αξίας</th>
<th>Αγόραστη</th>
<th>Μη διαθέσιμη</th>
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</thead>
<tbody>
<tr>
<td>Πρόγραμμα Αγροτικής Ανάπτυξης</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
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<tr>
<td>Ασθένειες (κτηνοτροφία)</td>
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<td>Ασθένειες (γεωργία)</td>
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<td>Φυτοφάρμακα / Ασφάλεια τροφίμων</td>
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<td>Επιχορηγήσεις</td>
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<td>Νέα Πολιτική (Ευρωπαϊκή και Κρατική)</td>
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<td>Νέα τεχνολογία (όχι μόνο στην πληροφορική)</td>
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<td>Νέα / Διαφοροποιήσεις στην Παγκόσμια Γεωργία</td>
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<td>Αγροτική διαχείριση (farm management)</td>
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13) Έχετε λάβει πληροφόρηση από αλλού στα πιο κάτω θέματα και πως εκτιμάτε την ποιότητα της πληροφόρησης αυτής: (Σημειώστε μόνο μία απάντηση σε κάθε γραμμή)

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<tr>
<th>Θέμα</th>
<th>Πηγή πληροφόρησης</th>
<th>Άριστη</th>
<th>Πολύ καλή</th>
<th>Αποδεκτή</th>
<th>Χαμηλής αξίας</th>
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<td>Νέα / Διαφοροποιήσεις στην Κυπριακή Γεωργία</td>
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<td>Νέες Αγροτικές τεχνικές</td>
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<td>Αγροτική διαχείριση (farm management)</td>
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<td>Άλλο (Παρακαλώ καθορίστε)</td>
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14) Εάν ήταν δυνατό να λαμβάνετε επιπλέον πληροφόρηση, πως θα προτιμούσατε να την λαμβάνετε: (Σημειώστε όλα όσα ισχύουν)

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<thead>
<tr>
<th>Διαδίκτυο (Internet)</th>
<th>Τηλέφωνο</th>
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<tbody>
<tr>
<td>Ηλεκτρονικό ταχυδρομείο (Email)</td>
<td>(Οπτικός δίσκος) CD</td>
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<td>Φαξ</td>
<td>Ενημέρωση Ιστοσελίδας</td>
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<td>SMS (Κινητό τηλέφωνο)</td>
<td>Ενημερωτικά δελτία (Fact sheets)</td>
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<td>Εξειδικευμένα ενημερωτικά φυλλάδια μέσω ταχυδρομείου</td>
<td>Προσωπική συνάντηση με επαρχιακό Λειτουργό</td>
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<td>Ενημερωτικά φυλλάδια σε κεντρικά σημεία (Κοινωνικό κέντρο, κλπ)</td>
<td>Προσωπική συνάντηση με εμπειρογνώμονα Λειτουργό</td>
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<td>Άρθρα στις εφημερίδες</td>
<td>Δοκιμαστικά τεμάχια (Demonstration plots)</td>
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<tr>
<td>Το περιοδικό «Αγρότης»</td>
<td>Εκπαιδευτικές Εκδρομές</td>
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<td>Άλλα περιοδικά</td>
<td>Άλλο (Παρακαλώ καθορίστε)</td>
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<td>Τηλεοπτικό πρόγραμμα</td>
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<td>Ραδιοφωνικό πρόγραμμα</td>
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<td>Βίντεο / DVD</td>
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<td>Σεμινάριο στην περιοχή σας</td>
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<td>Παρουσίαση στην περιοχή σας</td>
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<td>Παρουσίαση στα κεντρικά γραφεία</td>
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</table>
15) Εάν ήταν δυνατό να λαμβάνετε επιπλέον πληροφόρηση, τι είδους πληροφόρηση θα θέλατε να λάβετε:

______________________________________________________________________________________
______________________________________________________________________________________
______________________________________________________________________________________
______________________________________________________________________________________
______________________________________________________________________________________

16) Τι θεωρείτε ως εμπόδια στην αποτελεσματική επικοινωνία μεταξύ του Τμήματος Γεωργίας και τους γεωργούς;

______________________________________________________________________________________
______________________________________________________________________________________
______________________________________________________________________________________
______________________________________________________________________________________

17) Έχετε πρόσβαση στο διαδίκτυο;
☐ Όχι
☐ Ναι

Εάν Ναι, πού? (Σημειώστε όλα όσα ισχύουν)

☐ Στο σπίτι
☐ Στο Κοινοτικό κέντρο
☐ Άλλο (παρακαλώ καθορίστε) ________________________________

18) Εξετάζεστε ως «νέος αγρότης» στο πλαίσιο του Κανονισμού (ΕΕ) 1698/2005 για λόγους Προγράμματος Αγροτικής Ανάπτυξης; (Σημειώστε μόνο μία απάντηση)
☐ Ναι
☐ Όχι

19) Είσαστε άντρας ή γυναίκα; (Σημειώστε μόνο μία απάντηση)
☐ Άντρας
☐ Γυναίκα

20) Παρακαλώ προσδιορίστε την ηλικία σας; (Σημειώστε μόνο μία απάντηση)

☐ 18-26 χρονών
☐ 27-36 χρονών
☐ 37-46 χρονών
☐ 47-56 χρονών
☐ 57-66 χρονών
☐ 67-76 χρονών
☐ 77-86 χρονών
☐ 87+ χρονών και άνω
21) Παρακαλώ περιγράψτε το επίπεδο μόρφωσης που έχετε λάβει: (Σημειώστε μόνο μία απάντηση)

___ Δημοτική εκπαίδευση  ___ Γυμνασιακή εκπαίδευση  ___ Λυκειακή εκπαίδευση
___ Πανεπιστημιακό Πτυχίο  ___ Μεταπτυχιακή εκπαίδευση  ___ Διδακτορικό πτυχίο
___ Άλλη (παρακαλώ καθορίστε) ______________________

22α) Παρακαλώ προσδιορίστε το χωρίο/πόλη και επαρχία στην οποία κατοικείτε: ______________

22β) Παρακαλώ προσδιορίστε το χωρίο/πόλη και επαρχία στην οποία βρίσκεται η γεωργική σας εκμετάλλευση: ______________

23α) Κατοικείτε σε Μειονεκτική περιοχή όπως καθορίζεται από τον Κανονισμό (ΕΕ) 1698/2005;
(Σημειώστε μόνο μία απάντηση)

☐ Ναι  ☐ Όχι

23β) Η γεωργική σας εκμετάλλευση βρίσκεται σε Μειονεκτική περιοχή όπως καθορίζεται από τον Κανονισμό (ΕΕ) 1698/2005; (Σημειώστε μόνο μία απάντηση)

☐ Ναι  ☐ Όχι

Οποιαδήποτε πρόσθετα σχόλια:
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ΣΑΣ ΕΥΧΑΡΙΣΤΩ ΓΙΑ ΤΟΝ ΧΡΟΝΟ ΚΑΙ ΤΙΣ ΑΠΟΨΕΙΣ ΣΑΣ
Appendix C

IRB Approval

The Office for Research Protections (ORP) has reviewed the above-referenced study and determined it to be exempt from IRB review. You may begin your research. This study qualifies under the following category:

**Category 2:** Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observations of public behavior unless: (i) information obtained is recorded in such a manner that human participants can be identified, directly or through identifiers linked to the participants; and (ii) any disclosure of the human participants’ responses outside the research could reasonably place the participants at risk of criminal or civil liability or be damaging to the participants’ financial standing, employability, or reputation. [45 CFR 46.101(b)(2)]

**PLEASE NOTE THE FOLLOWING:**

- Include your IRB number in any correspondence to the ORP.
- The principal investigator is responsible for determining and adhering to additional requirements established by any outside sponsors/funding sources.

**Record Keeping**

- The principal investigator is expected to maintain the original signed informed consent forms, if applicable, along with the research records for at least three (3) years after termination of the study.

- This will be the only correspondence you will receive from our office regarding this exemption determination.
MAINTAIN A COPY OF THIS EMAIL FOR YOUR RECORDS.

➢ **Consent Document(s)**
  o The exempt consent form(s) will no longer be stamped with the approval/expiration dates.
  
  o The most recent consent form(s) that you sent in for review is the one that you are expected to use.

➢ **Follow-Up**
  o The Office for Research Protections will contact you in three (3) years to inquire if this study will be on-going.
  
  o If the study is completed within the three year period, the principal investigator may complete and submit a Project Close-Out Report.
    (http://www.research.psu.edu/orp/areas/humans/applications/closeout.rtf)

➢ **Revisions/Modifications**
  o Any changes or modifications to the study must be submitted to the Office for Research Protections on the Modification Request Form - Exemption available on our website:
    
    http://www.research.psu.edu/orp/areas/humans/applications/modrequest.rtf
  
  o Modifications will not be accepted unless the Modification Request Form is included with the submission.

Please do not hesitate to contact me if you have any questions or concerns.

Thank you,

Laura Sabolchick Young

The Pennsylvania State University | Office for Research Protections | 201 Kern Graduate Building | University Park, PA 16802
VITA

EFTYCHIA CHARALAMBOUS-SNOW

Education:
- PhD in Agricultural & Extension Education (expected 2010)
- MSc in Agricultural Economics - 1992 - 1994
- BSc (Hons) in Horticulture - 1988 - 1992

Languages:
- Fluent in Greek and English, Good in French and German

Personal Details:
- DOB: 15 May 1971
- Nationality: Cypriot

Employment History:

Department of Agriculture, Nicosia, Cyprus – April 2004 to date

Current Position: Agricultural Officer A’

Responsibilities:
- Training Young Farmers on Cross Compliance and on Cyprus’s RDP 2007-2013.
- Representing Cyprus on Management Committees in Brussels, (EU headquarters).
- Evaluating and approving Business Plans for Producer Organizations.
- Responsible for the training issues within the Agricultural Economics Sector.
- Preparing the yearly budget for the Monitoring Authority of the Cyprus’s RDP.
- Preparing the yearly training plan and budget for the Agricultural Economics Sector.

Achievements:
- Gained a five month educational secondment to the European Commission headquarters – Directorate General of Agriculture and Rural Development in Brussels.
- Developed and successfully presented the training materials for the “training of Young farmers” program in the fields of Cross Compliance and the Cyprus’s RDP 2007-2013.
- Successfully trained other colleagues on computer applications.
- Developed a reporting program for monitoring the progression of the RDP 2004-2006.
- Coordinated the successful organization of all the Conferences of the Monitoring Committee of the RDP 2004-2006.

Previous Employment Summary:
- 1990 – 1991 Agricultural Research Institute, Nicosia, Cyprus (Internship).