

**Project no.**  
513705

**Project Acronym**  
CEEC AGRI POLICY

**Project title**  
**Agro economic policy analysis of the new member states,  
the candidate states and the countries of the western Balkan**

**Instrument**                      Specific Support Action

**Thematic Priority**                Scientific Support to Policies

**D12-3 Fourth 6-monthly report  
RURAL TECHNOLOGY TRANSFER  
IN TRANSITION ECONOMIES  
IN CYPRUS**

**Start date of project:** 01.05.2005

**Duration:** 24 Months

**Revision**        final

<b>Project co-funded by the European Commission within the Sixth Framework Programme (2002-2006)</b>		
<b>Dissemination Level</b>		
<b>PU</b>	Public	X
<b>PP</b>	Restricted to other programme participants (including the Commission	
<b>RE</b>	Restricted to a group specified by the consortium (including the Commission	
<b>CO</b>	Confidential, only for members of the consortium (including the Commission Services)	

## Acknowledgement

This report forms part of the deliverables from a project called "CEEC AGRI POLICY" which has been awarded financial support by the European Commission under the 6th Framework Programme.

The project aims to establish a network of experts involved in agricultural policy analysis and rural development in the New Member States, in the Acceding Candidate Countries and in the countries of the Western Balkan. More detailed information on the project can be found at [www.agripolicy.net](http://www.agripolicy.net).

## DOCUMENT HISTORY

see country reports on [www.agripolicy.net](http://www.agripolicy.net) for full list of authors

<b>Date</b>	<b>Author</b>	<b>Description</b>
03/03/07	D. Theocharides	Research Statistics Information
03/03/07	Th. Ioannou	Research Statistics Information

## CONTENT

1. Introduction and Background.....	4
1.1 Introduction to rural technology transfer .....	4
1.2 Agricultural and Rural Skills .....	10
2. Specific Technology Transfer Issues .....	11
2.1 Training Provision.....	11
2.2 Extension and Advisory Services .....	15
3. Overview and Prospects.....	17
3.1 Linkage between technology transfer services .....	17
4. References.....	19

## APPENDICES

- APPENDIX I RURAL TECHNOLOGY IN TRANSITION ECONOMIES – CYPRUS
- APPENDIX II TRAINING PROGRAMS – AGROS PITSILIA
- APPENDIX III TRAINING PROGRAMS – ACHELIA
- APPENDIX IX RURAL POPULATION

## **1. Introduction and Background**

---

Cypriot farmers have always had a lot of knowledge about their own environment and growing systems, but owing to inherent difficulties such as small agricultural lots, shortage of irrigation water, dry hot climate, infertile soils, competition in the export markets, high prices of raw materials and fertilisers, they needed to acquire continuously new knowledge and skills about equipment, production methods, crop varieties, animal species, harvesting methods, marketing, management techniques, animal husbandry, irrigation methods and pest control.

Since independence in 1960 the Government of the Republic of Cyprus introduced various schemes and approaches in order to solve the problems of agricultural. Emphasis was placed on creating the infrastructure and on solving the irrigation problem by building dams on almost every river.

In parallel to the creation of the physical infrastructure, the Ministry of Agriculture sought ways of utilising the results of research in agriculture and informing farmers about the adoption of technology in the farming operations.

### **1.1 Introduction to rural technology transfer**

In the absence of private initiatives for rural technology transfer, the Ministry of Agriculture decided to set up its own mechanisms as follows:

- Establishment of two rural Centres for agricultural training
- Creating an Extension Service at the Ministry of Agriculture to offer advice to farmers
- Establishing the Agricultural Research Institute with its own experimental farms in order to test new crop varieties and new species of animals
- Organising annually an Agricultural Exhibition
- Organising visits abroad by groups of farmers in order to see the latest technology in equipment, production and harvesting methods
- Encouraging school leavers to follow university education in agriculture, veterinary medicine and agro marketing.
- Establishment of a Forestry College to train young foresters.

The five most important ways used in Cyprus for rural technology transfer are:

- Training
- Advisory Services
- Consultancy Services
- Advice to farmers who belong to Producers Organisations by their organisations
- Publicity through the mass media

#### **1.1.1 Agricultural and Rural training**

Agricultural training in Cyprus is the responsibility of the Ministry of Agriculture, Natural Resources and Environment. Appendix I lists the number of Programmes organised, the number of days of training and the number of persons who attended the

Programmes. The Programmes are different from year to year reflecting the problems encountered by the farmers.

The table below gives details of the training programmes organised between 2001 – 2005.

**Table 1 Training Programmes Organised for farmers between 2001 – 2005**

	2001	2002	2003	2004	2005	2006
Number of Programmes	49	48	41	85	35	
Number of Days	60	86	73	178	88	
Number of Participants	1045	1036	1000	1953	753	

*Source: Ministry of Agriculture, Natural Resources and Environment*

There is no central training centre for the agricultural training. There are two regional training Centres, one located in Paphos area training farmers of citrus, grapes and vegetables and one located on the mountains of Pitsilia training growers of fruit, grapes, vegetables and honey. Appendix II gives the 2006 training Programmes of the Rural training centre of Pitsilia and Appendix III gives the 2006 training Programmes of the Paphos Rural training centre.

The Ministry of Agriculture offers two types of Programmes, the ab - initio and the upgrading. The ab – initio programmes are organised for young farmers who have no previous training or experience in the specific subject and they have the following characteristics

- Participants must be under 40 years of age
- Provide both theoretical and practical training
- Have a duration of at least 2 days
- Trainees are paid for attending the programmes

The upgrading programmes offer to the farmers training in new technology knowledge, methods and successful practices in cultivation, harvesting and marketing for crop farmers and training in breeding, milking, application of health and hygiene for animal farmers.

The farmers are not required to pay any fees for attending the programmes and they usually are not compensated for the time they spend away from the farm for attending training programmes.

When the Ministry of Agriculture decides that training in a particular subject is of critical importance to Cypriot agriculture, farmers are paid for the time they spend attending appropriate programmes. The trainers are employees of the Ministry of Agriculture who are specialists in their fields.

The training of non – agricultural personnel living in rural areas is the responsibility of the Ministry of Labour and Social Insurance which has two specialist Institutes for implementing the training.

The first Institute is the Cyprus Productivity Centre which organises in three locations about 30 – 40 programmes each year with total duration of 500 hours and which are attended by about 500 employees. The subjects taught are in the areas of:

- Basic book – keeping
- Marketing
- Marketing Research
- Management
- Environmental Protection
- Production techniques
- Supervisory Methods

The second Institute is the Higher Hotel Institute which trains young persons through formal programmes of two and three years duration to assume responsible positions in the hotel and hospitality industries which are located in the rural areas. This Institute organises also every year 15 – 20 short up – grading programmes for persons working in the hotel and hospitality industries in rural areas. In 2005 and 2006 the short up – grading programmes put emphasis on training employees working in the promotion of rural tourism.

The Ministry of Agriculture, Natural Resources and Environment implements technology transfer through its own personnel. For this reason the officers involved in technology transfer are trained, mostly through scholarships abroad, on new technology for agriculture in such subjects as:

- Advanced Constructions of Green Houses
- New methods of cultivating cut flowers and aromatic plants
- Organic Farming
- Advanced harvesting techniques

The Officers train their peers when they return to Cyprus who in turn train the farmers. The training of the farmers is not only done in the training Centres of the Ministry of Agriculture but also in rooms specially hired in rural agricultural large Centres.

All the departments of the Ministry of Agriculture train their Officers in absorbing and transferring technology to animal and crop farmers. For example the Forestry Department has establishment a Forest College to train new employees, through a two year formal course and the other employees through short courses. In 2005 and 2006 the Veterinary Service established a training section to train all its employees on the requirements for food hygiene created by the entry of Cyprus in the EU.

Regarding the education / training of agriculturists and managers in post – secondary school education, in Cyprus there are no Universities or Agricultural Faculties. Despite this, until 2004, there were unemployed university trained agriculturists, since Cypriot School leavers are offered free entry in Agricultural Faculties in the University of Greece and especially in the University of Salonica. Since 2004, the demand for the agriculturist has increased dramatically in order to satisfy the needs of the Payments Agency and the Ministry of Agriculture for the implementation of the rural development Plan 2004 – 2006 and the new Plan 2007 – 2013.

The 2004 – 2006 Rural Development Plan allocated 5.2 million Euro or about 3% of the total expenditure for the training of young farmers. The Ministry of Agriculture utilise this money to organise additional training programmes for young farmers and stipulated as a prerequisite to granting subsidies to buy machinery and equipment by young farmers, the attendance of a training programme of 300 hours duration for training young farmers with no experience or a programme of 150 hours duration for training young farmers with some experience. More than 100 young farmers have already attended these programmes which contain a large number of training hours on the use of:

- Computers for controlling fertilisers and pesticides
- Computers for monitoring production
- Computers for irrigation
- Internet
- Environmental hazard control
- Monitoring through computers the milking, the feeding and the control of germs and parasites

The young farmers are paid to attend the programs in order to compensate for the time they spent attending the programs and are not working.

All the above involvements of the Ministry of Agriculture necessitated the need for the Ministry to establish a Training Facility which will be implemented under the Rural Development Plan 2007 – 2013.

In Cyprus, there are no private training providers for Agricultural employees. Non – agricultural rural employees attend training programs organised by private training institutions with subsidies from the Human Resources Development Authority of Cyprus. These programs, however, are not specific for the needs of employees of enterprises established in rural areas.

Training for farmers and rural workers is offered to those farmers who belong to the many co – operative societies trading the agricultural products of their members. There are 30 such societies which between them control about half of all agricultural products. One of them, the Co – operative Union of Agricultural Marketing Societies, accounts for the marketing of 30% of the citrus fruits, 74% of the table grapes and 35% of fresh fruits and vegetables.

The Societies formed a Co – operative Movement College in the early 1980's which offers training to the members on mainly technical subjects. Between 1985 – 1995 on average, the College organised 25 – 30 programs of a total duration of 480 – 500 hours and an attendance of more than 500 farmers. Owing to the reduction in the exports of citrus, grapes and other agricultural products and the development of private sector training infrastructure, the programs offered by the College were reduced and the College closed down in 1998.

The training of the co – operative societies' employees is undertaken by the Pancyprian Co – operative Federation which has as members 233 co-operative institutions and has as one of its primary function the organisation of training seminars aimed at enriching

the knowledge of the co-operative societies' employees and upgrading their professional skills.

#### 1.1.2 Agricultural and Rural advisory / consultancy services

Agricultural Advice is given to farmers by the Extension Service of the Ministry of Agriculture for matters relating to Production and by the Extension Service of the Ministry of Commerce and Industry for matters relating to marketing. The consultancy and advisory services are offered to farmers either during personal visits or in group - sessions by the extension Officers or by Experts from Cyprus and abroad who are invited and paid by the Ministries of Agriculture and Commerce.

As shown in Appendix I, in 2005 extension Officers of the Ministry of Agriculture made 5745 visits to farmers for advice and held 84 group visits for 1671 farmers. More than 30 000 farmers made 39 032 visits to the central and regional offices of the Ministry of Agriculture in order to get advice from Officers of the Ministry.

Regarding advice and consultancy to agro – business and other enterprises located in rural areas there are in Cyprus about 10 consultancy companies which offer specialised advice on the payment of fees. The Government of Cyprus, in order to promote technology transfer established in 1995 a Technology Institute which through the Internet and a bulletin informs employers about the latest technology innovations in the various agricultural and industry sectors. In order to further encourage technology transfer the Technology Institute subsidised by 40% the fees of all consultancy services for technology transfer.

#### 1.1.3 Role of farmers' groups including national or regional farmers' organisations

In Cyprus the four national farmers' organisations so far have not been involved in rural technology transfer. At present, however, they are setting up Consultancy and Advice sections in order to offer advice and consultancy services to their members with fees which are highly subsidised by a special provision of the Rural Development Plan 2007 – 2013.

The 24 farmers' groups (producer organisations and groups) which have been set up since 2004 have as one of their basic objectives the transfer of technology to their members. With the exception of one organisation of fruit and vegetables producers, which organised a group visit abroad to see the latest technology in Green House cultivation, the other farmers' groups have not done much for their members. A good example of technology transfer to its members is the producer group the Pancyprian Organisation of the Cattle Producers. This organisation which was established in March 2005 has been providing to its members training programmes on important issues relating to technology, health and hygiene which affect productivity and quality.

#### 1.1.4 Other methods for Rural technology Transfer

In Cyprus the farmers have a number of other methods for becoming acquainted with the latest technology. The most important methods are the following.

#### 1.1.4.1 Group visits in Cyprus and Abroad

These visits are organised and subsidised by the Ministry of Agriculture. The participating farmers have the opportunity to see the latest technologies in crop cultivation, production and harvesting in the use of technology advanced machinery and equipment, in animal farming and animal welfare and in other productivity improvement methods. Subsidised visits are also organised to International farm exhibitions where farmers meet machinery and equipment manufactures and see the automated equipment.

#### 1.1.4.2 Introduction of new crop varieties or animals of improved species

These are mainly implemented by the Ministry of Agriculture through its specialised section, the Agricultural Research Institute which carries out experiments and has demonstration farms for trying new crop varieties and species before giving them to crop and animal farmers.

The Ministry of Agriculture every year organises demonstration farms (see Appendix I) where invited crop and animal farmers are informed about the new crop varieties and animal species and about the use for cultivation new machinery, equipment or methods.

#### 1.1.4.3 Machinery and Equipment Import Agents

Cypriot import agents of machinery and equipment import the latest technology - advanced machinery and equipment and inform the Cypriot users about the benefits of adopting the new machinery and equipment.

The agents promote the sales of their machinery and equipment through personal selling, demonstrations in rural Centres, participation in the Annual Agriculture Show or in the International Trade fair or through selling at very favourable low prices to 'Opinion Leaders' in rural areas.

#### 1.1.4.4 Visits to the Agricultural Show and the International Trade Fair

Manufactures of machinery and equipment and their local agents exhibit their latest products in the Annual Agricultural Show and the International Trade Fair in order to give the opportunity to the farmers, the rural entrepreneurs as well as to the Officers of the Ministry of Agriculture to see the advanced technologies.

#### 1.1.4.5 Publications, Publicity and other Promotions by the Ministry of Agriculture

In order to inform the farmers about developments in their sector, the Ministry of Agriculture presents a weekly television programme and a weekly radio programme. The presenters are Officers of the Ministry of Agriculture and invited speakers who are specialists in their fields.

The Ministry of Agriculture publishes the periodical 'AGROTIS' (The farmer) every three months which contains information about technology and other developments. The periodical is send free of charge to all farmers. From time to time an issue is

devoted to a single issue such as Productivity, New Production Techniques, Measures of the Rural Development Plan.

More than 100 information leaflets and pamphlets are published and sent to farmers each year which contain useful information for the crop and the animal farmers.

## **1.2 Agricultural and Rural Skills**

The education level of persons living and working in rural areas is lower than that of person living in urban areas and hence there is a need to further train the persons in rural areas.

Whereas four out of 10 persons living in urban areas in the age group 20 – 39, have higher than secondary education the corresponding number for rural areas is only one in five. For the age group 45 and over, only 5% of those living in rural areas have had post secondary education.

The percentage of persons attending every year formal and informal training at 33.6% urban areas is higher than the percentage for rural areas (11.5%).

One in five of the workers in agriculture is foreign and 90% of those have not gone beyond secondary education.

It is difficult to assess the skill levels in Agriculture since the system of education and training in Cyprus does not require the assessment of education and skills level. However, from our knowledge of the vocational education and training system and from discussions with the Director of the Agricultural Extension Service of the Ministry of Agriculture, the following comments can be made:

- The percentage of managerial personnel in crop farms, animal farms, agro – industry and other rural enterprises who have a college and / or university education is below 10%
- The overwhelming majority of crop farm and animal farm employees have not had formal training and acquired their skills on the job
- It is estimated that about 70% of supervisory personnel in crop and animal farms have had secondary education and about 25% have had supervisory training
- Owners of animal farms have contracts with private Veterinary Doctors who visit their farms at least once a month to give them advice on the problems they face
- A very limited number of owners of crop farms (especially in the citrus sector) employ university graduates in agriculture in order to supervise farm methods, pesticides control, and fertiliser use and irrigation methods. Owners of smaller farms are either themselves graduates in agriculture or sign contracts with agriculturists who visit the farms for advice and to satisfy the requirements for certification with Eurepgap, BRC or HACCP.
- According to the Agricultural Economies Report published in 2001, the owners and managers of larger farms had higher educational qualifications than owners and managers of smaller farms.

Below are the percentages of rural and urban population with the level of education they possess.

	Education Completed (2004) Age 20+	
	Rural	Urban
No or little Primary	15.6%	7.6%
Secondary	41.5%	26.6%
Higher than Secondary	27.6%	33.4%
	15.3%	32.5%

## **2. Specific Technology Transfer Issues**

---

### **2.1 Training Provision**

As mentioned in the introduction, the only provider of technical training to farmers is the Ministry of Agriculture, Natural Resources and Environment through its Department of Agricultural Applications. There is no private organisation for the provision of training to farmers, but some of the programmes organised by private training providers are attended by farmers.

Agricultural enterprises which employ personnel and pay the levy of the Human resource Development Authority are entitled to send personnel to attend the subsidised programmes organised by the over 150 private training providers. Some of these programmes suitable for farmers are the following:

- Book – keeping
- Basic Accounting
- Supervisory techniques
- Marketing of Agricultural Products
- Export Marketing
- Marketing Research for Agricultural Products
- Health and Safety regulations
- Quality Assurance Systems
- Application of Eurepgap
- EU Regulations

#### 2.1.1 Quality and suitability of provision

The quality of the training provided by the departments and training Centres of the Ministry of Agricultural, Natural Resources and Environment is assessed by the participants at the end of each training programme and three months after by completing a simple questionnaire.

The Ministry of Agriculture put emphasis in selecting well qualified trainers who attend training the trainer programmes in order to increase their effectiveness as teachers.

In order to decide which programmes to organise and their specific content, the Ministry of Agriculture reviews the information which is collected systematically about innovations in agriculture and about improvements in technology and decides which programmes to organise taking also into consideration the training needs of the farmers which are identified by the district agriculture officers. In this way the training provided is suitable to the needs of the farmers.

### 2.1.2 Availability and Spatial Issues

Although the number of training programmes organised every year for agricultural and rural workers is limited and certainly does not cover all the training needs, the farmers who need new knowledge in order to do their work more effectively satisfy their needs by visiting officials of the Ministry of Agriculture in the regional offices.

Every effort is made by the Ministry of Agriculture to organise training programmes as near as possible to the farms and at the Centres of farming regions, so that farmers do not need to travel and stay away from home.

For the ab - initio programmes which last for at least two days and are organised in the Pitsilia region, participants can stay for the night. The Ministry of Agriculture has the facility to accommodate up to 20 young farmers.

In order to satisfy the demand for organising programmes at the offices of the Ministry of Agriculture, the training infrastructure at the Ministry was recently improved considerably.

### 2.1.3 Practical Issues

During the preparation stage of the information required in order to prepare the Rural Development Plan 2007 – 2013, the Officers of the Ministry of Agriculture reviewed the provision of training and technology transfer offered under the Rural Development Plan 2004 – 2006 and concluded the following:

- The Ministry of Agriculture should retain the responsibility for technology transfer and provision of training programmes to farmers.
- The Ministry of Agriculture should continue to organise the training programmes and use as speakers primarily the officers of the Ministry of Agriculture but also speakers from the private sector.
- Priority to be given to facilitate the Producer Groups and Organisations to transfer technology to their members using amongst other methods training programmes.

Experts in training provision are not satisfied with the way the Ministry of Agriculture is handling training issues and spending the budget of 5.2 million Euro allocated to training in the Rural Development Plan 2004 – 2006.

Experts further believe that the Ministry of Agriculture should follow the example of the Human resource Development Authority of Cyprus (HRDA) which spends a large percentage of its budget in order to foster the development of training infrastructure in order to increase the supply of training provision to satisfy the demand for training employees in the manufacturing and service sectors. Between 1985 – 2002 the HRDA through its subsidy for creating infrastructure and through subsidising the fees of participants to attend training programmes (fees are subsidised by about 80%) increased the training providers in Cyprus from 15 to about 160.

#### 2.1.4 Demand side Issues

The rapid increase in the demand for training programmes in the last five years is largely attributed to the entry of Cyprus in EU and the preparation of the economy in order to meet the problems of the abolition of quantity restrictions and tariffs in the internal market.

The main factors which contributed to the increase in the demand for training are the following:

- The need for strict compliance with food and hygiene regulations
- The increase in the cost of feeding staffs which force animal farmers to seek new knowledge for preparing feeding staff with alternative raw material inputs
- The stipulation by the Ministry of Agriculture as a prerequisite for granting a subsidy of 50% - 60% on the purchase of machinery and equipment, the attendance of 150 – 300 hours of training for young farmers
- The need to raise the quality of agricultural products (crop products, milk products, meat products etc) with application of international standards, Eurepgap, BRC, HACCP and other.

It must be noted that the preparation of a farm enterprise in order to be certified with Eurepgap, BRC, HACCP contains a large number of hours of formal and informal training. The HRDA every year subsidises a large number of programmes organised in – company by the consultants of Eurepgap, BRC, HACCP and ISO.

In order to prepare the SWOT analysis for the training provision a group session consisting of two persons from our organisation and three agriculture consultants who are registered as qualified agriculturist by the Ministry of Agriculture for preparing the improvement plans and feasibility studies of farmers seeking subsidies from the Rural Development Plans. The opinions of the five experts are shown below:

#### Strengths

1. Training is mostly provided by the Ministry of Agriculture which has to maintain standards of Quality
2. The Human Resource Development Authority subsidises farmers who attend the programmes approved
3. Training needs are known through the Extension Officers and consequently programmes are organised to satisfy the needs
4. The Ministry of Agriculture has well trained training officers to teach the farmers

5. The abinitio programmes for new young farmers are very effective
6. The abinitio programmes which combine theoretical knowledge with practical applications
7. The provision of programmes for non – agricultural activity by private training organisations with subsidies from the Human Resource Development Authority

#### Weakness

1. Limited number of training Centres
2. No systematic identification of training needs
3. Inability to utilise the money available in the RDP
4. Apart from the Ministry of Agriculture there are no private training providers for agricultural and rural employees
5. The Human Resource Development Authority cannot subsidise training programmes which cover Agricultural Production or programmes which relate to the implementation of the Rural Development Plan
6. No systematic evaluation of the effectiveness of training programmes
7. Self – employed persons (and farmers are mostly self – employed) are not subsidised by the HRDA as they do not pay the HRDA levy
8. The emphasis on quantity might be at the expense of the quality of training
9. The ageing population

#### Opportunities

1. Increased interest from farmers in training and adoption of new technologies
2. Generous Funds for training programmes for farmers are provided in the RDP 2007 – 2013
3. If the Ministry of Agriculture follows the model of the HRDA for creating training infrastructure and subsidised farmers who attend training programmes the organisations who can offer training for farmers will grow like mushrooms and more than a thousand farmers and farm workers will attend the programmes
4. If the attendance of training programmes is stipulated as a prerequisite for approving subsidies and grants to farmers the demand for training will increase which will stimulated the suppliers of training to provide programmes to meet the demand
5. The use of internet and computers for offering training as more farmers own computers
6. More educated persons are employed in agro – business

#### Threats

1. Other methods of technology transfer might prove more effective than training
2. Other measures of the RDP might absorb the funds allocated to training
3. Adverse weather conditions and international competition might dissuade the farmers from investing in new technology
4. The substitution of local labour who have some training and education with foreign labour with very low level of education who cannot follow any training

## **2.2 Extension and Advisory Services**

### 2.2.1 Public Sector Services

Since independence in 1960, the Cyprus Government through the Ministry of Agriculture, Natural Resources and Environment, realising that the animal and crop farmers had limited opportunities to obtain information about new technology, machinery and equipment, new production methods, new varieties of crops, new species of animals and other related issues decided to create an extension service for advising the farmers. For the marketing of agricultural products the Government created an extension service at the Ministry of Commerce and Industry.

The advice from the Extension Service of the Ministry of Agriculture is given in the following ways:

- Visits extension Officers to individual farmers for advice
- Visits of individual farmers to the extension Officers to get advice
- Presentations by the extension Officers to groups of farmers
- Use of articles, pamphlets, leaflets and other printed media to educate and inform farmers about issues affecting the successful operation of farmers
- From the publication and the officers of the Agricultural Research Institute about new crop varieties, new species of farm animals and other issues

The advice given to farmers by the extension services is not always recorded by the Officers. Statistics about the recorded advice are given in Appendix I.

The extension advice of the Ministry of Agriculture is offered also to the wives of the farmers through the section of Home Economics. The female personnel who staff the section spend most of their time in rural areas advising housewives how to make handicrafts or how to preserve fruit and vegetables for own use or for selling them in order to supplement the family budget.

The Ministry of Agriculture places emphasis on the training of the extension officers in Cyprus and abroad in order to perform their role of technology transfer agents to farmers.

### 2.2.2 Private Sector Services

Advisory services to farmers are given by Distributors of Machinery and Equipment, by agents of pharmaceutical companies and by importers of improved seeds. This advice is always subjective and biased and as a result wrong decisions were taken by farmers.

During the last ten years private consultancy organisations were set up, most of them by retired civil servants who worked for the Ministry of Agriculture, in order to offer paid advice to farmers and Agro – industry. The demand for these services from the farmers until 2004 was very limited. The situation changed in 2004 – 2006 because the farmers wanted advice for the preparation of Improvement Plans and Economic Viability

Studies which were necessary in order to obtain the grants and subsidies provided by the various measures of the Rural Development Plan.

Both the individuals who offer advice to farmers and the consultancy organisation who prepare the improvement Plans and Viability studies in order to be entitled for the subsidy of their fees by the Department of Agriculture have to submit their qualifications and experience for accreditation. So far 30 individual degree holders agriculturists and 22 consultancy organisations staffed with at least one degree holder agriculturist and one economist, have been accredited to offer consultancy and advice to farmers.

### 2.2.3 Demand Side Issues

Cypriot farmers face many difficulties in the production and marketing of their produce. Some of these difficulties relate to the small size of farms, the adverse weather conditions, the shortage of irrigation water, the infertile soils, the high prices of feeding staffs, the internal and external competition, the reluctance of young persons to become farmers and the abolition of export subsidies. In order to overcome these difficulties the farmers seek ways and advice from their peers, from the Government, from farmers in other countries they visit (mostly Israel, Holland, Germany and Greece) and from consultants. As mentioned above the demand for such services increased after 2004 with the application of the measures of the RDP.

### 2.2.4 SWOT Analysis

The Swot Analysis for the transfer of technology through the extension and advisory services is presented below

#### Strengths

1. Well trained Extension Officers
2. Extended to the single farm unit which demands the service or which is chosen by the Ministry of Agriculture to receive the service
3. Farmers visit the Department of Agriculture for advice at any time they wish
4. The advice from the Public Sector is given free
5. The fees of private consultants are subsidised through the RDP

#### Weaknesses

1. Not enough extension officers
2. Farmers some time do not appreciate the advice which is given free
3. High cost of the advice given by private sector consultants
4. The average age of farmers which is more than 50 years means that the older farmers are reluctant to accept new technologies and new ideas
5. Farmers are not fully aware of what the extension service can offer

#### Opportunities

1. Some information on technology can be found on the internet

2. The possibility of investing in new machinery and equipment with subsidies from the RDP provides demand driven need for consultancy and advice
3. The subsidy of 30% of the cost of the machinery and equipment for the technological up – grading of Agro – Industry
4. Increase interest from farmers

### Threats

1. Private providers of consultancy and advice might exploit the farmers
2. The gap between the rich and the poor farmers will increase leading to greater social and economic inequality amongst the farming community because the big farms can afford to pay for advice buy consultancy services and become pore prosperous.
3. Limited funds for financing the extension service
4. EU restriction for financing services aimed to interfere with the marketing mechanism.

## **3. Overview and Prospects**

---

The training of the farming and the rural population during the past 5 – 10 years exhibited a steady but slow increase in both quantity and quality. Despite the provision of adequate funds for training in the RDP 2004 – 2006, amounting to 5.2 million Euro with the exception of one 300 - hour training programme for young farmers (under 39 years old) and one programme for young farmers with some experience in farming the number and duration of the training programmes organised by the Ministry of Agriculture did not increase.

A big opportunity to create training infrastructure for training agriculture and rural managers and employees with funds from the RDP was lost because, as experts say, the conservativeness of the Officers of the Department of Agriculture.

The ageing farming population and the large numbers of foreign workers in agriculture are the major negative factor in increasing the amount of training provided.

The offering of information, consultancy and advice to farmers both from the public and the private sector have been increasing in the past 5 years with some acceleration, especially in the consultancy services from private consultants, between 2004 – 2006.

### **3.1 Linkage between technology transfer services**

The provisions of technology transfer training services by the public sector are well co-ordinated because they are offered by the Department of Agriculture which prepares an annual training plan with a specific budget. There are no private training providers and hence no need for a linkage between public and private training providers.

The Agricultural Extension Services require more co-ordination amongst the public sector providers and between them and the private sector providers. The extension services on marketing which are provided by the Ministry of Commerce and Industry are well defined and do not conflict with the extension services on production which are provided by the Ministry of Agriculture and are co-ordinated at the planning stage.

The private sector consultancy and advice services offered to the farmers are subsidised with funds from the RDP and are given by individual qualified agriculturists and consultancy organisations which are accredited by the Department of Agriculture and it can be argued that there is sufficient link between public sector and private sector providers.

## 4. References

---

1. Annual Reports of the Ministry of Agriculture, natural resources and Environment for the years 1997 – 2005 (Ministry of Agriculture)
2. Agricultural Statistics 2003 and provisional statistics for 2004 – 2005 (Statistical Service of Cyprus)
3. A Structural and Economic Analysis of Farming in Cyprus (Agricultural Research Institute)
4. Lifelong Learning (Statistical Service of Cyprus)
5. Annual reports (Human Resource Development Authority of Cyprus)
6. Programmes Organised in 2006 (Agros Agriculture Training Centre)
7. Programmes Organised in 2006 (Achelia Agriculture Training Centre)
8. A preliminary strategy to develop a knowledge Economy in European Union Accession Countries by Kevin C 2002 World bank

### Training provision and use by the rural population

<b>Approx. % of population that is rural by:</b>	
(a) place of residence	30.4%
(b) place of work	11.3% of total or 24.5% of economically active
<b>Approx. % of all workers in rural areas in:</b>	
(a) agricultural employment	9.5%
(b) non-agricultural employment	90.5%
<b>Number of universities and similar institutions with agricultural courses</b>	1
<b>Number of colleges and similar institutions providing agricultural training</b>	1
<b>Number of other training providers:</b>	
(a) publicly funded	---
(b) privately funded	---
<b>Approx. % of agricultural personnel with:***</b>	
(a) degree or equivalent	N/A
(b) diploma or equivalent	N/A
(c) certificate or equivalent ( <b>higher than secondary</b> )	2%, 12%
(d) full secondary education	14%, 39%
(e) less than full secondary education	74%, 47%
(f) little or no formal education	10%, 2%
<b>Estimated level of demand for further training:</b> (use A=high, B=moderate, C=low)	
Agriculture – arable/cropping production	B
Agriculture – livestock production	A
Business management	A

\*\*\* 1<sup>st</sup> column is where only farm income is earned. 2<sup>nd</sup> column is farmers with both farm and off-farm income. The latter have considerably more education and in many cases farming is a secondary or part-time job (or hobby). Figures for the livestock sector were not available, non-comparable or non-compatible and were not included.

### Advisory and extension services available to agricultural and rural businesses

<b>Public sector organisations by name</b>	Approximate number of advisors or consultants
Ministry of Agriculture	20
Ministry of Commerce and Industry	6
<b>Private sector organisations by name</b>	Approximate number of advisors or consultants
4 Farmer's Unions - of which	6
Cattle Raisers Association	2
Cyprus Panagrotikos (Farmers) Union	2
Estimated % of farmers actually <i>using</i> advisory services of some sort	25%
Estimated % of NAE rural businesses actually <i>using</i> advisory services of some sort	<5%
Estimated demand for <i>new</i> advisory services - % of all farms and other rural businesses	5-10%

APPENDIX I

DESCRIPTION OF THE ORGANISATIONS INVOLVED  
IN TECHNOLOGY TRANSFER ACTIVITIES

DESCRIPTION	2001	2002	2003	2004	2005	2006
<b>1. AGRICULTURAL APPLICATIONS</b>						
Visits by officials of Dep. Of Agriculture	7600	6460	7160	6449	5745	-----
Group Presentations						-----
Number	167	140	188	149	84	-----
Persons	2788	3081	4327	4350	1671	-----
Personal Contacts	65857	48162	53111	41788	39032	-----
Educational Visits						-----
Number	16	23	21	32	17	-----
Persons	748	1212	1135	1618	979	-----
<b>2. AGRICULTURAL HOME ECONOMICS</b>						-----
Visits by officials of Dep. Of Agriculture	838	725	775	537	449	-----
Group Presentations						-----
Number	621	547	1264	336	355	-----
Persons	10739	10198	8353	6568	5782	-----
Personal Contacts	2004	2031	2383	1758	1800	-----
<b>3. CENTRES FOR RURAL TRAINING</b>						-----
Number of Programs	49	48	41	85	35	-----
Days of Training	60	86	73	178	88	-----
Number of persons participating	1045	1036	1000	1953	753	-----
<b>4. AB - INITIO PROGRAMS</b>						-----
Number of Programs	19	14	28	51	16	-----
Number of days	49	35	76	131	30	-----
Number of participants	405	301	592	939	342	-----
<b>5. DEMONSTRATION FARMS FOR INFORMING FARMERS</b>						-----
Numbers	66	20	63	59	18	-----

## APPENDIX II

### TRAINING PROGRAMS ORGANIZED IN 2006 AT THE AGRICULTURAL TRAINING CENTER OF AGROS PITSILIA

			<b>Duration</b>
January	1	Cultivation and care of Deciduous Trees	5 days
February	2	Home Economics	5 days
	3	Legislation for rural enterprise	1 day
March	4	Traditional foodstuffs preparation	2 days
	5	Citrus Cultivation	2 days
	6	Integrated Plant Cultivation	2 days
April	7	Good Agricultural Practice for vegetables	2 days
May	8	Cultivation of Olive Trees	1 day
	9	Improving the quality of Olive Oil	1 day
	10	Good Agricultural Practice – Pre harvest and post – harvest care of fruit	2 days
	11	Ab – initio program for beginners in bee care	2 days
	12	Crochete knitting	5 days
June	13	Home Economies	5 days
	14	Traditional foodstuffs preparation	2 days
July	15	Preparation of milk products	2 days
	16	Preserving of vegetables	2 days
	17	Ab – initio Program for growing vegetables in Green Houses	2 days
	18	Ab – initio Program for bee care	2 days
	19	Ab – initio Program for potato cultivation	2 days
August	20	Basket – making	5 days
September	21	Ab – initio Program for basket making	2 days
	22	Traditional foodstaff preparation	2 days
November	23	Crochet Knitting	2 days

### APPENDIX III

#### TRAINING PROGRAMS ORGANIZED IN 2006 AT THE AGRICULTURAL TRAINING CENTER AT ACHELIA

		<b>Duration</b>
1	Ab – initiation Program in Deciduous Trees Cultivation	4 days
2	Integrated Program for Pesticide Protection	4 days
3	Formation of Producer Groups	4 days
4	Rural Development Plan 2007 – 2013	2 days
5	Citrus Cultivation	2 days
6	Ab – initiation Program in citrus cultivation	3 days
7	Ab – initiation Program on reproduction of trees	4 days
8	Ab – initiation Program on the correct use of Pesticides	2 days
9	Correct use of Pesticides	1 day
10	Organic Production	2 days
11	Ab – initio program on bee care	3 days
12	Keeping fruit in cool stores	1 day
13	Ab – initio Program in sheep and goat farming	2 days
14	Olive tree care	1 day
15	Improving the quality of olive oil	1 day
16	Organic Production of olive oil	1 day
17	Producer Groups in olive and olive oil production	1 day
18	Growing fruit & vegetables in water	2 days
19	New varieties of citrus	1 day
20	Strategic Plan for Vine Growing (Rural development Plan 2007 – 2013)	1 day

## APPENDIX IV

### REPARTITION OF RURAL POPULATION (according to age range)

age range	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65+	Not stated	25+
Total	17878	15572	13024	13334	14916	15219	13575	12401	10338	9984	29669	349	132460
Never attended school	24	39	38	56	68	65	89	142	206	390	4572	10	5626
Not completed Primary	12	21	38	52	116	148	321	869	1850	2553	11542	11	17489
Primary	1038	1043	1214	1867	3077	5142	6454	6875	5387	4998	11343	22	46357
Lower secondary	9603	1829	1842	1922	2394	2005	1685	1247	756	543	639	11	13033
Upper secondary	7024	9726	6360	6588	6773	5506	3433	2147	1371	888	861	29	33927
Tertiary Non-University	145	1956	2134	1692	1291	1132	682	472	378	331	383	8	8495
University	0	938	1353	1102	1151	1177	872	617	364	247	264	6	7147
Doctoral (Ph.D)	0	4	28	37	29	28	29	21	14	24	17	1	227
Level not stated	32	16	17	18	17	16	10	11	12	10	48	251	159

age range	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65+	Not stated	25+
Total	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%
Never attended school	0,1%	0,3%	0,3%	0,4%	0,5%	0,4%	0,7%	1,1%	2,0%	3,9%	15,4%	2,9%	4,2%
Not completed Primary	0,1%	0,1%	0,3%	0,4%	0,8%	1,0%	2,4%	7,0%	17,9%	25,6%	38,9%	3,2%	13,2%
Primary	5,8%	6,7%	9,3%	14,0%	20,6%	33,8%	47,5%	55,4%	52,1%	50,1%	38,2%	6,3%	35,0%
Lower secondary	53,7%	11,7%	14,1%	14,4%	16,0%	13,2%	12,4%	10,1%	7,3%	5,4%	2,2%	3,2%	9,8%
Upper secondary	39,3%	62,5%	48,8%	49,4%	45,4%	36,2%	25,3%	17,3%	13,3%	8,9%	2,9%	8,3%	25,6%
Tertiary Non-University	0,8%	12,6%	16,4%	12,7%	8,7%	7,4%	5,0%	3,8%	3,7%	3,3%	1,3%	2,3%	6,4%
University	0,0%	6,0%	10,4%	8,3%	7,7%	7,7%	6,4%	5,0%	3,5%	2,5%	0,9%	1,7%	5,4%
Doctoral (Ph.D)	0,0%	0,0%	0,2%	0,3%	0,2%	0,2%	0,2%	0,2%	0,1%	0,2%	0,1%	0,3%	0,2%
Level not stated	0,2%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,2%	71,9%	0,1%

Source: Ministry of Finance - Statistical Service