



**Workshop on Strengthening the
National Information Focal Units**

8 – 10 January, 2008
Muscat, Oman

Cyprus Country Report



Agricultural Research Institute



July 29, 2008

1. General Overview

Cyprus is the third largest island in the Mediterranean Sea with an area of 9,251 km². The latitude of Cyprus is 34° ,33' to 35° ,34' North and its longitude is 32° ,16' to 34° ,37' East.

The population of Cyprus is estimated at 837,3 thousand at the end of 2004. The ethnic composition of the population is 77.8 % Greeks, 10.5 % Turks and 11.7 % foreign residents (*Source: Cyprus Statistical Service*). Official languages are Greek and Turkish.

The Republic of Cyprus entered the European Union on May 1, 2004.

2. National Research and Development Policy

Steps taken in recent years to upgrade research activities in Cyprus include:

- Establishment of the University of Cyprus in 1992 – <http://www.ucy.ac.cy>
- Establishment of the Technological University of Cyprus in 2007 – <http://www.tucy.ac.cy>
- Expansion of research activities of two internationally recognized institutes in Cyprus, the Institute of Neurology and Genetics <http://www.cing.ac.cy/EN/index.html>, and the Agricultural Research Institute <http://www.ari.gov.cy>
- Creation of research departments in the fast expanding tertiary education sector institutions
- Establishment, in 1996, of the Research Promotion Foundation <http://www.research.org.cy> – an institution responsible for the co-ordination, support and funding of research activities in Cyprus
- The Harvard School of Public Health (HSPH) and the government of Cyprus have established an international research, education, and technology initiative for the environment and public health to address key environmental issues in Cyprus and the Mediterranean region. Towards this end, two new research and training entities have been created: The Cyprus International Institute (CII) for the Environment and Public Health located in Nicosia, Cyprus, and the HSPH-Cyprus Program (HCP) located in Boston, Massachusetts, USA.- <http://www.hsph.harvard.edu/cyprus/start.html>
- Participation of Cyprus in the Framework and other European Programmes
- Establishment of business incubators within the framework of the “New Industrial Policy”.

The national research system is under the authority of the Planning Bureau <http://www.planning.gov.cy/>, the Research Promotion Foundation and four Government Ministries: (a) Commerce and Industry (b) Agriculture, Natural Resources and Environment, (c) Education and (d) Health.

2.1 The Specific Structure of the Agricultural Research System

The national agricultural research system is mainly under the authority of the Ministry of Agriculture, Natural Resources and Environment <http://www.moa.gov.cy>. One of its

departments, namely the Agricultural Research Institute (ARI) <http://www.ari.gov.cy>, was the only Cyprus institution engaged exclusively in agricultural research, until 2007, covering the wider domain of crop and animal production. In 2007 the Technological University of Cyprus - <http://www.tucy.ac.cy> - started its operations and one of the Schools, the Department of agricultural production and food science and technology, will also engage research and educational activities.

The research strategies and priorities of ARI are formulated by the Agricultural Research and Development Council chaired by the Permanent Secretary of the Ministry. Members of this Council are the Director of ARI, representatives of farmers unions, professional societies, the University of Cyprus and other stakeholders.

The Agricultural Research Institute was established in 1962 and is one of the Departments of the Ministry of Agriculture, Natural Resources and. ARI undertakes applied and basic research within the wider domain of plant and animal production. Its mission is to provide high quality scientific research using methods that are financially, environmentally and socially sustainable. Since its establishment, ARI has substantially contributed to the solution of actual problems and to the introduction of new technological methods and approaches in agricultural production. The Institute is organised into two divisions. The production division includes the disciplines of crop breeding and genetics, fruit tree and viticulture, vegetable production, floriculture, animal production, molecular biology, molecular genetics, biotechnology and tissue culture. The support division provides services and scientific support to the production division. Among its disciplines are plant protection (entomology, plant pathology, nematology and weed science), insect toxicology and pesticide residues, soil fertility, plant nutrition, irrigation, environmental impact, experimental statistics and agricultural economics.

The Institute has specialised laboratories (chemistry, toxicology, molecular biology, tissue culture, radioisotopes etc.), research stations and other facilities, and houses the national herbarium and the national plant gene bank. ARI employs 40 scientists, most of them PhD and MSc holders, 65 technicians, 14 administrative and accounting personnel and a permanent labour force of 73 persons. The Institute actively cooperates with regional and international organizations, Universities and research centers all over the world and was recognised by the EU as a Centre of Excellence in Agriculture and Environment.

2.2 Capacity Building of ARI towards ICT

The Institute has recently redesigned and enhanced its website <http://www.ari.gov.cy>, using the XOOPS platform with various web services such as: Calendar, News, Forum, Weblinks, Google Search, Contact form etc. It provides information about its various departments and their research activities, access to web-mail and library information (as described below) and contact information with the scientific personnel.

The Institute has received a teleconference unit (AERTHA) which will support the communication mechanisms of its personnel with other partners.

The Institute is the national AGRIS Centre collecting, cataloguing and indexing the agricultural literature published in Cyprus <http://library.ari.gov.cy/agris/>, and is also the national CARIS Centre collating information on on-going research. All this information is supplied to FAO for inclusion in the global data bases of the AGRIS and CARIS systems. In order to facilitate this service the Institute has scanned and digitized all its own publications from 1965 onwards (about 300 in total) and has made them freely – full-text – available to the public.

2.3 Financing of Research and Development

It is estimated that the Research and Development expenditure in 2004 accounted for 0,4% of the GDP, i.e. about CYP 29 million (€50 million). It must be noted that between 2000 and 2004 research expenditure doubled.

Regarding research activities by sector, in 2003 the government accounted for 41.4%, the higher education institutions for 29.7%, the enterprises for 19.2% and the private non-profit institutions for 9.7% of total R&D expenditure. Agricultural research received 23.2% of the total R&D expenditure.

2.4 Research Performers

Research Performers, fall into two main categories (a) Academic Institutions and (b) Non-Academic Institutions.

2.4.1 Academic Institutions

- The University of Cyprus (<http://www.ucy.ac.cy>)
- The Cyprus Technological University (<http://www.tucy.ac.cy>)

2.4.2 Non-Academic Institutions

- The Cyprus Institute of Neurology and Genetics (<http://www.cing.ac.cy/>)
- The Cyprus Institute of Energy
- The Cyprus Telecommunication Authority (<http://www.cyta.com.cy>)
- The Institute of Technology (<http://www.technology.org.cy>)
- The State General Laboratory (<http://www.moh.gov.cy/MOH/SGL>)
- The Cyprus International Institute for the Environment and Public Health (<http://www.hsph.harvard.edu/cyprus/>)
- The Agricultural Research Institute (<http://www.ari.gov.cy>)

3. Information and Communication Technologies in Cyprus

The penetration rate of Internet in Cyprus is swelling although it constitutes a small portion compared with European levels. As shown in Figure 1, in 2004, only 32% of the people in Cyprus use the Internet. More specifically, 82% of enterprises were using the Internet while 2 % of households and 35% of enterprises had a broadband connection.

Simultaneously, 35% of all enterprises were using the Internet for obtaining information from public authorities. (Source: Statistical Service of Cyprus)

Figure 1: Growth of Internet users in Cyprus

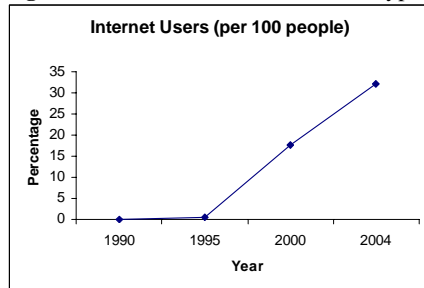


Table 1: Cyprus Telecommunications Fact Sheet
(Source: Press and Information Office, 2005)

Telecommunications:
Regulatory environment. As from 1/1/2003 the market has been liberalized
Penetration. June 2003 – 69% PSTN : 59,29 lines / 100 pop ISDN : 9,71 channels / 100 pop
Fixed Lines. June 2003 – 493.365 lines 423.933 PSTN lines 69.432 ISDN channels
Services offered. Most class services, ISP, ISDN, ATM, Frame Relay, ADSL.
Cellular. June 2003 – GSM 900/1800 - 478.600 subscribers (Penetration 66,94%) Post Paid Service - 286.858 subscribers (Penetration 40,12%) GSM Prepaid Mobile Service - 191.742 subscribers (Penetration 26,82%)
Network 100% digital Fiber (1.7 K Km) on the intercity routes (SDH based), National ATM/ FR, Extensive submarine links with Eastern Asia, the Middle East and Western Europe.
Internet Service Providers (ISPs) Internet hosts: 5,901 (2004) Internet users: 210,000 (2004)

3.1 Cyprus National Research and Education Network

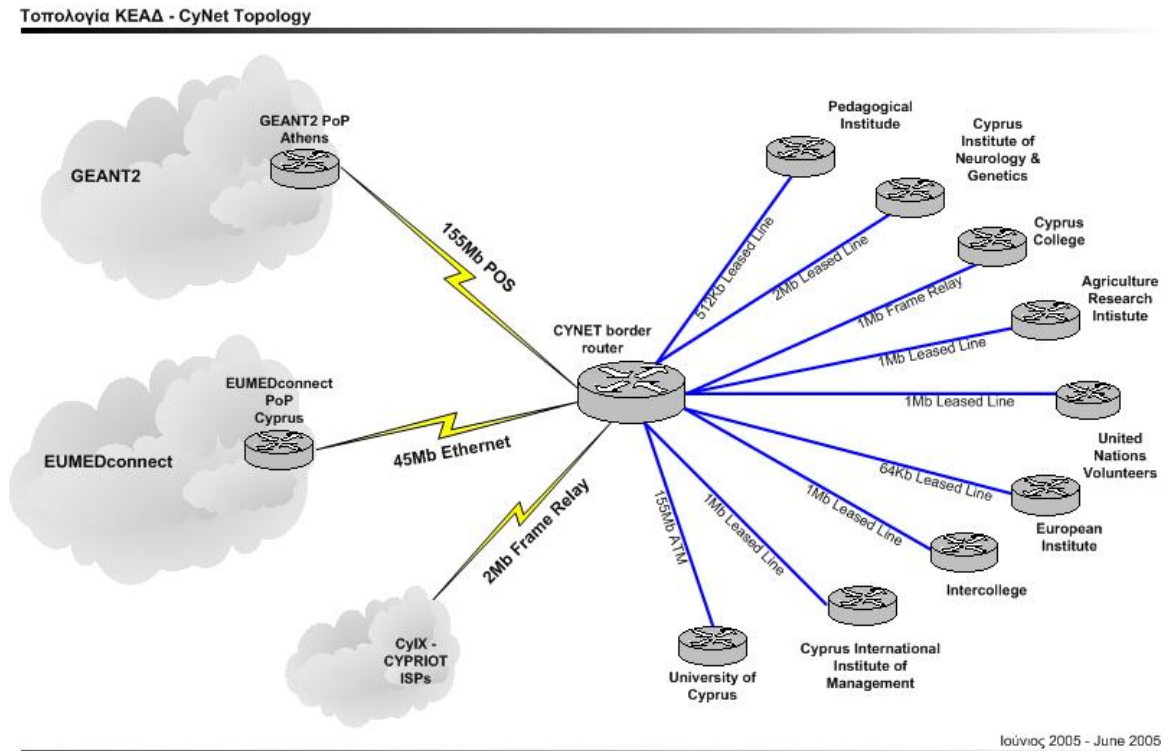
CyNet is Cyprus' National Research and Education Network. It provides a network infrastructure for the Cypriot Research and Education Community. CyNet connects universities and research institutions. The national backbone of CyNet is connected to the European backbone GEANT2 that is a part of the worldwide community of research and education networks. Through this connection the CyNet backbone is connected to the Global Internet as well.

The services of CyNet are used to support the research and academic activity. These services are available to Academic and Research Organizations as well as branches of organizations engaged in open research. The services are made available to members who agree to the official AUP, and comply with any obligations that result from it.

For an organization or entity to be accepted as a CyNet member, it must belong to one of the following categories:

1. Tertiary Education Organizations (public or private).
2. Organizations or entities which have been awarded research grants from official funding bodies (government or other institutions).
3. Any other entity which is acknowledged as carrying out research or academic activity.

Figure 3. CyNET Topology Map



3.3. ICT Usage for Agriculture

Ongoing research has shown that approximately 18% of the farmers have access to a computer, 15% have access to the internet and 82% have a mobile phone. Currently there are no special measures to promote the use of computers in farms, however, the Ministry of Agriculture, Natural Resources and Environment is considering a plan to promote strategies and policies for the development of ICT in agriculture and in rural areas within the framework of the new Agricultural Development Plan for 2007-2013.

3.3.1 ICT Usage in the Agricultural Research Institute

The Statistics and Agricultural Economics Section implements the Farm Accountancy Data Network (FADN - <http://ec.europa.eu/agriculture/rca/>) which is a conventional commitment of Cyprus to the EU. It carries out agro-economic studies and maintains time-series data regarding the production and prices of agricultural commodities, export

and import data, trends in the consumption patterns of agricultural products and the use of production factors.

The section is also responsible to maintain and manage various web pages related to ARI activities such as the official website of the Institute (<http://www.ari.gov.cy>), the website for the Institute's Library (<http://library.ari.gov.cy/agirs/>), the ARI Web-mail (<http://www.ari.gov.cy:3000>) and other project websites. It also provides internet access and training to the ARI staff on computer software use. Finally, it provides software and hardware support to the ARI staff members.

A teleconferencing system between CIHEAM/AIDCO participants project has been established and it is currently in use to serve the needs of the scientific personnel of the Institute.

Finally, in 2003 the Financial Management Accounting System (FIMAS) was installed for the needs of the Accounting Office.

3.3.2 Geographic Information Systems in Agriculture

The Integrated Administration & Control System (IACS), a department of the Cyprus Agricultural Payments Organization (<http://www.capo.gov.cy>), is responsible for the development, application and control of Single Area Payment Scheme (SAPS), which is funded from the European Union and from the Government of the Republic of Cyprus.