

INTRODUCTION

Environmental problems remain rooted in the socio-economic structure of the world economic system. The diversity of underlying natural, social, political, cultural and economic factors that precipitated the interlocking crises of our civilization, continue to be present.

The Johannesburg Summit comes at a new turning point. Our renewed global partnership, should aim to foster the current positive driving forces influencing the sustainability process: that is, the overwhelming environmental awareness that has generated changes in peoples' values and priorities; highly pluralistic political and decision-making systems; new actors; transparency; grassroots initiatives; strengthened role of parliaments; and greater influence of the courts of justice.

In this respect, key policy issues that should be of major priority, are poverty eradication, sustainable management and conservation of natural resources, financing, and science and technology.

There is a pressing need to drastically address the external factors that continue to undermine the quest for sustainability. In particular, the global community should aim to reconcile trade competitiveness and environmental protection; secure synergies between international programmes and processes; effectively tackle international inequalities; secure appropriate technical and financial support at bilateral and multilateral levels; and demonstrate empathy to the aspirations of those less fortunate, by incorporating equity considerations in regional and global policies.

SUSTAINABLE DEVELOPMENT IN CYPRUS

INTRODUCTION

History and nature have provided the essential attributes to the character of the environment of Cyprus, which is a mixture of natural and cultural features.

Despite its partial deterioration, the quality of the environment remains quite good on the whole. However, the 1974 invasion and the continuing occupation of 37% of the territory of the Republic and rapid economic development over the last three decades, accompanied with rising standards of living and considerable changes in lifestyles, have led to a variety of environmental pressures and strains on the country's natural fabric.

The response to the problems has been substantial and there is still time to avoid serious, extensive and irreversible impacts on the environment of the country.

The commitment to streamline environmental legislation and policy with those of the European Union's, as a response to the road of Cyprus towards accession to the Union, has provided the path and a further impetus to speed up the process already initiated to address the problems.

Following the Rio Conference, in 1992, a range of measures were taken, basically under the umbrella of a number of initiatives.

SUSTAINABLE DEVELOPMENT POLICY

The basic goal of the Government is to, gradually and methodically, introduce the environmental dimension into all parameters of the economic and social policies. Thus, development objectives are pursued in conjunction with the preservation of the environment, and the development effort is gradually readjusted, so as to integrate environmental considerations into all other mainstream economic sectors.

To this respect, Cyprus follows very closely progress on this issue at the European Union, particularly in the context of the 6th Action Programme, the Sustainable Development Strategy and the reports prepared by the various Councils (Cardiff process).

The major sustainable development goals of the country were incorporated in the Strategic Development Plan for the period 1994-1998. Its results on the issue have been mixed, as sustainable development involves the reorientation of the entire economic system and changes in the conventional wisdom of traditional development policies. The main thrust of the new Development Plan for 1999- 2003 is also the further incorporation of sustainability into economic development policies, emphasis being placed on the social aspects of development, and the real improvement in the quality of life, including the protection of the environment.

Action Plan for the Protection of the Environment

The integration of environmental concerns into other sectors has also been the main thrust of the Action Plan for the Protection of the Environment, of 1996.

The Plan is based on an Environmental Review and Action Plan prepared by the World Bank in 1993, a comprehensive report of 1995 which compared the country's environmental policy and legislation with those of the EU and identified areas of action, as well as on the outcomes of the Barbados and Tunis Conferences on the Sustainable Development of Small Island States and of Mediterranean Countries, respectively, and on the environmental legislation and policy of the European Union.

The Plan was discussed by the Council for the Environment and approved by the Council of Ministers and is the formal environmental policy document of the Government.

The Plan was reformulated and expanded, in 2000, to become the National Programme for the Adoption of the Environmental Acquis Communautaire of the European Union.

The main strategic objective of the Programme is to achieve sustainability, that is a development characterized by durability and stability. This development should be

governed by the principle that without adequate protection of the environment, development cannot be viable, and without viable development, the protection of the environment is not possible. The Programme includes a series of measures for the reinforcement of the policy, such as fiscal tools, information and environmental impact studies, as well as specialized measures in sectors that concern the management and protection of nature, landscape and wildlife; the protection and management of waters and the soil; the protection of the atmosphere and of global climate; the control of noise; the protection against radioactivity; and the management of waste and chemical substances. The majority of the measures included in the Programme derive directly from the environmental policy and legislation of the European Union, as well as from the international obligations of Cyprus.

Policy instruments for sustainability

The fundamental priorities of Cyprus for sustainable development are pursued through a range of instruments, briefly presented below.

Macroeconomic policy and the environment

The contemporary structure of the Cypriot economy placed emphasis on tourism and the construction and agriculture sectors, making extensive use of the natural resources. Other economic activities, particularly those relating to the services sector, are now substantially reinforced. In view of the accession of Cyprus to the European Union, the Cypriot economy is oriented to a more liberal one, with better macroeconomic returns and significant environmental benefits.

Pollution rates

Aside from the liberalization of the markets, special pollution rates are now examined to complement the systems for the protection of the environment, with the view to encourage the taking measures for the protection of the environment, such as investments for the collection, management and disposal of wastes.

Institutional framework

The protection and preservation of the environment and the proper management of natural resources cannot be effective, without proper readjustment of the organizational framework. To this end, the following are pursued:

- coordination of all government actions for the environment
- avoiding overlapping
- better distribution of responsibilities
- focusing and specialization of the human resources
- providing incentives and disincentives for the support of regulatory measures
- adoption of an integrated approach to environmental problems

The role of the government services which bear the responsibility for issues concerning the environment, is gradually reinforced.

Furthermore, the option of purchasing services from the private sector has been made available to public agencies and its potentials have already been utilised. Through such services, 14 implementation programmes have been completed or are under way (CO₂ strategy; ozone substances strategy; waste management strategy; environmental information; IPPC and chemical substances; habitats; EMAS; PCB's; nitrate pollution; design of a new regional landfill; packaging waste; hazardous waste; batteries; and waste water systems design).

Decentralization of Government functions and local administration

The enhancement of the administrative capacity at the sub-national level (district and local) and the improvement of the regional planning system, regarding the management and control of funds for the implementation of projects is under study and a number of measures have been promoted or are under examination. Firstly, the role of the District Officers, who are under the Ministry of Interior and act on behalf of the Government at district level, has been strengthened with a 1999 decision of the Council of Ministers, holding them responsible for the monitoring of the implementation of development and infrastructure projects at the district level. Secondly, the possibility for the creation of special municipal bodies is under consideration. These bodies, will be providing services and carry out common infrastructure projects to all adjoining municipalities (town and country planning projects, sewerage schemes, drainage works, etc.).

The administrative division of Cyprus is also under review, in order to secure more efficient regional and local administration.

Enforcement

Enforcement of legislation regarding the control of industrial effluent and emissions, under the Water Pollution Control and the Atmospheric Pollution Control laws, is carried out through a system of inspection of premises and installations. Other inspectorates cover marine environment protection issues; public health issues; and the control of mining and quarrying.

Legislation

A programme for legislative transposition and implementation to align Cyprus's laws, institutions, policies and measures to those of the European Union has been finalized and is being implemented.

Planning permit

From December, 1990, a necessary precondition for the realization of any development in Cyprus, is the issuance of a relevant planning permit in accordance with the Town and Country Planning Law.

Assessment of the impact on the environment from projects

In 1991, the Council of Ministers approved a comprehensive system of Environmental Impact Assessment from projects.

A new law on EIA was approved in 2001.

Strategic Impact Assessment

The gradual introduction of Strategic Impact Assessment within the next 3 years, will constitute a cornerstone for the effective protection of the environment.

Environmental management and audit system

In the last years, the industries of Cyprus and other organisations have displayed a particular interest in the implementation of quality systems. The Cyprus Standards and Quality Control Organization, currently in charge of accreditation issues and product control matters, has promoted an enlarged definition of quality that, by its nature, includes environmental parameters.

Eco-label

Interest is being observed both on the part of consumers and of manufacturers due to the pressure created by competition because of the imported products bearing the label.

The Cyprus Standards and Quality Control Organization has in recent years dealt with issues relating to the Life Cycle Analysis of materials (LCA) as a tool for their comparative evaluation, especially in the packaging field.

Integrated pollution prevention and control

The laws on the control of pollution of the waters and the atmosphere, of 1991, provide the legal basis for the application of this principle, as they cover the permitting of industrial sources of pollution.

Access to information

In a law passed in 2000, provisions were made for the right of the public in acquiring information regarding activities and actions affecting the environment and its protection. This law also provides that the Minister of Agriculture, Natural Resources and Environment has to prepare a state of the environment report every 2 years.

Physical planning

All types of development are regulated through the provisions of Local Plans and the Policy Statement for the Countryside, prepared under the Town and Country Planning Law, the implementation of which has created the basis for a more rational use of space.

SELECTED PRIORITY SECTORS

Protecting and promoting human health

One of the principal objectives of Cyprus for the integration of environment, development and health is to protect and promote human health and well-being.

Government provision of primary health care in the urban areas is concentrated in the outpatients departments of hospitals. In the rural areas, primary health care is provided through 23 rural health centres and 217 sub-centres to which general physicians (usually one or two) are permanently attached.

The objectives of primary health care policy are the following:

- integration of preventive and curative services at the primary health care level
- encouraging a team-based practice in rural and urban health centres
- provision of personal individual and family care
- establishment of a referral system from primary to secondary and tertiary care

The introduction of a National Health Scheme in Cyprus, a comprehensive law for which was passed in 2001, is expected to place more emphasis to primary health care. In the meantime, both the number of rural health centres and sub-centres and the number of doctors in the rural areas have increased significantly.

Concerning the control of communicable diseases, an immunization programme (EPI) for the prevention of communicable diseases has been developed with high levels of immunization coverage. This has resulted in the elimination of neonatal tetanus and diphtheria and the limitation to very low numbers of cases of pertussis and measles. Poliomyelitis is almost eradicated. The percentage of immunization is very high, reaching 96% for DTP3 and OPV3 and 83% of MMR. The immunization for Hepatitis B is estimated to be 28% among infants (18-30 months). The percentage of HBV carriers among the general population of Cyprus is estimated at about 2%. Cyprus is one of the countries with a relatively low prevalence of HIV infection.

By 1985, it was considered that the parasite of echninococcus had been eradicated. However, later, several cases of cystic echinococcosis in humans were detected and dogs were found infected with echninococcus. This has resulted in the initiation of new programme for the eradication of echninococcosis in Cyprus by the Department of Veterinary Services.

Reckettsia typhi is causing sporadic cases of Murine (endemic) typhus each year, especially near farms with animal husbandry. This is due to bad hygiene conditions which favour the increase of the number of rats, especially near the buffer zone between the Government controlled area and the occupied area.

Objectives in this sector are:

- achievement and sustainability of 100% of immunization coverage for DPT, OPV and MMR among infants
- control and reduction of HBV carriers
- control of the potential threat posed by the global AIDS pandemic
- control and eradication of echninococcosis, malaria and murine (endemic) typhus

Gender equality and women's advancement

The Beijing Conference has expanded the agenda on the human rights of women and, for Cyprus, it has given a new impetus to strengthen the political will and intensify the efforts towards legal and de facto equality which have been promoted in particular since the ratification of the Convention on the Elimination of Discrimination Against Women, in 1985.

The Government of Cyprus, being a party to the Convention, fulfils its obligations, as well as those arising out of the Beijing commitments and the wider framework of strategies and guidelines included in the Beijing Platform of Action.

The Ministry of Justice and Public Order is pursuing law reform in close collaboration with other agencies and organization, aiming at the elimination of the few remaining discriminatory provisions as well as the safeguarding of women's rights and their protection in all fields of Cyprus legislation.

A number of Law Reform Committees were set up, to study matters relating to family courts and causes for divorce; domestic violence; civil marriage; family mediation; sexual harassment; and trafficking and exploitation of women and children.

As a result, a number of bills have already been drafted and/or submitted to the House of Representatives, including the bill on the Exploitation of Persons (Special Protection), and the amendment bill on Violence in the Family (Prevention and Protection of Victims).

In the field of family law, a series of amending laws were enacted, improving the laws on Property Rights among Spouses, Parents and Children Relations, Family Courts, the Children Law, etc. Special reference is made to the amendment of the Citizenship Law, granting to Cypriot women equal rights regarding the citizenship of their children.

In the field of labour law, a series of legal measures, aiming at the improvement and expansion of the legal rights and protection of women at work, have been pursued, covering the areas of maternity protection, social pension, social security, part-time work, etc.

Furthermore, within the framework of the harmonization process with the acquis communautaire of the European Union in the social sector, the reparation of other important equality laws has been pursued, including the Law on Equal Opportunities and Treatment in Employment.

Besides legislative action, the Government, mainly through the National Machinery for Women's Rights, has requested and secured experts' advice on top priority issues, such as the setting up of the Equal Opportunities Commission, the preparation of an Action Plan for Women's Participation in Politics, training programmes on violence against women, and the promotion of gender mainstreaming in the Government sector.

The increase in the participation of women in public and political life and especially at the decision making level, is also one of the priorities of the Government policy in the field of equality. Measures taken in this field include the launching of training programmes to encourage women to enter politics; setting up of a cross-political citizens' group to lobby and campaign for equal representation of women and men in politics; sensitization of the mass media; and appointment of women in high ranking posts.

As violence against women has become a top priority issue within the overall equality policy, a series of measures were taken during the last years, in line with the relevant UN Declaration. These measures include the setting up of the Advisory Committee on Domestic Violence; legislative action for the improvement of the Violence in the Family Law (Law No. 47/94) and other relevant legislation; setting up of a shelter for victims of violence run by a voluntary organization with the support of the Government; and carrying out of training programmes for involved professionals.

A very important development has also been the setting up of the International Eco-peace Village of Cyprus. This Trust - NGO has an international vision to contribute to the broader peace goals of Cyprus and other countries in the region and internationally. Its mission is to create an eco-sensitive, international peace village, focusing on the training of women and youth on environmental and sustainable development issues, conflict prevention and networking between institutions and countries with parallel interests. Founding members of the Village include parliamentarians, academics and experts in ecology, conflict resolution, gender and youth affairs.

One significant activity was the organization, by the Association of Interbalkan Women's Cooperation Societies, the UNESCO Centre for Women and Peace in the Balkan Countries and a Cypriot Women's Organization, of their Sixth Congress on "Environment and Women", in Nicosia in October 1998. The Congress focused on women's participation in the preservation of the environment and aimed at providing a global perspective on this issue in the Balkan area.

Industry

The economy of Cyprus is dominated by small enterprises. The overwhelming majority of enterprises (99,9%) employ less than 250 persons, whereas 95% employ less than 10 persons. The basic point of reference is the small size of the industrial units that pollute the environment. Basic elements of the Government's strategy are the expansion of the existing markets for the export of products and the technological upgrading of the industrial units.

Basic parameters of the environment/industry relationship are:

- the improved management of resources, aiming at their rational use
- the use of information, in order for the consumer to have a better possibility of choice and for the public to acquire more trust in industrial activities and controls, as well as in the quality of products
- the adoption of standards for productive procedures and products.

Over the last years, significant progress has been made in many sectors, particularly through the preparation and implementation of a new Industrial Policy, in order to attain the above- mentioned objectives. This policy includes the following schemes and incentives:

The establishment of a Center for Technology, Research and Development, for carrying out applied research and development in specific high-tech fields.

Provision of grants for the technological upgrading of industrial units investing in new machinery and equipment with the aim of increasing their productivity and improving the quality of their products.

Undertaking of studies for the adoption of standards e.g. ISO 9000, CE, HACCP, Eco-labeling etc.

Purchase of consultancy services for the improvement of technology, environment, organization, human resources etc.

Operation of a Technological Information Center by the Institute of Technology, to facilitate the transfer of technology to SMEs.

Full participation of Cyprus, as from 1999, in the Fifth Framework Programme for Research, Technological Development and Demonstration (1998-2002) of the European Union, which provides a line of action in favour of SMEs.

The State provides Industrial Areas with the necessary infrastructure (roads, water supply, power supply, telephone network) and leases the land to industries.

The Government has also adopted a subsidy scheme to manufacturing units for the installation of industrial pollution control systems. The scheme covers systems for the processing of liquid/ solid waste, recycling or reuse systems within the manufacturing process, and systems for the control of atmospheric pollution.

As far as quarrying activity is concerned, the Mines and Quarries regulations refer to the rehabilitation of affected areas in general; it is now required to submit a plan for rehabilitation of areas affected. The Town and Country Planning Law requires a planning permit, which is followed by a quarrying license, in order to open up new areas. In addition, an Environmental Impact Assessment is necessary before any new quarrying activity is licensed.

Energy

Cyprus is almost totally dependent on imported energy. Energy production is predominantly oil based.

The energy policy constitutes a crucial factor for the achievement of sustainable development. The challenge is to ensure that economic development, efficient and safe energy supply and clean environment, are goals compatible with one another. Energy policy focuses on (a) securing energy supply under satisfactory economic conditions, (b) energy conservation and development of renewable energy sources, and (c) mitigation of the energy consumption impact on the environment. For the realization of the above targets, a series of measures have been, and continue to be, taken.

The Institute of Energy, was recently established and together with the Applied Energy Center are implementing the OPET-Cyprus programme, the aim of which is the promotion of measures in the fields of rational use of energy, renewable energy sources and fossil fuels.

Furthermore, enhancement of the administrative capacity of the Energy Section of the Ministry of Commerce, Industry and Tourism has been decided.

The Government is proceeding with legal and implementation measures, including appointment of notified bodies for energy conformity assessment procedures (type assessment, declaration of conformity) to be adopted in 2002, on efficiency requirements of hot water boilers, refrigerators and freezers; performance of heat generators; and the insulation of distribution systems in non-industrial buildings.

A comprehensive study was completed, whereby, all available alternatives for oil stocks were analysed, taking into account environmental, financial and economic considerations.

In February 2001 an agreement was signed between the Government of Cyprus and the Larnaca Municipal Council, for the implementation of a programme for the relocation of the oil installations in their totality, the closing down of the existing petroleum refinery and the environmental restoration of the area of the existing installation by the year 2012. The refinery's upgrading programme was also approved, which calls for investments in the order of US \$39 million: that is, a Hydrofiner unit, for the production of gas oil with low sulphur content, and an Isomerisation unit, for the production of unleaded gasoline.

A study is to be conducted early in 2002, for transferring natural gas to Cyprus.

Legislation concerning the labelling of household appliances as to their energy consumption was enacted by the House of Representatives in June, 2001.

Solar water heaters are being used for meeting the domestic hot water needs of the Cypriot family. The preference of Cypriots in using alternative energy sources is reflected

in the fact that Cyprus is the leading country in the world in installed solar collectors per capita (0.86 m²). Currently, more than 90% of dwellings in Cyprus are equipped with solar water heaters, whereas more than 50% of hotels are equipped with solar collection systems of a total area of 40.000 m².

Solar energy is being used in Cyprus in other, non-thermal, applications as well. Photovoltaics cells are powering telecommunication receivers and transmitters at remote areas. Furthermore, the Cyprus Telecommunications Authority has installed photovoltaics cells on telephone booths.

Within the context of the policy for the further utilisation of renewable energy sources, the Electricity Authority of Cyprus adopted a decision to purchase electricity produced from alternative sources and fuels at a price higher than what it costs the Authority to produce. This measure is considered as a milestone for encouraging the sustainable development of renewable energy sources in the field of electricity production.

The use of wind for electricity production is currently being examined by the Electricity Authority of Cyprus and other, private, organisations.

A study for energy production from biomass has indicated that it could be economically feasible, especially in the case of biogas production from pig manure. The Government introduced, in 1992, a special funding scheme whereby investments in bio-energy technologies can be subsidised by up to 68% of their initial cost. Even so, the fund has not yet been utilised. The issue is being re-examined within the framework of the action plan to improve the efficiency of the energy sector.

Cyprus has relatively high-energy intensity indicators. This indicates that there is considerable potential for energy conservation and necessitates the implementation of energy conservation programmes. For this purpose, an action plan to improve the efficiency of the energy sector of Cyprus has been established. Within the framework of the Energy Master Plan, energy studies were carried out for various energy intensive sectors (agro-industry, brick industry, hotels, etc.). Energy conservation is also being promoted through seminars, public campaigns, dissemination of information, etc.

In order to promote energy efficiency, the Government has introduced a grants scheme for the undertaking of investments in the field of energy conservation in the manufacturing industry, the hotel sector, and agriculture.

Tourism

Tourism constitutes a major factor for the economic development of Cyprus.

Sustainable tourism depends on a clean environment with sufficient natural resources for the satisfaction of the needs of a large number of people, temporarily residing in regions that are often sun-baked and arid.

The key sustainability issues refer to the handling of problems in existing tourist areas, and to environmental issues related to other tourist installations (theme parks, golf courts, marinas, etc.).

The need for a “new” perspective in tourism policy emerged in the 1980s, mainly because of the socially, ecologically and culturally negative impacts of tourism. The fundamental difference from the previous perceptions of tourist development lies in the fact that, according to the modern approach to tourism, it should respect and be kept within the limits of the local social, cultural, economic and environmental particularities and conditions.

The Cyprus policies aim at the improvement of tourism management and the protection of coastal and mountainous regions; better information to tourists regarding the environment; and an improvement of tourist services, so that there is less impact on the environment. The Cyprus Tourism Organization has co-operated with other agencies for the implementation of environmental protection measures which will benefit tourism, through the preservation of habitats, the protection of the quality of waters and the control of waste disposal.

The new Strategy on Tourism, has defined the level of the sector’s growth, formulated the general and the special objectives for the sector, and determined the ways to achieve the objectives on a balanced basis. The Strategy refers to the upgrading of the quality of services provided, with the major goal of attracting tourists of higher income.

During the preparation of the new Strategy, the following parameters were taken into consideration:

- the need for the maintenance and protection of the natural environment
- the need to ensure a more balanced tourist development in all areas of Cyprus
- the improvement, upgrading, and enrichment of the tourist product, the improvement of infrastructure, the launching of new forms of tourism and the adequate protection of archaeological sites.

In parallel, various forms of tourism are developing in order to enrich the market, such as cultural tourism, agrotourism, mild forms of tourism, athletic tourism, and convention tourism. The encouragement of specialized forms of tourism is aimed at lessening pressures on the coast as well as at making use of other activities or special features of the inland region.

A series of activities, which aim at the achievement of sustainable tourist development concern the following:

The implementation, from 1992 onward, of the programme for the development of agrotourism. This programme contributes to the diversification of the tourist product, the attraction of visitors with special interests, the preservation and protection of the natural and built environment of the inland, as well as the highlighting of the cultural traditions and the architectural heritage of the country. Within the framework of the

programme, financial incentives are granted to the owners of buildings of traditional architecture, for their conversion to traditional tourist lodgings, restaurants, workshops and cultural spaces. Projects for village squares and other interesting sites, as well as public buildings in 50 inland villages are also funded. The proprietors of agro-tourist units have become organized in a co-operative, which runs a Central Reservations Office and has proceeded to the publication of an elaborate and very interesting catalogue.

A Code of Environmental Behaviour was issued, which includes general principles and specific guidelines for the environmental management of tourist enterprises, as well as for the behaviour of the public and the visitors.

The promotion and development of the mountainous Troodos region, based on the safeguarding of the environment through tourist development was also pursued. Funded by the CTO, the Department of Forests has constructed Nature Trails as well as an Information Centre in Troodos, which provides information to the visitors on the environmental significance and value of the region. Nature study trails have also been created in other forest regions in Cyprus, such as in Akamas and Cape Greco, as well as in regions outside forests.

According to the legislation regarding Hotels and Tourist Establishments, the installation of biological systems for the treatment of wastes is a requirement for all hotel units in coastal areas.

Designs and projects of a Master Plan for the protection, upgrading and promotion of archaeological sites and ancient monuments have been funded by the CTO and the Department of Antiquities and their implementation has already begun.

Agricultural development

Introduction

In Cyprus, agricultural policy is implemented through a series of strategies and regulatory provisions aiming at agricultural development and the achievement of sustainable agriculture. The most important actions that have been taken or scheduled are the following:

General programmes

Structural investments in agricultural holdings aiming to improve productivity and viability are supported with a grant calculated as a percentage of eligible expenditure (varying between 12,5% to 23%) and/or with loans at a subsidized interest rate.

The Integrated Livestock Development Project (I.L.D.P.) was introduced in 1995. It combines support for on- farm investments for all types of livestock and poultry with components related to the improvement of the environment, hygiene and animal welfare.

The Project for the Improvement of the Viability of Agricultural Holdings was introduced in 1997. It addresses specifically the crop sector, aiming to introduce new technology and production methods, save water and increase the efficiency of the agricultural holdings.

Preliminary delimitation of less favoured areas has been carried out and the results are ready for implementation. A study is being prepared for the purpose of calculating the level of compensatory allowances that may be granted.

Financial support to young farmers engaged in agriculture is in place, with additional incentives introduced in 2001, for young farmers eligible for investment support for on-farm investments.

Particular issues

In the field of ***sustainable agricultural research***, Cyprus implements the Global Plan of Action for promoting sustainable agriculture, including research is contacting rotation studies for the economic evaluation and sustainability of different farming systems. Recent policy supports cropping on an area basis. The new policy enables farmers to grow other crops, such as legumes, so that monoculture will be replaced by crop rotation. The new practice will diminish nitrogen fertilizer and other chemical inputs. A major project is the substitution of Methyl Bromide with soil solarization.

Legislation for the protection of ***new varieties of plants***, has been drafted. The new law is expected to be passed by the House of Representatives during the first half of 2002. Also, enactment into laws during the first part of 2002 is planned for bills for the Ratification of the International Union for Plant Variety Rights (UPOV) Convention (already submitted to the House of Representatives), and on Plant Variety Protection (under legal vetting, expected to be submitted to the House of Representatives in the beginning of 2002).

With regards to ***plant protection products***, the Pest Control Products Law of 1993 and the Pest Control Products Regulations of 1993 provide for authorisation and registration of pesticides and for controlling the quality, labelling, toxicity classification and marketing of all pesticides used in Cyprus. Pesticide residue issues are governed by the Food (Sales and Control) Law and the Pesticide Residues Regulations of 1983 to 1994. Meanwhile, for new active substances provisional MRLs are fixed by the Pesticides Registration Board. Work for MRLs, mainly in terms of re-defining Good Agricultural Practices (GAPs) and restricting or totally prohibiting the use of certain pesticides, is also carried out. To fully extend the law's coverage into the toxicity classification of pesticides, revised implementing Regulations have been enacted by the House of Representatives in July 2000. Also enacted were new implementing Regulations governing the operation of pesticide formulation plants, stores and shops as well as the licensing of pesticide retailers. The two pesticide residue laboratories (at the Ministry of Health and at the Department of Agriculture) have adequate facilities and modern analytical instrumentation. Quality Assurance Programmes are being developed in both laboratories, based on the EN 45001 standard and the ISO guidelines. Full accreditation

in the near future is the ultimate goal of both laboratories. The State General Laboratory is connected with the Rapid Alert System via the State General Laboratory of Greece.

A new aid scheme in support of **organic farming** was introduced in 2001, and a new law on organic farming, including provisions on organic animal production, was approved in December, 2001. The Department of Agriculture is currently preparing a Register of all organic farmers. It covers both crop and livestock organic products, and provides for the setting up of the statutory instruments required for inspection and control.

With regards to **animal welfare**, Cyprus has ratified the European Convention for the Protection of Pet Animals (No. 8(III)/93); the European Convention for the Protection of Vertebrate Animals Used for Experimental and other Scientific Purposes (No.9(III)/93); the European Convention for the Protection of Animals During International Transport (No. 166/1976); and the European Convention for the Protection of Animals Kept for Farming Purposes (No. 13/1977). In addition, the Law for the Protection of Animals Used for Experimental and Other Scientific Purposes (No. 30(1)/95) and the Protection and Welfare of Animals Law (No. 46(1)/94), were approved. The latter, provides for the enforcement and co-ordination of all activities for the protection and welfare of animals through surveillance and control of animal keeping, care, feeding and utilisation. It provides also for rules, regulating the marketing, transport, slaughtering of animals and about stray and abandoned animals.

As far as **animal genetic material** is concerned, a new law was approved by the House of Representatives, to be completed with the approval of Regulations by June 2002.

The most important goals in the **agri-environment** sector, include financial and other incentives, aiming at the reduction of fertilizers and pesticides or their maintenance at low levels. A relevant bill has been prepared and its passing into law is being pursued, in order to encourage the shifting from intensive cultivations to extensive ones, such as reforestation of areas that were cultivated with agricultural crops; preservation of abandoned lands for the improvement of the environment; restructuring of agricultural crops; preservation of rare races of animals; and proper use of water through improved irrigation systems for the various crops. On-going projects provide for support and incentives for the relocation of livestock facilities away from residential areas and major roads; treatment and safe use of pig effluents (recently extended to cover the treatment and safe use of effluents from poultry slaughterhouses); and replanting with drought resistant trees.

For reducing **health risks from environmental pollution and hazards**, a Code of Good Farming Practice has been prepared regarding the use of fertilisers, which are regulated by legislation that governs their import and use, pesticides, and animal waste. On going research programmes relate to pesticide residues in agricultural products, soil, and waters; integrated pest management in greenhouse grown tomatoes, cucumbers and peppers; and pesticide residues in greenhouse vegetables.

Fisheries

Amendments to the Fisheries Law (Cap 135) and Fisheries Regulations (1990-1994), to regulate the fishing license system outside territorial waters and the monitoring of fishing activities, were passed by the House of Representatives in June 2000. The amendments provide for the obligation of all fishing vessels to secure a fishing license from the Department of Fisheries and Marine Research; the introduction of a high fishing license fee; and the obligation for the installation on all fishing vessels of a blue box for monitoring purposes. In addition, all fishing vessels will be required to call for inspection at a Cyprus port at least once a year, and land at least half of their catch at a Cyprus port.

At the Department of Fisheries and Marine Research, there is an Inspectorate which carries out regular patrolling of the coastal fishing zone (sea and land patrols) as well as on- the- spot checks at the three ports and six major fishing shelters where nearly all catch is landed.

For the monitoring and control of vessels longer than 24m which fish in the high seas, Cyprus is now initiating a project to establish an independent system for satellite monitoring of their fishing activities. The system is expected to be operational in early 2002.

A Cyprus Vessel Monitoring Station will be in place and a Fishing Vessel Register has become obligatory.

The licensing policy for the fleet fishing in territorial waters, takes into consideration the available fishing resources of the area around the island and their sustainable use. For the conservation of fishing resources, several management measures were enacted in 1994, introducing substantial limitations to the fishing effort. Parameters taken into account include the number of vessels, the engine power, closed fishing zones and season, mesh size, etc.

A new Law on Aquaculture, prepared with the help of FAO experts, to facilitate a National Action Plan for the development of aquaculture, was passed by the House of Representatives, in July last year (No.117(I)/2000). A set of regulatory acts relevant to the above law is currently being prepared.

A number of Fisheries Conventions and Agreements will be signed and ratified in the next two years, i.e.GFCM (General Fisheries Commission for the Mediterranean); the 1993 FAO Agreement to promote compliance with International Conservation and Management Measures by Fisheries vessels on the High Seas; the 1995 UN Agreement for the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks; and ICCAT (International Commission for the Conservation of Atlantic Tunas).

Forestry

The sustainable management of State forests is regulated through the Forest Law and Regulations of 1967.

In national forest policy, the principles of multiple-use and sustainability are fully respected. Multiple-use refers to utilisation of forests for protection, recreational and commercial purposes. The concept of sustainability includes aspects of ecological, economic, and social nature.

The National Forest Programme, prepared in 2000, is a good instrument to implement the principles of multiple-use and sustainability for all forests, including the private ones. The Programme covers the period 2000-2009 and aims at protecting the country's natural environment and national heritage.

Work as regards to the classification of wood in the rough has been initiated. A relevant amendment of the Forest Law has been prepared and it is now undergoing legal vetting.

Marketing of forest reproductive material is also to be regulated in 2002.

Forest fires are the most serious cause of deforestation in Cyprus while urbanization and grazing are rather light causes of deforestation. The Department of Forests is running two projects on this issue. The first, aims at protecting the Cyprus forests from fires, the second aims at expanding the forest area by the afforestation of waste Government land. Awareness raising and information campaigns on this issue are continuously conducted by the Forestry Department, while personnel is trained in forest protection issues at the Cyprus Forestry College and abroad. Cyprus is now proceeding with the preparation of new forest-fire protection plans for the areas classified as high risk. Preparatory work on the establishment of a national database for all wild fires has also been completed.

A scheme to monitor the effects of atmospheric pollution of forests has been implemented on a pilot basis.

ENVIRONMENTAL PROTECTION AND MANAGEMENT

ENVIRONMENTAL MANAGEMENT

At the national level, the **Council of Ministers** has the overall responsibility for the formulation of environmental policy. Environmental policy is coordinated through the **Minister of Agriculture, Natural Resources and Environment**, with the exception of town and country planning issues, for which responsibility rests with the **Minister of Interior**.

An important component in the environmental management mechanism is the **Council for the Environment**, with a wide representation, which advises the Minister and

through him, the Council of Ministers, on environment and sustainable development issues. In 1996, the Council was given an expanded mandate to deal with sustainable development issues. Better cooperation has also been ensured between the environmental management system, the physical planning system and the national development planning and control system, through the participation of all three competent authorities in almost all bodies established under the three systems.

Competencies are divided among several institutions, the competent authorities being primarily public bodies, Ministries, or Departments.

The **Environment Service** of the Ministry of Agriculture, Natural Resources and Environment is mandated to advise on environmental policy, ensure implementation and co-ordinate (in close co-operation with the Planning Bureau) the process for the adoption of the EU environmental policy and legislation. It also chairs the committee on environmental impact assessment; oversees the enforcement of the larger part of the Law on the Control of Water Pollution; promotes environmental awareness and training; and disseminates information on the environment. The Service is also the administrative arm of the Environment Committee and the Council for the Environment. In addition, it is the National Focal Point for the CSD, MCSD, SMAP, INFOTERRA, UNEP, and the Conventions of CITES, Bern, Basel, Vienna, Biological Diversity, Desertification, Climate Change, Ramsar, and Environmental Impact Assessment in a Transboundary Context.

Through its various Departments (**Agriculture, Veterinary Services, Meteorological Service, Land Consolidation, Mines Service, Forestry, Fisheries and Marine Research, Water Development, Geological Survey and Agricultural Research Institute**), the Ministry of Agriculture, Natural Resources and Environment has a wide range of executive functions on environmental issues. They refer to the protection of the quality of surface and ground waters and the sea; management of water resources; aquaculture; meteorology; protected areas; soil conservation; fertilisers and pesticides; reuse of treated effluent; hazardous waste management; mines and quarries; control/monitoring and combating marine pollution; marine ecology; management of forests and public parks; herbaria and gene banks; organic farming; protection of flora and fauna; agricultural and animal husbandry waste; industrial waste treatment; rehabilitation of sites; health and welfare of animals; etc.

Agencies and other Ministries also have a wide range of executive responsibilities over various environmental issues, as follows:

- the **Planning Bureau**, is in charge of the preparation of five-year Strategic Development Plans for the balanced development of the island's economy and has responsibility for the broader co-ordination of the EU accession process
- the **Ministry of Labour and Social Insurance**, is the competent authority for the administration and enforcement of the Atmospheric Pollution Control Law; the Safety and Health at Work Law; the Dangerous Substances Law; and the Asbestos (Safety and Health of Persons at Work) Law. It also administers part of the Water Pollution Control Law and has been assigned responsibility for the broader framework for radiation protection

- the **Ministry of Commerce, Industry and Tourism**, deals with industrial estates; energy management and conservation; exploitation of new and renewable sources of energy; the management of a grants scheme which assists manufacturing industries in installing waste treatment systems; and accreditation and EMAS
- the **Cyprus Tourism Organization**, is responsible for tourism development, promotes agrotourism and is the coordinator of the BLUE FLAGS scheme in Cyprus
- the **Ministry of Communications and Works**, is responsible for shoreline defense; the enforcement of International Civil Aviation standards on noise from aircraft; the regulations and international conventions on Merchant Shipping; motor vehicles inspection and Type Approval for vehicles
- the **Cyprus Ports Authority**, handles oily waters and refuse from ships in port areas
- the **Ministry of Health**, is responsible for the control of drinking water and the microbiological monitoring of recreational waters and carries out research and analytical work on various aspects of pollution with its specialized laboratories in environmental chemistry, microbiology and virology, ecotoxicology and risk assessment
- the **Department of Town Planning and Housing**, is responsible for the implementation of the Town and Country Planning Law
- the **Game Fund**, is in charge of the enforcement of the Game and Wild Birds Law, which regulates hunting and game improvement.

RESEARCH

An additional Protocol to the Cyprus-EEC Association Agreement was signed in May 1999 and entered into force the same day, for the participation of Cyprus in the Fifth Framework Programme (FP5) for Research, Technological Development and Demonstration Activities (1998-2002).

In relation to the COST Cooperation network of the European Union, in mid 1999 the Senior Officials Committee of the network re-examined Cyprus' application for membership and decided to accept Cyprus as a full member.

In April 2000, the Planning Bureau concluded a bilateral agreement for scientific and technological co-operation with the General Secretariat for Research and Development of Greece, which provides for the launching of joint research projects in selected areas, the exchange of researchers between the two countries, the training of NCP's, etc.

The Research Promotion Foundation, an independent organisation governed by a 12-member board appointed by the Council of Ministers, was set up in 1996 and became operational in 1998, to serve as the national institute for the promotion of scientific and technological research in Cyprus. The Foundation has become the means through which the strategy and policies in R&D are implemented. Apart from the launching of national research programmes, the Foundation is actively involved in the co-ordination and encouragement of participation of Cypriot institutions in FP5.

There are on-going research activities in areas related to flora and fauna identification; monitoring of water quality; reuse of treated effluent; waste treatment; marine life and oceanographic research; nutrients in the marine environment; radioisotopes in groundwater; mining waste; energy efficiency; risks of chemicals; etc.

HORIZONTAL ISSUES

Environmental Impact Assessment

A new law on EIA (No.57(I)/2001) entered into force in April, 2001.

The law is now fully implemented. The Committee established under the law meets regularly for the assessment of the impacts of various projects.

A Law (No. 24(III)/1999) was passed, ratifying the Convention on Environmental Impact Assessment in a Transboundary Context.

Reporting

The Department of Statistics and Research, was renamed into the Statistical Service of Cyprus. The Statistics Law (No. 15(I)/2000) passed in February 2000, forms the legal basis for the collection, production and dissemination of statistical information and includes general provisions governing the statistical system in Cyprus. An environment statistics unit was set up within the Service, with the aim of initiating the production of statistics and indicators on the state of the environment on a systematic basis.

A wealth of data has been collected and analysed, such as through the project, financed by the EUs 'LIFE'-Third Countries programme, for water quality monitoring and assessment, and the studies on rural sanitation; domestic solid waste recycling; hazardous waste management; and used oils management. Pertinent data are also collected under the 'LIFE'-financed IPPC, Habitats and Household Recycling projects.

The Natural Resources Information and Remote Sensing Centre of the Ministry of Agriculture, Natural Resource and Environment, established with FAO funding, will be better utilised in the inventory and monitoring of natural resources and for parts of the state of the environment, through GIS and satellite data.

A programme is currently being prepared by the University of Aegean, expected to be finalised by the middle of 2002, funded by the Ministry of Environment, Physical Planning and Public Works of Greece. Its objective is the establishment of a comprehensive system for the collection, evaluation, storage and dissemination of data and information on environment and sustainable development, in order to ensure full compliance with the information and reporting requirements emanating from the environmental acquis communautaire of the European Union, the European Environment Agency activities, EUROSTAT, UN/CSD, and major environmental conventions.

An Agreement for the participation of Cyprus in the European Environment Agency was ratified in February 2001 (No. 5(III)/2001).

Access to information

The Freedom of Access to Environmental Information Law was passed in July 2000 (No. 125(I)/2000). Facilitating the provision of information to the public, a state of the environment report, and access to environmental information, are provided for in the new law.

Cyprus has signed the Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters. Ratification will be pursued in 2002.

NGOs

There are more than 30 purely environmental or environmentally- concerned NGOs in Cyprus, and their involvement in environmental policy formulation is actively encouraged. Under the new law on EIA, the Federation of Environmental and Ecological Organizations participates as a member in the EIA assessment committee. Also, a number of NGO's are members of the Council for the Environment and the steering committee for a protected area, whilst they are consistently invited to express their views during hearings at the Parliamentary Environment Committee. The awareness - raising activities of NGOs are supported by financial assistance for specific actions. Also, all the active NGO's, as well as the Federation of the Ecological and Environmental Organizations, receive an annual grant from the Government.

CO₂ emissions and monitoring

Cyprus is a party to the Climate Change Convention (No. 19(III)/1992). Cyprus acceded in 1999 to the Kyoto Protocol.

In 2001, the Ministry of Agriculture, Natural Resources and Environment commissioned a study, for the preparation of an integrated plan, which would set out in an organised basis a monitoring and reporting system and propose a full strategy for reducing greenhouse gas emissions. The study is currently being finalized.

In the meantime, a variety of measures on energy efficiency and energy conservation are pursued and will be further strengthened. An extensive awareness-raising campaign has been initiated by the Cyprus Electricity Authority on energy savings and the use of renewable energy sources. In this framework, 190.000 fluorescence bulbs were distributed either free of charge or at subsidised prices during March - May 2001.

Regarding the use of renewable energy sources, the Electricity Authority of Cyprus is proceeding with the erection of a wind turbine and a private company is proceeding with plans to establish 2 to 4 "wind farms". Furthermore, a private company is proceeding with the establishment of a photovoltaic manufacturing plant.

An Action Plan for improving the efficiency of the energy sector and a Strategic Energy Plan for the future accession of Cyprus to the EU have also been completed under the responsibility of the Ministry of Commerce, Industry and Tourism.

With regard to electricity, the pricing of consumption is progressively scaled, and a policy was adopted for purchasing electricity produced from alternative sources of energy. The new power station to replace an older one will be 10% more efficient in fuel utilisation and units to be constructed after 2006 will utilize natural gas, whilst older oil-fired units will be gradually converted to natural gas.

At the transport sector, the measures promoted include a programme for a network of bicycle lanes; better traffic management; production of improved fuel, particularly for diesel engines; the establishment of an E- type approval system and vehicle inspection; and encouraging public transport. After a relevant study of the current system of car registration/ circulation fees, a restructuring was proposed, for encouraging the use of vehicles with low CO₂ emissions. The proposal is under consideration and is expected to be adopted by the end 2002.

A traffic management and public transport enhancement study for the Nicosia area was prepared in 2001. The study analyses and suggests measures for the Nicosia public transport system.

AIR QUALITY

Ambient air quality

Cyprus is party to the Convention on Long- range Transboundary Air Pollution since 1992. Owing to the developing character of the economy, it has not been made possible to ratify the SO₂ and NO₂ Protocols to the Convention. However, measures for SO₂ and NO_x reduction have been introduced, in line with the relevant Protocols. Cyprus has also signed the Protocols to the above Convention on Heavy Metals and POPs. All Protocols adopted under the Convention will be ratified by the end of 2002.

Law No. 70/91 for the Control of Atmospheric Pollution was enacted in 1991. Among others, the law provides for the determination of Air Quality Objectives, aiming at the protection of public health. The Objectives, which were published in the Official Gazette in 1994, were set for NO₂, O₃, CO, SO₂, TSPs, PM₁₀ and Pb.

A project is now under development with the objective of establishing air quality zones, after the initial assessment of the ambient air quality and the drawing-up of pollution zones.

As part of the efforts for achieving and maintaining the above Objectives, the competent agency (Department of Labour Inspection), has been equipped with three mobile units with instruments for the constant measurement of pollutants. A fourth mobile unit is installed at a location about 35 Km to the northwest of Nicosia, in order to perform background level measurements. Air quality measurements are taken since 1993 in various parts of Nicosia. Preliminary assessments relating to coverage, have demonstrated that it is necessary to strengthen the existing network of measuring stations.

The public is informed every three to four years through the publication of monitoring results. Better information arrangements are foreseen, through a special annual report to be issued by the Minister of Labour and Social Insurance, a broader report on the state of the environment to be published every two years by the Minister of Agriculture, Natural Resources and Environment, and the implementation of the Freedom of Access to Environmental Information Law.

Under Law No. 70/91, a number of large industrial activities have been licensed for operation. Emission limit values are set after a case-by-case examination. General emission standards apply for a list of "non-registrable processes". All major industrial plants, including the power plants, the refinery, and the two cement factories, have applied for registration under the law and relevant permits, including the corresponding emission limits, have been granted.

Consultants have recently completed the drafting of amendments to the Atmospheric Pollution Control law in order to extend it to fully cover issues such as the incineration of used oils; air pollution from the titanium dioxide industry; ambient air quality; large combustion plants; municipal waste incineration plants; air pollution by ozone; control of VOC emissions from the storage and distribution of petrol and organic solvents; hazardous waste incineration; IPPC; and measurement of dioxins and furans. The text is planned to be submitted to the House of Representatives early in 2002.

Fuel quality

A new bill on fuel quality specifications was prepared.

A decision to upgrade the oil refinery at Larnaca was taken, following an agreement between the Government and Larnaca Municipality.

Motor vehicles emissions

A framework Law on Type Approval of Motor Vehicles (No. 18(I)/2000) was approved. It provides for the enactment of regulations and orders for conformity assessment, which will enable Cyprus to request an EU certificate of conformity for all imported motor vehicles.

As of October 2001, systematic motor vehicles emissions control has been established through private-run but state-licensed and controlled inspection centres. During the first stage of implementation, only high-risk vehicles are inspected, e.g. public use vehicles, commercial vehicles and vehicles manufactured more than 20 years ago.

In 2000, the Department of Electrical and Mechanical Services completed an assessment of the types and brands of motor vehicles in circulation as far as their capacity to run on unleaded fuel is concerned. On the basis of the results, only 4% of the vehicles (12 000) cannot use unleaded 98 RON. Another 10 000 will require only slight routine modifications. They are mostly models produced from 1970 to 1991.

A 'LIFE'- financed project is currently under way to enhance the motor vehicles emissions control system, infrastructure and know- how.

VOC emissions from the storage/ distribution of petrol

Such emissions are regulated through the Atmospheric Pollution Control Law (terminals, petrol stations) and the framework law for motor vehicles (trucks).

A Notification (No.1998/99) was issued under the Atmospheric Pollution Control Law, according to which all existing service stations are obliged to install the necessary gas retention equipment by the end of 2002. All new service stations must install this equipment during construction. Regarding VOC emissions from the storage of petrol, the operating conditions under the same law were issued in March 2001, obliging terminals to install the necessary equipment also by the end of 2002.

The tankers with no bottom-loading equipment will be gradually replaced or modified by the end of 2002. No new tankers are imported without the appropriate equipment.

VOC emissions from the use of organic solvents

The Atmospheric Pollution Control Law partially covers VOC emissions. Its associated Regulation (No.53/93), in force from January 1994, defines the registration licensing process that includes some activities that use organic solvents.

The major installations concerned (dry cleaning, printing and paint installations) have been identified and an inventory of the rest of the solvent- using activities is currently being prepared.

CHEMICALS AND GMOs

Animal experiments

Currently all experiments with animals are reported and published in an annual report. There is only one laboratory in Cyprus carrying out animal experiments. An advisory committee takes ethics into account when issuing permits and a dual-licensing system exists, thus requiring both personnel and the project to be licensed. Personnel must be professionally trained in order to be issued with a permit. Dogs and cats are not used for experimentation in Cyprus. It is prohibited to test cosmetics on animals.

The Animals (Scientific Experiments) Law of 1995 (No. 30(I)/95), and the Animals Health and Welfare Law (No. 46(I)/94), provide the framework legislation in the field of animal experiments.

Implementing Regulations (No.18/2000) under the Animals (Scientific Experiments) Law, were passed in 2000.

A new Law (No.25 (III)/1999) ratifying the Amended Protocol to the European Convention for the Protection of Vertebrate Animals Used for Experimental and Other Purposes was also passed.

Contained use of GMMs

The use of GMMs in Cyprus, is presently restricted to medical diagnostic purposes.

The Ministry of Labour and Social Insurance (Department of Labour Inspection), enforces the legislation on health and safety at work which, among others, covers also risks from biological agents and genetically modified microorganisms (GMMs). New Regulations are being prepared under the Safety and Health at Work Law to cover the contained use of GMMs in Cyprus. They are expected to be enacted early in 2002.

Deliberate release of GMOs

Experimental work in the field of genetics is carried out in Cyprus, and a molecular biology unit is being set up. Know-how is being built up in the Institute of Genetics and the Agricultural Research Institute.

The 1998 Seeds Law covers the registration of genetically modified seeds.

Law No. 150(I)/2001, established a national Bioethics Committee.

In 2001, a bill was submitted to the House of Representatives providing for the control of the import, supply to the market and deliberate release into the environment of GMOs.

Cyprus is currently preparing to ratify the Cartagena Protocol on Biosafety.

Asbestos

An asbestos mine which operated in Cyprus for decades and a factory producing asbestos-cement products, ceased operations.

The limited use of asbestos is strictly controlled and the use of certain types of asbestos (blue) is banned in Cyprus.

Cyprus has ratified the Convention for the Safe Use of Asbestos (No. 23(III)/92). This Convention has served as the basis for the passing of Law No. 23(I)/93, which includes provisions for the health and safety of those working with asbestos or with materials including asbestos. The respective regulations that have been issued in November 1993 (No. 272/93) regulate among others the marking of materials containing asbestos as well as the limits for exposure of workers and the related precautionary measures. Regulations (No. 104/2000), under the Asbestos Law, covering health and safety issues, were published in April 2000.

New regulations are prepared relating to the processes of collection, conveyance and final disposal of asbestos-containing materials. The same location intended for the permanent disposal of other types of hazardous waste is also proposed for the permanent disposal of the above materials.

Chemicals and risk of substances

Despite the fact that the types of chemical substances imported and handled in Cyprus are of a wide variety, the respective quantities are comparatively small. The main industrial sectors importing such substances are the paint and varnish, home cleaning products, food and drink and construction materials industries.

The Dangerous Substances Law (No. 199/1991), introduced controls on the import, manufacturing, classification, labelling, packaging, use, storage, transport and supply of dangerous substances and the furnishing of required information. Draft regulations have EINECS substances as their basis and include provisions on risk assessment.

Pesticides are regulated by the provisions of the Pesticides Law and Regulations, which provide for the control of the import, manufacture, marketing, quality, labelling, toxicity classification, use and storage of pesticides. Pesticides that may cause serious risk to human health and the environment have been totally banned.

At present, Cyprus is in the process of revising and harmonizing its legislation to cover chemicals and carcinogens at work. Similar legislation for biocides, plant protection products, etc., is also under preparation.

Under a 'LIFE' Programme, a survey was undertaken for chemicals used in Cyprus and a data bank is under preparation with all relevant information.

Cyprus signed or ratified many relevant International Conventions, Protocols, Agreements programmes etc. concerning toxic chemicals (PIC, Montreal, London, Basel etc.). Cyprus also participates in the IFCS activities and, as a candidate country for European Union accession, has close collaboration with the EU in this field.

The FAO Code of Conduct on the Distribution and Use of Pesticides has been endorsed by Cyprus, as well as the London Guidelines for the Prior Informed Consent.

The Cyprus Standards referring to general criteria for the operation of testing laboratories have fully adopted the EN 45001-3 and 45011-14 standards. The State General Laboratory has already adopted internal GLP as defined by OECD principles. A new Bill submitted to the House of Representatives in November 2001, for the Cyprus Standardization and Accreditation Organization, empowers this body to deal with the issue, including inspection and verification.

At the operational level, expertise and infrastructure on risk assessment and the evaluation of the interactions and impacts of chemicals on human health and ecosystems has already been acquired.

Substances that deplete the ozone layer

Cyprus is not a producer but a minor consumer of such substances, as the quantities involved are small. The Ministry of Commerce, Industry and Tourism applied a system of import quotas which were reduced each year. The local market is adequately responding to international developments. Nearly all aerosol companies are using odourless gas instead of CFCs. Methyl bromide is still imported by three operators. However, as these imports originate from the EU, they will soon be no longer available.

Cyprus ratified the Montreal Protocol in 1992 and its London Amendment in 1994. In April 2001, the Copenhagen, Vienna and Montreal II amendments to the Montreal Protocol were ratified [No. 9(III)/2001], empowering the Minister of Agriculture, Natural Resources and Environment to issue regulations to review ODS permits and grant licenses.

A study for the strategic planning for ODS control was completed in December 2001. The main objective of this project was to prepare a programme for compliance with the Montreal Protocol with regards to the reduction / elimination of the ODS, and the introduction of the necessary control measures.

Biocidal products

Cyprus has experience with industrial herbicides, pesticidal paints, wood preservatives, etc, but not with disinfectants, general biocides, or preservatives other than wood pesticides.

Biocides are partly covered by the provisions of the Pesticides Law and Regulations, and the Medicinal Products legislation.

The drafting of the required amendments to the Pesticides Control law, in order to fully regulate biocides, has been initiated and it is planned for enactment in 2002.

INDUSTRIAL POLLUTION CONTROL AND RISK MANAGEMENT

The basic institutional and administrative structures for an effective control of industrial pollution and risk management have already been established. Within this context most of the industrial plants have been licensed and are regularly inspected under the Atmospheric Pollution Control Law and the Water Pollution Control Law.

Air pollution from industrial plants, integrated pollution prevention and control

Discharge permits for liquid and solid industrial waste are issued, and registration permits granted for air emissions.

A network of inspectors for industrial pollution control has been evolving since 1992. A lot of experience has been gained so far in the implementation and enforcement of the relevant legislation and the members of the Technical Committee for the Protection of

the Environment, established to advise the competent authorities on the conditions of the permits, are familiar and competent on all relevant aspects.

Supplementary measures are to commence soon, following the conclusion of a LIFE-financed project on Integrated Pollution Control and Chemical Substances, being implemented by the Ministry of Labour and Social Insurance with technical assistance from the National Technical University of Athens. Inter alia, the project provides for the preparation of guidelines on the Best Available Techniques applicable for Cyprus.

The legal arrangements provided for in the laws on Water and Air Pollution Control are considered adequate to secure an integrated approach for pollution control.

During 2002, amendments to the existing laws and the new Law on Waste Management will strengthen the legislation already in place.

Large combustion plants

There are 3 oil-fired power stations in operation, one to be gradually phased out (Moni), when the conventional fuel (petrol) power station, of a total capacity of 720 MW, now under construction (Vasilikos), will come into full operation.

The Atmospheric Pollution Control Law provides the framework legislation to cover air emissions from large combustion plants. A permitting system is provided for and all three power stations have been licensed.

A study to assess the environmental impacts associated with the installation of FGD at the Vassilikos power station was completed in February 2001.

Secondary legislation will be passed in 2002, to introduce national emission limit values.

Industrial accidents

The broader issue of risks and accidents from industrial sources is covered by the Health and Safety at Work Law, which is in line with the ILO Safety and Health Convention and the relevant legislation of the European Union. The land use planning aspects are already adequately covered by the 1990 Town and Country Planning Law.

The final draft of the relevant regulations to be issued under the Safety and Health at Work Law has been completed. Submission to the House of Representatives is planned early in 2002.

The relevant UN/ECE Convention is planned to be ratified.

Eco-Label, Environmental Management and Audit

The Cyprus Organisation of Standards and Control of Quality is already involved in Quality Systems Certification (ISO-9000) and is moving towards certification of an

environmental management system (ISO-14000 and EMAS). In August 2000, the Council of Ministers decided the establishment of a private certification body.

A 'LIFE'-financed project is currently being completed, aimed at establishing the mechanism and preparation for full implementation of EMAS.

Implementation of EMAS and Eco-label will be covered by the framework Bill on the Environment and related Regulations and the new Law on Standardization and Accreditation. Both texts will be enacted during 2002.

A bill was submitted to the House of Representatives in November 2001, providing for the restructuring and independence of the Cyprus Organisation of Standards and Control of Quality into a new Standardization and Accreditation Organization. A verification organization was also established.

NATURE PROTECTION

Introduction

Cyprus is characterized by rich and varied fauna, which includes land mammals, amphibians and reptiles, birds, insects, sponges, decapods, etc. The island is a crossroads for millions of birds during their autumn and spring migrations between Europe and Africa.

Cyprus ratified the Convention on the International Trade in Endangered Species of Wild Fauna and Flora (CITES) in 1975; the Convention on the Conservation of the European Wildlife and Natural Habitats in 1988; the Convention on Biological Diversity in 1996; the Desertification Convention in 1999; and the Conventions for the Protection of Migratory Species of Wild Animals and on Wetlands of International Importance in 2001.

A relevant draft Bill on the Protection of Nature is being prepared, expected to be adopted by the middle of 2002.

Habitats and species

Through the Town and Country Planning Law, areas of aesthetic and landscape value have been declared as Coasts and Areas for the Protection of Nature and Protected Landscapes. Four areas along the length of the shore (Cape Cavo Greco, Makronissos, Ranti forest and Cape of Akamas) have been characterized as Nature Protection Shores and Regions. In addition, 4 Protected sites, 8 Archaeological sites and 4 Areas of Exceptional Natural Beauty were declared.

The 162.000 ha. of state forest land (about 18% of the total land area of the country), offer sanctuary to a wide range of wildlife species and, as the Forestry legislation is fully enforced, wildlife protection measures, particularly as regards to flora, are very effective. The state forests are well protected and managed in accordance with the Forests Law, under which National Forest Parks and Nature Reserves have been declared.

The Fisheries Law and Regulations cover the protection of the aquatic biota, including aquatic turtles, dolphins, seals as well as the important meadows of the seagrass *Posidonia oceanica*. One Coastal/Marine Reserve, which includes the most important nesting habitats of the marine turtles, Green and Loggerhead, was established in 1989. Research on marine species diversity, including fauna and flora, is conducted by the Department of Fisheries and Marine Research, and a list of marine species has been drawn up, which is regularly being updated.

The two coastal wetlands in Cyprus are under protection for nature conservation. A management plan for the Larnaca Salt Lake was approved by the Council of Ministers in 1997 and is currently being implemented; this site has been listed as a 'Ramsar' site. The management plan for the other wetland (Akrotiri Salt Lake and Phassouri marsh), is under preparation.

Under the Game and Wild Birds Law, permanent and temporary game reserves have been established, such as around the two coastal wetlands.

Protected avi-fauna species include all seagulls and water-fowls (with the exception of ducks and geese), big birds of prey such as eagles, vultures and other raptors. Of the marine and freshwater life, marine turtles, seals, dolphins, terrapins and fish in inland waters are protected.

Within the framework of the EU NATURA 2000 programme, a National List of sites, which include important habitat types and fauna and flora species, has been drawn up. Almost all of the country's habitat types and most of the endemic species will be present within the boundaries of the sites of the new protected areas network. A national archive of ecological data of Cyprus, 'BIOCYPRUS', which includes an inventory on fauna and flora, on biotopes as well as their mapping, has also been produced.

Conservation of local breeds

The local cattle, has long been replaced by the tractor and it is threatened with extinction. The local breed of sheep (Cyprus Fat-tailed) is also diminishing in numbers (7600 in 1999), having been replaced by more prolific and productive breeds. The programme for the conservation of the local breed of cattle was initiated in 1995. It provides for the subsidization of all male and female cattle of the breed and for each successfully terminated pregnancy (the production of a live calf). The programme for the sustainable utilization of the local sheep provides for the subsidization of about 500 females and 40 males and has been in operation since 1997.

Flora preservation

Cyprus adopted the Global Plan of Action for the Conservation and Sustainable Utilization of Plant Genetic Resources for Food and Agriculture.

According to the existing information on the Cyprus flora, a total of 1907 taxa (sp. + ssp. + var. + f. + hybrids) were recorded as native or naturalized and 376 taxa as cultivated. From the native taxa, 141 were recorded as endemics. Amongst Cyprus's natural

vegetation, aromatic, medicinal and other useful plants are being exploited in their wild form.

The raw material used for new plant varieties of high yield and other qualitative parameters, is rich in genetic diversity. Crucial resources of this raw material are the cultivated varieties, both the traditional and the improved ones, as well as the wild relatives of crops. This rich in genetic diversity material is increasingly facing the danger of total extinction owing to the replacement of traditional varieties with improved, uniform ones, as well as from development projects. The Agricultural Research Institute runs a plant genetic resources programme, the aim of which is the conservation and sustainable use of such material of local and old varieties of various crops as well as of the Cyprus flora.

In 1966, a programme was initiated for the maintenance and enrichment of the Agricultural Research Institute's Herbarium and to encourage further research on Cyprus flora. In 1979, a programme was initiated for collecting, conserving and utilizing the genetic variability existing in local germ plasm. Other related programmes/projects include: production of clean material in citrus and grapevines; evaluation, conservation and utilization of genetic material of a lemon variety; collection and evaluation of *Avena sativa*, *Vicia* spp., lucerne; collection and evaluation of *Origanum dubium* and *Thymus capitatus*; conservation, characterization, collection and utilization of genetic resources in olive; and evaluation and conservation of barley genetic resources.

Germ plasm is conserved at the National Gene Bank (medium term collection) which was founded in 1985. The collection consists of samples of mainly cereals, food and forage legumes, as well as, wild relatives, endemic and rare plants. A database was created concerning the conservation of germ plasm collections. A number of specimens at the National Herbarium are first records, while others contributed to the study of the distribution of taxa. The Herbarium presently contains more than 13 000 specimens. The book "The Flora of Cyprus in Checklist Format; Native or Naturalized, Endemics, Rarities, Additions" was published in 1999. In addition a Study with the title "Contribution to the Study of the Endemism of the Flora of Cyprus", was completed in 2000. A catalogue concerning the germ plasm conserved in the National Gene bank is under preparation.

Wild birds

The Game and Wild Birds Law of 1974, as amended in 1991 and 1996, covers most aspects of hunting regulation.

Hunting covers the hare, game birds being the partridge, ducks, geese, thrushes and francolins, although the major habitats of the latter are game reserve areas. Almost all of the area under government control is covered by well-dispersed permanent or temporary game reserve areas.

Trade in endangered species

Cyprus has a long tradition of regulating trade in endangered species as, since 1975, it has been party to the Washington Convention on Trade in Endangered Species (CITES).

Import of skins of seal pups without permits is prohibited under the Fisheries legislation. The use of traps including leghold traps is entirely prohibited for hunting of game species and wild birds under the Game and Wild Birds Law.

The Council of Ministers adopted a policy (October 1999) that in effect bans the holding of cetaceans in captivity.

Cyprus will secure protection of its endemism from alien species through prohibitions on the possession and release into the environment of threatening species.

A Law [115(I)/2000] amending the Animals (Scientific Experiments) Law (30(I)/1995), was enacted in July 2000, taking into account the stricter protection requirements for CITES species.

Further legislative measures will be incorporated in the new Law on the Protection of Nature, to be enacted in 2002.

NOISE

Noise and congestion from intensive development pose growing environmental problems in built-up areas, the principal cause being traffic by various modes and entertainment and construction activities.

Control of noise is pursued through the general provisions of the Protection of Common Peace Law and land use planning instruments.

A draft Bill on Noise, includes provisions to empower the competent authorities to issue mandatory abatement notices (orders), and for the adoption of ambient noise exposure levels, the preparation of programmes for the reduction of noise exposure, the establishment of noise abatement zones, etc.

Noise from construction plant and equipment

Noise emission levels from construction plant and equipment used outdoors will be adopted by the end of 2002, with regulations based on a broader framework law.

Noise from household appliances

The first legal draft of a bill to regulate the level of noise emitted from household appliances was prepared, planned to be submitted to the House of Representatives in the middle of 2002.

Noise from transport

General provisions for the control of pollution from noise from motor vehicles exist in the Traffic Regulations but, with the establishment of new vehicle inspection centres, new regulations are now being prepared which would adopt European standards.

Provisions for regulating noise from civil airplanes are included in the Air Navigation Regulations of 1988, set according to ICAO standards.

NUCLEAR SAFETY AND RADIATION PROTECTION

There are no nuclear power reactors in Cyprus. Radioactive waste derives only from uses of mostly short-lived isotopes (I-125, Co-57, etc), for clinical and diagnostic purposes at hospitals and medical centres, although there is also a small activity in industrial radiology. Various sources of ionizing radiation are also used in the construction sectors, in research and analysis as well as for teaching.

For short half -life radionucleides, the practice is to keep them in storage until they are disposed off as normal waste. Long half-life waste or disused sources are kept safely in appropriate stores until proper arrangements for disposal are made. It is a common practice in Cyprus that such sources are returned back to the manufacturers. A temporary storage for disused sources exists in the General Hospital in Nicosia. An improved central storage facility is planned to be established.

A project financed by IAEE has been completed, aimed to provide proposals for the ionising radiation control system and the appropriate institutional set-up and legislation. Personnel involved in the use or control of ionizing radiation have been trained in Cyprus or abroad.

In 1999, the Council of Ministers designated the Ministry of Labour and Social Insurance (Department of Labour Inspection) as the Regulatory Authority.

Cyprus is a member of the IAEA since 1965. The country has also signed or ratified a number of relevant International Conventions, protocols and agreements (IMO, ICAO, UPU et al.), including the Non-proliferation of Nuclear Weapons, and the Timely Notification Concerning Nuclear Accidents.

Euratom Treaty/Basic safety standards, Medical exposure, Radiological emergency, Protection of outside workers, Informing the public, Early exchange of information

Basic safety standards for the protection of the health of workers and the general public against ionizing radiation are covered, to a limited extent, by the 1996 Safety and Health at Work Law. The Civil Defence Law includes provisions on radiological emergencies and for informing the public.

There is a Radioisotopes Laboratory and 3 monitoring stations used for an early warning system. Outside workers are treated as radiation workers and are issued radiation monitors. Steps have been taken to fully computerise records. Dose rate control is exercised through a system of alarms in case of excessive dose and therefore left to the appreciation of the physician. An inventory of all radiological equipment in use is under preparation. Once the inventory is completed, installations will be inspected by the radiation protection authority.

Administrative structures, including staff and equipment to check illegal imports are considered sufficient but will be further strengthened to ensure full coverage.

A new framework Bill for protection against ionizing radiation risks has been prepared, covering all relevant matters, such as the establishment of the Regulatory Authority and a Radiation Protection Commission; the licensing of sources; the general obligations of licensees; and the appointment and powers of inspectors. A set of draft regulations were also prepared, to regulate occupational, public and medical exposure, emergency preparedness and response, licensing, inspection and enforcement procedures.

Shipments of radioactive waste

The Department of Merchant Shipping controls the packing of cargoes of radioactive substances carried by vessels under the Cyprus flag according to IMO standards (IMDG). The Department of Customs and Excise is equipped for customs inspection. Laboratories under the supervision of the Ministry of Agriculture, Natural Resources and Environment and the Ministry of Health, are equipped to carry out the necessary analyses.

Foodstuffs/ feeding stuffs/ agricultural products

Issues relating to maximum levels of radioactive contamination of foodstuff and of feeding stuffs following a nuclear accident are partly covered by the Feeding Stuffs and Feed Additives Law (No.13(I)/1993), as well as the Hygiene of Milk and Milk Products Regulations which cover relevant parameters.

The Feeding Stuffs and Feed Additives Regulations (control of quality, supply and use), under the Feeding stuffs and Feed Additives Law were passed and published in March 2001 (No. 131/2001), together with amendments to the law (No. 34(I)/2001).

WASTE MANAGEMENT

Cyprus legislation does not include any general law related to the management of solid waste, but certain general principles are incorporated into a number of laws, such as the laws and regulations related to municipalities and rural communities, public health, protection of water resources, etc.

A comprehensive Bill on Waste Management has been prepared, covering all the issues dealt with below, and expected to be enacted into law (including subsidiary legislation) by October 2002.

A Waste Management Strategy is being finalized by consultants.

Landfill of waste

Domestic solid waste management is the responsibility of local authorities. Their competences for the collection, transport, disposal and treatment of domestic solid waste have been well established and clarified through the Law on Community Administration (No. 86/(I)/1999).

The Public Roads and Public Places Pollution Prevention Law (No. 19/92) prohibits the illegal deposit of rubbish or other useless objects and substances in public roads and public areas.

The current permitting system applies to treatment and disposal installations and is based on the legislation on land-use, water and air pollution control.

A study was finalized in 1999, in order to lay the basis for an improved urban domestic solid waste management. The Council of Ministers approved the proposals of the study late in 1999, which include a programme providing for collection systems, the establishment of transfer stations, composting plants, etc.

Consultants were appointed in 2001, to prepare final design and tender documents for the construction of a new regional landfill and a waste transfer station, at Pafos.

The new Law on Waste Management, will include the obligation to prevent and reduce the generation of waste as well as permit requirements for undertaking the handling of waste.

Waste oils, disposal of PCBs and PCTs

Discharges of waste oils and PCBs/ PCTs, are controlled by the Water Pollution Control Law and their incineration by the Atmospheric Pollution Control Law. Special provisions for a management system have been incorporated in the Waste Management Bill.

A special study on used machine oils was completed, aiming at the establishment of an integrated system for their management. The study also includes feasibility guidelines for waste oils regeneration, burning and refining.

There is one company collecting and exporting waste oils for regeneration, and running waste oils- derived fuel plant. Used oils are also collected by a number of collectors.

A decontamination project (chemical dechlorination) has been completed, covering some 560 transformers of the Electricity Authority. The project was undertaken after about 2 000 transformers were investigated.

A project was initiated in 2001, for the registration of PCBs- contaminated equipment in the private sector and the formulation and implementation of a decontamination programme to be completed by 2010.

Hazardous waste

A Law was passed (No.12 (III)/2000), ratifying the amendments to the Basel Convention.

Hazardous waste disposal by individual industrial units is covered by the Water Pollution Control Law and their incineration by the Atmospheric Pollution Control Law.

Private companies collect and export for recovery drained car batteries, lead dross waste and large quantities of used machine oils, arrangements being handled directly through the application of the provisions of the Basel Convention.

A study on pollution from mining waste has been completed.

Tenders were awarded for the establishment of an organised hazardous waste treatment and disposal site, including a central incinerator for clinical and hazardous waste. The contract for the preparation of a techno- economic and an environmental impact assessment study has been signed in November 2001.

The Ministry of Agriculture, Natural Resources and Environment proceeded in 2001 with the assignment to a private company of the collection and export for treatment of 8 tones of organic sludge and laboratory wastes and chemicals, under the provisions of the Basel Convention and the relevant Regulation of the European Union. The project was successfully completed.

Use of sewage sludge in agriculture

The use of sewage sludge in agriculture is not yet practised except on an experimental basis.

The disposal of sewage sludge is covered by the Water Pollution Control Law. Limit values for heavy metals are set in permits for land-spreading operations.

A study financed by the European Investment Bank has been prepared, considering the options available (including for agricultural purposes) for the re-use of such sludge from the various treatment plants. The study indicates that the sludge produced could find use in agriculture and as an alternative low cost fuel in cement factories.

A Code of Good Agricultural Practice (Use of Sewage Sludge in Agriculture), used as a guide for the discharge consent terms, has been completed and will be adopted in the beginning of 2002, under the Water Pollution Control Law.

Batteries and accumulators

A number of recyclers collect scrap car batteries and export them for recycling following the provisions of the Basel Convention and the issuing of the appropriate certificates. The collection and export system is at a satisfactory level. There is also a dry cell recycling project run on a non- profit-making concept by an NGO and a number of schools. The material collected is also exported for treatment.

Consulting services were secured for a study on the establishment of a system for the management of batteries and accumulators. The study will begin in January, 2002.

Supervision and control of shipments of waste

The 1992 Ratification Law to the Basel Convention on the transboundary movement of hazardous waste currently provides the legal framework for the control of waste shipments.

Cyprus has also ratified the “Basel ban” (Law No.12 (III)/2000).

Hazardous and municipal waste incineration

There are no hazardous waste incineration plants in Cyprus.

Legal incineration of waste only applies to the clinical wastes generated at the 5 main hospitals where clinical waste incinerators are installed, registered under the provisions of the Atmospheric Pollution Control Law.

The new Nicosia General Hospital currently under construction, will be equipped with a clinical waste incinerator that will comply fully with the relevant directive.

On the basis of two studies on the Management of Hazardous Wastes and the Disposal of Clinical Wastes, prepared between 1993 and 1998, Cyprus is currently proceeding with measures for the management and disposal of hazardous and clinical wastes. Thus, consultants were appointed late in 2001, to carry out a techno- economic study and an environmental study for a site for the controlled disposal of hazardous and clinical wastes. An incineration plant is provisionally envisaged to be installed on the site.

Packaging and packaging waste

Based on the results of the Municipal Solid Waste Recycling Study, municipal waste ending up in landfills include 17% paper, 8 % cardboard, 13% plastic, 4% metal and 3% glass. In terms of yearly quantities, these percentages are interpreted to 62 700 tonnes of paper, 29 500 tonnes of cardboard, 47 900 tonnes of plastic, 14 800 tonnes of metal and 11 100 tonnes of glass.

At present, there are no legal provisions with regards to obligatory targets for reuse and recovery of packaging waste.

The Council of Ministers’ decision mentioned previously for the municipal waste management programme covers, to an extent, measures for packaging waste recovery and recycling as well.

Recycling is limited, because of the wide spread of very small communities all over the island; absence of legislation and fiscal incentives/ disincentives; diseconomies of scale;

high transport costs for exports; high labour costs and labour shortages; large fluctuations in international prices; and high initial investment costs.

A number of initiatives by non-governmental and other organizations and some local governments have encouraged the collection of aluminum cans and paper for recycling. On the basis of private initiatives, between 5-10% of packaging waste is currently being collected and some 17% thereof recycled.

The recycling industry largely relies on the partial processing of recyclable materials for export. Paper and cardboard is baled and exported except for paper cardboard waste products from printing works, which are recycled locally. Some small quantities of glass are being recycled at a glass industry. Concerning plastic, clean waste plastics from industries are collected in small quantities and recycled at a plastic's recycling plant.

A pilot Household Recycling Project has been implemented over the last 2 years, aimed at demonstrating the necessity for recycling, cultivating awareness, calculating costs and benefits and establishing a pilot recycling network, consisting of the establishment of 10 "recycling islands" and awareness-raising material published and disseminated, for 5 municipalities.

A bill on Packaging and Packaging Waste Management has been completed, planned to be submitted to the House of Representatives early in 2002.

Animal waste

The most significant environmental problems are associated with pig-raising activities, due to the large quantities of waste produced per animal, large piggery units, the concentration of piggery units in specific areas and high concentrations of salts and nitrates in the wastes.

In recent years, a large number of such units have proceeded with the installation of solid separators, which led to a significant improvement in the conditions with respect to odours, as well as to a decrease in the final quantities of liquid waste destined for disposal, given the fact that larger quantities now evaporate from the storage tanks.

Additionally, the Ministry of Agriculture, Natural Resources and Environment has installed a model aerobic treatment unit and at the same time carried out research projects for the determination of the methods and quantities of piggery waste that can be disposed to the ground without causing pollution.

WATER QUALITY

Water is a particularly precious resource in Cyprus. Water protection therefore features high in Cyprus' environmental policy.

Water management policy

National water policy focuses on the provision of adequate supplies of water for drinking and residential use, including the tourism and industry sectors, as well as for the development of agriculture. In drought seasons, priority is given to the supply of drinking water, with restrictions in the supply of water for irrigation purposes.

Since independence, it has been the goal of government policy to secure ample water supply for irrigation and development in the agriculture, tourism, housing, industry and other sectors, so as to bring about an equilibrium between supply and demand. In the context of this policy, a large number of reservoirs and dams (app. 100) were built for water storage, and the installation of improved irrigation systems has been promoted for water conservation. Between 1960 and 1995, there was an increase in dam capacity from 6 to 300 million cubic metres (Mm³), the ultimate goal being a further increase to 380 Mm³, at which point the utilisation of the most important water resources will have been completed.

In addition to dams, other sources utilised include the development of ground waters, the construction of irrigation networks, the construction of water facilities for water supply and of irrigation networks for house-to-house water distribution, and sea water desalination.

Comprehensive legislation was introduced in 1991, targeting the protection of waters from pollution, that is the Law for Water Pollution Control. This law is part of the broader legislation for the protection of the environment from all kinds of pollution (industrial or not). The drafting of a new comprehensive Water Pollution Control law has just been finalised, planned to be submitted to the House of Representatives early in 2002.

Water conservation measures include subsidies for the installation of grey water treatment plants and for the use of inferior quality groundwater for the flushing of toilets and irrigation of house gardens. Subsidies are also available to farmers for the collection of the rainwater from the roofs of the greenhouses and for the installation of advanced irrigation systems. Furthermore, the campaigns for raising the "water awareness" of the public towards water conservation proved to be successful and will be continued in the future. These water management measures have become a regular feature of water policy in Cyprus over the years but they have been specially strengthened during the last few years.

Furthermore the Government is also proceeding with the establishment of a Water Authority to manage water on a national scale in an integrated and rational manner. To this respect, legal consultants have completed the drafting of a "Water Entity Bill", which was approved by the Council of Ministers in June 2001 and subsequently submitted to the House of Representatives.

Urban waste water

There is a very extensive programme in place for central sewage systems and waste treatment plants and the reuse of treated effluent.

In 1970, the Sewage Systems and Runoff Law was put into effect on the basis of which the Sewerage Boards were introduced, charged with the preparation of plans and the construction of central waste collection and treatment systems within their assigned area of responsibility.

Nicosia has a fully operating central sewerage system. Tenders for the design of the Greater Nicosia central sewage system have been awarded recently. The coastal towns of Limassol and Larnaca, are served by central sewerage systems and tertiary level treatment plants. Similar systems are under construction for the coastal town of Pafos and the important tourist centres of Paralimni and Ayia Napa. There are also a large number of private biological treatment stations, around 400 of them, installed in hotels and other tourist facilities, as well as other biological units set up in refugee settlements, hospitals and military camps.

As regards to rural areas, central sewerage systems have been constructed in a number of villages and more such systems are under implementation.

Concerning the disposal of the septic waste overflows from the traditional treatment systems and of the sludge produced at the biological treatment units, in all cities there are stabilisation tank systems where septic waste is transferred for disposal.

A septage waste and industrial waste treatment plant has also been constructed, to which waste is transferred by tanker trucks.

Treated effluents of high quality are produced from such plants, and the Government's policy is to utilize them to irrigate agricultural crops, green spaces and sports grounds and for aquifer recharging. So as to more fully exploit the treated waste, government policy includes covering the cost for the installation of tertiary treatment systems in all urban waste treatment systems and subsidising the installation of small tertiary biological treatment units in rural areas by 75-85% of the cost. The texts of a Code of Contact for Good Agricultural Practices and of Quality Standards for the Re-use of Treated Effluent were finalised.

Dangerous substances into surface waters

During 2000 and 2001, ambient quality standards and measurement methods were adopted for mercury, cadmium, hexachlorocyclohexane and other dangerous substances in surface waters.

Discharges of dangerous substances into surface waters are regulated by a 1993 Decree that prohibits direct discharges and makes indirect discharges subject to a permit, which may be granted under terms and conditions with regard to effluent standards,

quantity and place and manner of disposal and of technical, operational, and monitoring specifications and conditions.

A central industrial effluent and domestic septage treatment plant is in operation in Nicosia, aimed to serve more than 100 industrial units, the size of which does not justify the construction of individual treatment plants. A central effluent treatment plant was established in the Limassol Industrial Estate.

In 2000, a project for the monitoring of the quality of waters in reservoirs was completed. It assessed conditions in the 8 main water reservoirs and their contributing streams, covering 226 chemical, microbiological and toxicological parameters. A monitoring programme for surface and groundwater near industrial areas is also in place.

Nitrate pollution from agricultural sources

A report on nitrate pollution of groundwater, based on available data, was prepared in 2000.

Nitrate pollution from agricultural sources is a problem in Cyprus, although the area used for agriculture is relatively small (200 000 ha). While the nitrate content in surface waters is low and the impact on drinking water supply areas is negligible, some eutrophication has been measured.

Most of the manure produced is used as soil fertilizer.

A code of good agricultural practice has been prepared and is implemented through the permitting process of the Water Pollution Control Law. Measures include control of fertilizer use; fertigation; use of improved irrigation systems and preparation of irrigation schedules; relocation of animal husbandry units; slurry collection; mechanical separation and appropriate land application of piggery waste; training of farmers; monitoring of groundwater quality; etc.

Work was initiated on a project for a major assessment of nitrate pollution of groundwater, the identification of waters polluted or threatened by nitrates pollution from agricultural sources, the delineation of vulnerable zones and the establishment of a regular monitoring programme.

Drinking water

Metering at individual household level is universal and virtually the entire population is served with piped water of satisfactory quality.

All sources of water supplied for domestic use are regularly monitored for the chemical and bacteriological characteristics of water. Quality of drinking water supplies from water stored in dams (85% of total drinking water quantity) is in full compliance with WHO guidelines and EU standards.

Sampling frequencies at least for certain significant parameters are those defined by the World Health Organization. Systematic control (microbiological and chemical) of the water supplied to cities and villages is carried out. There are also special programmes for the systematic monitoring and pollution control of water supply networks, both for surface and ground waters.

The Ministry of Health is proceeding with the upgrading of the necessary equipment, the training of the personnel and the establishment of a data bank with the results of the chemical and microbiological analyses.

The Quality of Water Intended for Human Consumption Law was enacted in May 2001 (Law No.87 (I) 2001), fully covering contemporary requirements to safeguard drinking water quality.

The prolonged drought of the last years drastically reduced the water reserves of the surface and underground reservoirs. In order to eliminate dependency on rainfall and satisfy the increasing water demand, the Government has decided to proceed with the construction of seawater desalination plants. Desalination of seawater was first introduced in April 1997, with the operation of the first desalination plant at Dhekelia, while the second desalination plant, built near the Larnaca Airport, commenced operation in March 2001. The desalination programme envisages the construction of another two plants.

Bathing Waters

A Decree on the quality of bathing waters was issued in 2000 under the Water Pollution Control Law.

Under the Fisheries Regulations, standards have been adopted for substances in effluent and the environmental quality of recipient seawaters. There are also prohibitions on the disposal of lubricating and other oils and in the use of organotin based anti-fouling paints in the marine environment. In order to minimize local effects, aquaculture is now carried out "off-shore".

The degree of pollution and the quality of seawaters are continuously monitored through a number of monitoring and research programmes and projects. Such programmes are the yearly MED-POL Programmes carried out with assistance and cooperation with UNEP in the framework of MAP. The levels of heavy metals and organic contaminants are monitored in the marine biota (fish). Marine litter and tar are also monitored.

Extensive monitoring of sea water quality is also carried out for the purposes of the Blue Flag scheme. In 2001, Blue Flag Awards were awarded to all the 34 candidate beaches in Cyprus.

The greatest part of the marine waters of Cyprus is of good quality and sea pollution problems are mostly localized within the urban fronts of the three main coastal towns.

No industrial effluents are discharged into the sea apart from a number of wineries, the affected area restricted between Limassol's 2 harbours. The procedure to regulate the discharge of these wastes, in accordance with the Water Pollution Control and the Sewerage Networks laws, has been initiated and waste discharge permits were issued. Pollutants from non-point sources (i.e. agriculture, urban areas) occasionally cause problems of a temporary nature.

Marine pollution accidents

Cyprus has ratified the Convention for the Protection of the Mediterranean Against Pollution and the Protocol for the Prevention of Pollution of the Mediterranean by Dumping from Ships and Aircraft; the Protocol for Co-operation in Combating Pollution of the Mediterranean by Oil and Other Harmful Substances in Cases of Emergency; the Convention for the Prevention of Pollution of the Sea by Oil; the Protocol for the Protection of the Mediterranean Against Pollution from Land-based Sources; the Convention for the Prevention of Pollution of Sea from Ships; the Amendments to the Barcelona Convention; the Amendments to the Dumping Protocol of the Barcelona Convention; the Protocol Concerning the Protection of the Mediterranean Sea from Pollution Resulting from the Exploitation and Exploration of the Continental Shelf and its sub-soil of the Barcelona Convention; and the Amendments to the Protocol for the Protection of the Mediterranean Sea against Pollution from Land-based Sources.

Infrastructure and expertise for emergency response to marine pollution incidents is already in place and considered as adequate.

A sub-regional contingency plan for preparedness and response to major marine pollution incidents has been established between Cyprus, Israel and Egypt, funded by the EU. The relevant agreement was ratified by the House of Representatives in October 2001 (No. 21(III)/2001).

Groundwater

The quality of groundwater is regulated through the Water Pollution Control Law and a Decree issued in 1996 under this law. A list of substances has been legislated whose direct and indirect discharge into groundwater is prohibited.

There is extensive use of fertilizers and plant protection products, but their holistic control is carried out, through phytosanitary controls, chemical analysis for pesticides residues, IPM and on-going farmer training programmes.

Groundwater is regularly monitored, and a programme for the preparation of hydrochemical charts has been initiated.

Although groundwater is generally good, in some parts of the river deposit and coastal plain aquifers there are increased nitrate concentrations due to agricultural and urban development and increased salinity because of over-pumping.

CONCLUSION

Cyprus has demonstrated remarkable economic growth since independence, through the shifting from an agricultural to an urban (mainly tourism and services-oriented) economy. These changes have resulted in pressures on the environmental, natural and cultural resources. The Cyprus economy is at a crossroads and is facing new challenges as far as sustainable development is concerned. The available resources may satisfy the needs of all sectors, provided their management is wise and environmentally sound.

The 'ecological footprint' of Cyprus may be small but it is growing. Thus, Cyprus had to begin walking the road to sustainable development.

The political decision to join the European Union as well as the international obligations of the country presuppose a commitment to safeguard a better balance between human aspirations and long- term environmental concerns.

Cyprus is committed to successfully rise up to the expectations and challenges. Positive ingredients for success are the political will and commitment of the government, the support of sustainability issues by all political parties, the representative nature of local authorities, the active intervention of the non- governmental organizations, and the gradual realization by the private sector that there is no inherent contradiction between economic development and the protection of the environment.

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