

Sustainable Development Strategy, 2007

Cyprus

1. Introduction

We are living in one of the most important periods of the history of mankind on earth. We are surrounded by the largest number of living species in earth's 3 billion years history. However, a single species, mankind, has developed such capabilities, that is in a position not only to change, but also to destroy whole ecosystems.

For the largest period of earth's history, land seemed to be endless and natural resources unlimited. Today, it is clear that earth is limited, both in size and in natural resources. Natural disasters that have occurred on earth are minor compared to the disasters that are caused by human intervention. Transport, industry, energy consumption and urban development are the major sources of pollution. The over-exploitation of natural resources, a trend that is constantly growing, threatens to drive them to exhaustion, while destroying biodiversity, the tropical forests, the marine environment, causing many times irreversible impacts on water, air, and soil. It is obvious that the development model which is followed is now considered non-sustainable.

Sustainable development aims at improving the living conditions of humankind and, at the same time, conserving the natural environment, in the short-term, but most importantly, in the long-term. Sustainable development's scope is an economic development model which is effective, socially balanced and environmentally sustainable.

The European Union, in its efforts towards an environmentally sustainable society, has adopted its Renewed Strategy for Sustainable Development in June 2006. The main targets of this strategy are:

- The protection of the natural environment.
- Social justice and cohesion.
- Economic prosperity.
- Undertaking international responsibilities.

The main challenges in achieving these targets are:

- Reduction of impacts of climate change, i.e. economic costs, negative consequences on society and environment and promotion of clean energy.
- Encouragement of sustainable transport systems so as to fulfill the economic, social and environmental needs of society.
- Encouragement of sustainable production and consumption.
- Improvement of conservation and management of natural resources so as to avoid further overexploitation.
- Improvement of public health and protection against health threats and risks.
- Development of a society that is flexible to social integration, promotes solidarity among generations, and improves the quality of life of its citizens.
- Promotion of a global sustainable development model in all internal and external policies of the EU.

Cyprus considers that the path towards sustainable development is one way. The accession in the EU carries a series of commitments in order to ensure a balanced approach towards human expectations and long-term environmental needs. The sustainable management of our natural environment is guided by several international, EU and national policies. These policies are directed by some globally accepted principles, such as ecological

interdependence, equality between generations, equal but differentiated responsibilities, the precautionary principle, environmental liability etc. The implementation of these principles needs a drastic change in our traditional ways of dealing with the environment.

In order to implement the objectives of the strategy, it is necessary to ensure a balance between environmental, social and economic targets, and to create synergies with other policies in place, such as the Lisbon Strategy, the Cardiff Process and other specific thematic strategies. It is also important to ensure that the efforts to implement other strategies and goals will not hinder the struggle for the implementation of the current objectives for the protection of the environment. It is necessary to involve the public and the society as a whole in order to strengthen cooperation and synergies, and to progress at a national level with the implementation of national strategies for sustainable development that will be quite flexible in enforcing measures based on national circumstances and priorities.

Cyprus, in principle, has endorsed the European Strategy for Sustainable Development. Measures and actions under different policies that have been integrated in the framework of sustainable development constitute the way to face with the non-sustainable tendencies of each sector. Cyprus considers important that the specific national circumstances of each member-state, which may result in different objectives and goals to those of the E.U., are taken into consideration.

2. Climate Change and Clean Energy

2.1 Current Situation

Cyprus is not yet part of Annex B of the Protocol of Kyoto and for the first period (2008-2012) does not have any quantified commitments. Irrespective of this, Cyprus shares the concerns and worries of EU and the rest of the world of the consequences of climate change and the need for promoting the significance in the use of clean energy, and has undertaken measures in order to contribute to the effort in reducing the causes of climate change.

The most recent data concerning the greenhouse gases emissions in Cyprus have been communicated to the EU in April 2007 and they are presented below:

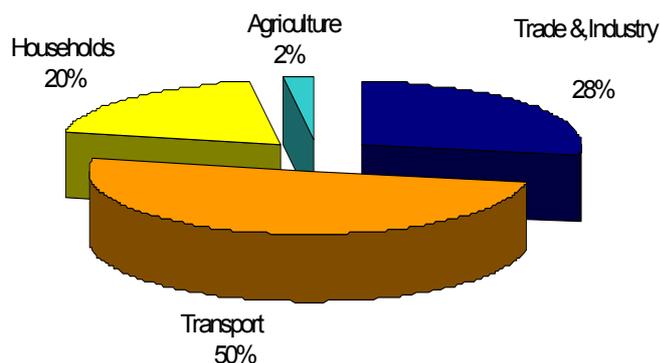
Table 1: Greenhouse Gases Emissions in Mt CO₂ equivalents per activity for 1990-2005.

	Energy	Industry	Solvents and use of other products	Agriculture	Use of Land and Forests	Waste	TOTAL
1990	4452.9	570.5	2.3	570.6	-18.9	433.2	6010.6
1991	4564.4	570.4	2.4	573.4	-45.6	440.0	6150.5
1992	5153.9	566.6	2.4	621.6	-57.5	461.4	6748.4
1993	5502.0	547.9	2.5	645.2	-52.3	465.2	7110.4
1994	5556.8	530.8	2.5	639.5	-68.6	475.4	7136.4
1995	5541.8	515.0	2.5	663.5	-72.3	481.1	7131.5
1996	5865.3	513.5	2.5	684.6	-83.1	474.0	7456.8
1997	6012.3	458.0	2.6	666.0	-100.0	480.5	7519.4
1998	6364.2	604.6	2.6	671.7	-116.2	489.3	8016.2
1999	6498.9	575.8	2.6	666.9	-116.2	546.5	8174.4
2000	6762.5	707.6	2.6	671.8	-116.2	558.6	8586.9
2001	6664.6	693.1	2.6	695.6	-116.2	580.8	8520.4
2002	7073.4	746.5	2.6	718.4	-116.2	590.8	9015.6
2003	7338.1	836.0	2.6	721.8	-116.2	615.8	9398.0
2004	7612.8	893.3	2.6	671.7	-116.2	630.0	9694.2
2005	7590.6	902.9	2.6	671.7	-116.2	652.8	9704.4
2005 constitution	78.2%	9.3%	0.03%	6.9%	-1.2%	6.7%	
90-05% change	70.5%	58.3%	13.1%	17.7%	514.8%	50.7%	61.4%
04-05% change	-0.3%	1.1%	0.0%	0.0%	0.0%	3.6%	0.11%

Source: Ministry of Agriculture, Natural Resources and Environment.

Diagram 1 - Energy Demand (2006)

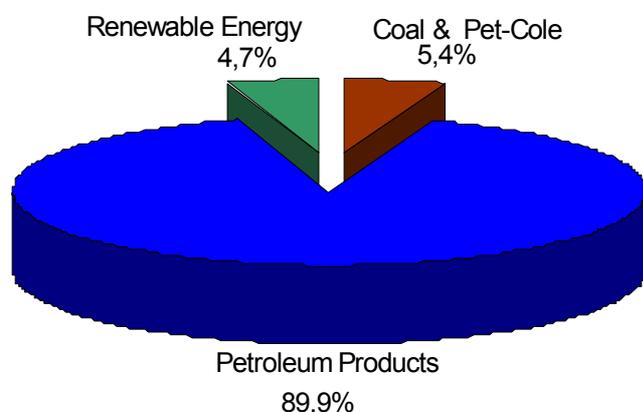
Source: Ministry of Commerce, Industry and Tourism



From the data of the diagram, 1, it is apparent that the main sector of energy demand is transport (50%) from which 35% concerns road transport and the other 15%, air transport. In the sector of industry, 50% of the energy demand concerns the Cement Production Industry.

Due to the absence of local energy sources, Cyprus depends almost entirely on imports, especially petroleum products. The contribution of renewable sources of energy in the country's energy balance was only 4,7% (2006) of the total consumed energy.

Diagram 2: Primary Energy Sources (2006)



Source: Ministry of Commerce, Industry and Tourism

Cyprus does not have any quantified commitments towards the Kyoto Protocol, in reducing greenhouse gases emissions, because:

- i) it had not been included in Annex I of the Climate Change Convention,
- ii) it had not been included in Annex B of the Kyoto Protocol,
- iii) it was not an EU Member when the individual commitments of the EU-Members were agreed for the first period (2008-2012).

Nevertheless, the implementation of a Strategic Plan for the Reduction of Greenhouse Gases Emissions has been considered as absolutely necessary.

2.2 Challenges

The presence of Cyprus in the second period of commitments of the Kyoto Protocol after 2012 is inevitable. The implementation of a Strategic Plan for the Reduction of the Greenhouse Gas Emissions (covering 2010-2020) is necessary, so that Cyprus can negotiate a realistic target for achieving the requirements of the second period.

Based to the results of the Development Scenario for Cyprus, a significant increase of the greenhouse gases emissions is expected for the period 2000 - 2020. Particularly:

- ❖ The total increase of the emissions based on 1990 data (in kt CO₂-eq) is +111% for 2010 and +187% for 2020.
- ❖ The Energy Sector constitutes the basic source of emissions showing a percentage increase from 74% in 1990, to 83% in 2010, and 88% in 2020. On the other hand, for the remaining sectors, the total emissions are expected to be reduced (4% for industrial procedures and waste and 4% for agriculture until 2020).
- ❖ The greenhouse gas emissions from all the sectors shall increase with regards 1990 data, with CO₂ presenting the highest annual rate of change (3.4% for 1990-2020), while the corresponding rate for N₂O is 2.8% and for CH₄ is 1.2%.

Table 2: Development of greenhouse gases emissions (kt CO₂-equiv)

			1990	2010	2015	2020
Energy			4452.9	10689.8	12539.7	15175.4
Industrial Procedures			570.6	646.5	686.1	665.7
Solvents			2.3	3.0	3.0	3.0
Agriculture			570.6	739.0	741.1	741.1
Waste			433.2	632.1	657.3	638.4
TOTAL			6029.6	12710.4	14627.2	17223.6

Source: Ministry of Agriculture, Natural Resources and Environment.

2.3 Strategic Objectives

- **Energy Center**: it includes installations for import and storage of liquefied natural gas (LNG), as well as installations for import and storage of operational and strategic reserves. For the interval that is required for the completion of the natural gas land terminal and for a period of five years, the demand for natural gas will be fulfilled with the use covered by the installation of off-shore facilities.
- **Renewable Sources of Energy**: their contribution to the energy balance of the country today is 4,7% and it is mainly due to the use of solar energy for water heating and from the exploitation of biomass. An Action Plan for the increase of the use of Renewable Sources of Energy to 6% up to 2010 and saving of energy consumption by 1% yearly, has been prepared.
- **Energy Saving**: it is estimated that the margins of saving of energy of the Cyprus Economy are in the order of 25%. The target is to reduce energy consumption by 1% yearly, through saving (28ktoe, 3.5 million CYP).

2.4 Actions

Renewable Sources of Energy

- **Wind Energy**: until today, the Regulating Authority on Energy, has issued permits for the construction of wind parks (total power 837.23 MW) enough to cover 8% of the total consumption of electricity.
- **Solar Energy**: 92% of households and 53% of hotel units have solar systems for water heating (1st place in EU with 1 m² per habitat). For electricity production using photovoltaic systems, there is a subsidy of 55% of the total cost of installation. By 2006, 685 applications for subsidy (1,8MW) had been submitted.
- **Biomass**: the National Biomass Action Plan of Cyprus regarding biomass is expected to be completed early 2008 and will include an analysis of the potential of biomass in Cyprus, the determination of indicative targets for the production of electricity from biomass, and several measures in order to meet the EU commitment of usage of biomass for 10% of energy used for transport.
- **Biofuels**: Cyprus has set a target of replacing 1% of conventional fuels with biofuels for transport. Also there is a study underway that analyses the possibility of enforcing a specific commitment to the oil companies to include a percentage of biofuels in their products.

Domestic and Tertiary Sector

- Existing buildings: Improvement of thermic behaviour of buildings.
- Heating and air conditioning equipment: Replacement of old systems, use of high performance systems.
- Electric appliances and lighting: use of more efficient electric appliances, high performance lamps, automation systems for energy saving.

Transport

- Encouragement of use of public transport: improvement of services, improvement of bus fleet.
- Development of network of long distance buses.
- Improvements in the traffic signalling system: savings 0.8 – 3.5%.

Vehicles

- Maintenance of cars and lorries: estimated savings of 10 ktoe that will lead to reduction 31 ktn CO₂-equiv of emissions until 2020.
- Encouragement for use of small cars for urban transport: estimated savings of 17 ktoe that will lead to reduction 52 ktn CO₂-equiv of emissions by 2020.
- Gas engines in taxis: estimated savings of 2 ktoe that will lead to reduction 10 ktn CO₂-equiv of emissions until 2020.

Use of alternative fuels

- Use of natural gas in buses: 150 buses until 2010 and another 150 until 2020.

Industry

According to estimates, the increase rate of final demand of energy in the industry sector is very high (3,5% medium annual increase for 2000 – 2010 and 2,5% for 2010 – 2020). Measures include:

- Encouragement of co-production: estimated savings of 45 ktoe that will lead to a reduction of 275 ktn CO₂-equiv of emissions until 2020.
- Encouragement of use of natural gas: estimated savings of 15 ktoe that will lead to a reduction of 163 ktn CO₂-equiv of emissions until 2020.
- Encouragement of the use of solar systems: estimated savings of 24 ktoe that will lead to a reduction of 75 ktn CO₂-equiv of emissions until 2020.
- Waste Incineration: combustion of urban waste in the industry for the production of cement in order to replace diesel. Estimated savings of 30 ktoe that will lead to a reduction of 119 ktn CO₂-equiv of emissions until 2020.

Waste Management

The contribution of the waste sector in total emissions of greenhouse gases presents a reduction tendency (from 5% in 2010 to 4% in 2020). Measures include:

- Recycling: especially the recycling of paper. Estimated savings of 55 ktn CO₂-equiv of emissions until 2020.
- Recovery of methane from controlled landfills: Estimated savings of 273 ktn CO₂-equiv of emissions until 2020.

3 Sustainable Transport

The development of a sustainable transport strategy is intended to meet the demands of society, ensuring simultaneously environmental protection, economic growth, protection of public health and safety.

3.1 Current Situation

The main interurban road network is of high quality and fulfills the needs, without any significant problems. The secondary interurban and rural network is in very good condition as well and it is continuously improved. Secondary urban network can be further improved by improving the quality of road surface and the pavements.

On the other hand, urban network suffers from lack of adequate urban roads resulting to traffic congestion, excessive fuel consumption and unwanted emissions. Besides this, the network does not, in general, incorporate special streets for bikers, pedestrians or bus lanes.

Public urban transport is limited only to buses and is used at a decreasing rate. This tendency is not expected to change, since there are not, currently, any new investments in public transport. The reasons for the continued reduction of use of public transport are the following:

- People demand high quality public transport which is not currently available.
- The current lifestyle demands transportation systems which correspond directly in fulfilling people's needs.
- The demand for public transport is limited to the usual 8 hours of work.

The continued decrease on the use of public transport, leads to the exclusive use of private cars, with the following negative results:

- High fuel consumption.
- Significant negative environmental impacts through high emissions.
- Increased traffic congestion
- Higher costs for cars due to high maintenance costs and urban network maintenance.

Since 1993, the UTC/SCOOT system is in operation, for traffic control as well as other procedures incorporating Intelligent Transport Systems. A Strategic Action Plan on street safety is implemented since 2005, as Cyprus has one of the worse records in EU in car accidents. Traffic Studies have been implemented for the four big urban centers of the island and there are some proposals for minimizing the current traffic problems.

Cyprus, as an island, depends almost entirely on air transport. Tourists mainly depend on air transport and are served by the two airports, in Larnaca and in Paphos.

Studies show that the number of passengers in both airports is now stable, while in the 1990s the number was higher. This reduction is attributed to many factors such as the instability of the global economy, the increase of price of oil, the global and regional political instability, the increase of the standard of living in Cyprus e.t.c.

3.2 Challenges

- Resolve traffic jams.
- Improve the existing public transport system: by designing system which will be able to fulfill the current increased demands and at the same time ensure its viability for the future..
- Reduce traffic accidents and deaths.
- Reduce car use.
- Reduce greenhouses gases emissions, noise and energy consumption.
- Use GIS and ITS technology.
- Management of airplane noise.

3.3 Strategic Objectives

- Reforming the urban public transport system.
- Promoting and developing of public transport system.
- Completing the already designed urban and interurban network.
- Completing of the Geographic Information System for the urban network.
- Introducing Intelligent Transport Systems.
- Reduction further noise emissions from airplanes.
- Improving cooperation between the competent authorities so that the criteria for issuing built-up permits close to the airports become stricter.
- Promoting of the Emissions Trading Scheme for airplanes.

3.4 Actions

- Keep records with information and introduce them in the Geographic Information System.
- Implementation of Intelligent Transport System.
- Reforming and upgrading the urban public transportation system.
- Specific projects, including the construction of certain highways, the completion of unfinished plans and roads, studies about improvement of traffic management, and implementation of action plans for safety need to be completed.
- Modernization and replacement of buses.
- Installation of new robot ticket machines for public transport.
- Determination of new spots and specifications for the stages regarding public transport system.
- Investments in Advances Transport Telematics (ATT)
- Scalable working hours for public transport.
- Determination of new route ways of the buses.

4. Sustainable Consumption and Production

4.1 – 2 Current Situation - Challenges

The gradual adoption of sustainable consumption and production policies would lead to the “greening” of the market, through the development of intelligent, sensitive and environmentally aware consumers who in their turn would direct demand towards environmentally friendly products and technologies.

This “greening” process based on the use of market based instruments and not “command and control” measures such as legislation, is considered as a major challenge by the state authorities. The adoption of voluntary instruments which would lead to an increase in environmental performance can be promoted through the provision of incentives both technical and financial. These incentives should be provided in such a way so as to enable organizations to realize the long term benefits of the “environmental tools”.

Apart from the general challenges faced, the widespread application of market based instruments in Cyprus results to further considerations. A major issue is the small size of companies, taking into account that 99% of organizations are SMEs, most which belong to the lower range of the category. This, coupled with the lack of economies of scale, due to the small size of the country, makes the adoption of voluntary instruments more difficult. The small size of the industry does not create favorable conditions for the promotion of research in technology but rather promotes imports.

Additionally the companies in Cyprus have been literally “bombarded” with requirements from the *acquis communautaire* enforced after the accession of the country to the EU in 2004, thus showing hesitance in adopting voluntary environment tools.

4.3 – 4.4 Strategic Objectives - Actions

Green Procurement Action Plan for Cyprus

The Green Procurement Action Plan for Cyprus has been formulated for the period 2007-2009 and has been in force since March 2007. The overall budget of the Action Plan amounts to approximately 1.3 million Cyprus Pounds (CYP). The main sectors and targets of the Plan concern the following issues:

- (a) Office Equipment and Supplies.
- (b) Electric Equipment and Products.
- (c) Cleaning and Hygiene Products.
- (d) Water Savings.
- (e) New/Refurbished Buildings.
- (f) Food and Products.
- (g) Cars/Internal Combustion Engines.

ECOLABEL

The promotion of ECOLABEL (European Eco-Label) is conducted through information campaigns particularly for the product groups where interest has been shown by the industries (tourist accommodations, bed mattresses, paints and varnishes, cleaners, soaps and shampoos). There are two companies which have the ECOLABEL; one for the product group of paints and varnishes and the other for tourist accommodation.

EMAS

Many seminars have taken place in order to make the European Eco Management and Audit Scheme known in Cyprus. A subsidy has also been announced in 2007 to provide an incentive for organizations to participate in the scheme. Cyprus also participates in the EMAS EASY promotion project financed by DG Environment, together with 6 other Member States of Southern Europe. EMAS EASY has as a main purpose the training of consultants for the implementation of a simplified EMAS, a methodology particularly suited for SMEs.

Production and Consumption of Energy

Several actions have been taken towards the greening of production and consumption of energy. These are the following:

(a) Expansion of the Centre for Energy Applications

Within the overall target of upgrading the centre, the establishment of newly developed systems for experimental control of solar collectors and systems for water heating is planned for the near future. It is estimated that the centre will be monitoring 30-40 collectors, for 30-40 solar systems and 30-40 water heaters.

(b) Energy Guide for Fuel and CO₂ Emissions

The guide is provided at no cost to all the new car sales centers in order to inform the consumers on fuel economy and CO₂ emissions.

(c) Energy Labeling of Household Appliances

The main purpose of this action is to inform consumers through an informative leaflet or label which is placed on the appliance on the consumption of electricity used.

(d) Insulation of the hot water distribution system

The preliminary work for the issuance of a Decree on the minimum width of the thermal insulation on the hot water and storage systems in houses has been completed.

(e) Cogeneration of Heat and Electricity

The main purpose of the action is to promote the technology of the combined production of energy and heat due to its high efficiency. This is based on the high demand for useful heating and savings of primary energy.

(f) Energy Efficiency of Office Equipment

This action concerns the provision of information to consumers to buy energy efficient office equipment.

(g) Thematic Park on Renewable Energy Sources and Energy Efficiency

In the Park the relevant technologies to both renewable energy sources and energy efficiency will be exposed. The park is intended to be visited by students, scientists and lay people and therefore could become a centre for information and awareness on "green" energy.

Water management

The main target focuses on the wider use of recycled water originating from the waste treatment plants, mainly to agriculture, where today 70% of the total water resources are used. A Code of Practice has been prepared containing all the information for farmers on the use of recycled water.

Transport

The measures adopted for the promotion of sustainable energy use for transport are the following:

- 15% reduction on import tax of small and medium size cars.
- 15% reduction of import tax of cars with CO₂ emissions less than 150 gr/km and 10% fine on cars with CO₂ emissions more than 275 gr/km.
- No tax on import and registration of electric cars and 50% reduction on hybrid cars.
- Incentives for withdrawal of 15 year old cars and above.
- Tax from the import of cars which will be invested in public transport.
- Subsidy for hybrid cars at the level of 700 CYP.
- Subsidy for fuel flexible vehicle –FFV/Dual Propulsion Vehicle at the level of 700 CYP.
- Subsidy for the buy of electric car at 400 CYP.
- Subsidy for the buy of a low CO₂ emissions car (less than 120 gr/km) at the level of 400 CYP.

5. Protection and Management of Natural Resources

5.1 Current Situation

Atmosphere: The major sources of industrial atmospheric pollution in Cyprus originate from electricity generation and the cement production industry. The air quality is generally good, excluding concentrations in suspended particles (PM₁₀) and ozone (O₃), which owe their high values to the hot climatic conditions and trans-boundary air pollution.

Forests: The largest forests are found in Troodos and Pentadactylos mountains, which are the highest in the country. The state (government-owned) forests constitute 17,7% of the island's total area and mainly comprise of pine trees (*Pinus brutia* and *Pinus nigra*), shrubs and broad-leaved vegetation along water bodies (*Platanus orientalis* and *Alnus orientalis*). The greatest threats to forests are fires and urban development.

Water Resources: The water resources of the island are dependant on rainfall and are affected negatively by annual droughts, which are largely induced by climatic changes. Two desalination plants provide an additional 30 million cubic meters per year (m³/ y) and 17 million m³/ y are derived from water recycling. Since 1970, annual rainfall has been reduced by as much as 15%. As a result, the island is under pressure in terms of water availability. The annual demand is around 266 million cubic meters (m³), with present day reservoirs being able to carry 327 million cubic meters.

Marine Environment: The consumption of products deriving from the marine environment reaches 19 kilos per person per year (19 kg/ capita/ year). Although the aforementioned amount is relatively small, products resulting from fishing activities cannot satisfy the demand of the local population. Eastern Mediterranean is undoubtedly a "poor" sea. As a result aquaculture has developed rapidly, being associated with an array of negative environmental impacts.

Biodiversity: Cyprus, being an island, is characterized by a rich biodiversity largely because of the high degree of endemism it presents. Avifauna in particular, is unique. In order to preserve this national treasure, 37 areas have been proposed for inclusion in the "Natura 2000" network of protected areas, among which 6 are marine habitats. Other measures are taken in order to conserve and manage biodiversity, include being a party in 6 international environmental conventions, educating the public, and controlling non-indigenous species.

Agriculture: Among a vast array of agricultural products, grapes, potatoes, citrus fruits and olives, dominate the market. The last few years have indicated a declining trend in local agricultural practices, due to the fact that the rural population is continuously shrinking. Abandoned agricultural land in rural and mountain areas has resulted to negative environmental impacts. Various incentives have been presented by the rural development plan 2007-2014, in order to minimize the observed urbanization and maintain rural practices.

Mineral Resources: The ophiolite geologic complex introduces a diversity of minerals including chromite, sulfur, copper, gold and asbestos, although mining the majority of these resources are not economically worthwhile any more, except from copper which has escalated to higher prices internationally. Mining operations take place in the greater Troodos area where the ophiolite complex is found. Thirty six mining operations have been abandoned and the sites are being restored to their natural condition, in order to avoid further deterioration of the local landscape.

5.2 Challenges

Atmosphere

Implementation of the legislation regarding air pollution control and design of an integrated and preventative management system.

Forests

Management of forest fires and negative effects of climate change.
Effective implementation of forests that are part of the "Natura 2000" network.

Water Resources

Meeting local demand for high quality water resources.
Control of water pollution, the introduction of alien species and the destruction of valuable wetland habitats.

Marine Environment

Conservation of fish stocks and control of marine water quality.

Coastal Areas

Management and effective planning promoting sustainable coastal development.
Control of urban and rural sprawl in coastal areas of outstanding natural beauty.

Biodiversity

Long term implementation of the "Natura 2000" management plans.
Protection and management of biological resources that are privately owned.

Agriculture

Promotion of local quality products to the national and international markets.
Conservation of traditional agricultural landscapes.

Mineral Resources

Sustainable management of abandoned mining operations.

5.3 Strategic Objectives

Atmosphere

Establishment of good air quality standards, with air pollution concentrations being below the threshold values.

Forests

Maintaining (and increasing, where possible) the forest area and improving ecological quality of forests.

Water resources

Sustainable management of water resources
Management measures to ameliorate and if possible reverse drought.

Marine Environment

Sustainable management of marine resources and promotion of fishing practices which are friendly to the environment.

Coastal Areas

Implementation of methods and management techniques which will ensure sustainable coastal management.

Biodiversity

Management, protection and sustainable development of the "Natura 2000" network and the associated populations of flora and fauna.

Agriculture

Improvement of the competitiveness regarding trade in local products.

Mineral Resources

Sustainable management of mineral resources and effective restoration of abandoned mining operations.

5.4 Actions

Atmosphere

- Use of fuels which contain less than 1% sulfur.
Installation of efficient systems in electricity generation units.

Forests

Implementation of a national plan designed to effectively deal with forest fires.
Reforestation of areas affected by fires.
Ensuring respectable financial resources to obtain equipment (eg. helicopters for fires).

Water Resources

Implementation of a national plan for water resources.
Implementation of a water quality monitoring programme.
Employment of water tax by 2010, in order to promote water conservation.

Marine Environment

Inclusion of marine areas of high ecological value in the "Natura 2000" network.
Effective management of marine water quality and marine resources
Monitoring of fishing stocks and promotion of sustainable fishing practices.

Coastal Areas

Implementing the various actions of the Integrated Coastal Zone Management Program.

Biodiversity

Development of management plans for the "Natura 2000" network.
Management and control of non-indigenous species and species protected by the CITES Convention.
Coordinating actions as National Focal Point to 6 international environmental Conventions.

Agriculture

Modernization of agricultural developments, in order to be financially competitive.
Incentive measures offered to new farmers.
Implementation of the rural development plan 2007-2014.

Mineral Resources

Monitoring of the amount mineral resources for future employment.
Integrated planning regarding the development of mining operations.
Restoration of abandoned sulphite and asbestos mines.

6. Public Health

6.1 Current Situation

The Health Indicators show that the health levels of the population in Cyprus are high. The 2004/05 average life expectancy was approximately that of the EU. Infant mortality has decreased from 17.2 per 1000 births in 1980 to 4.6 per 1000 births in 2005. However, the population is aging with the current birth rate being 1.42%, and the percentage of the population of children under 15 dropped to 18.4%, while the percentage of adults over 65 rose to 12.14%.

The main health related problems in Cyprus involve chronic diseases including cardiovascular and cerebral diseases, hypertension, cancer and diabetes.

Infectious Diseases: in 2006, 510 cases of 28 types of infectious diseases were reported. The most common included chicken-pox, salmonella and viral meningitis. The Health Services are in a state of continuous alert to ensure rapid response to any potential outbreaks.

HIV/AIDS: Cyprus is one of the low HIV/AIDS frequency countries. However, due to the continuous movement of people in and out of the country and the increasing drug-use, there is a relative increase and the Health Services are continuously monitoring the population.

Mental Health: promoting mental health and preventing mental illness are very important for both the government services and for the citizens.

Alcohol: the average age for the first incidence of drunkenness is 16.5 years. 5.6% of people between 15 and 24 years of age report excessive alcohol consumption at least once per week.

Smoking: 38.1% of adult men and 10.5% of adult women smoke. 650 annual deaths are attributed to smoking with the financial burdens reaching 230 million euro per year.

Obesity: Diet: 9.1% of girls and 10.3% of boys, ages 6-18, are obese and 13.1% of girls and 16.9% of boys are overweight. The prevalence of obesity is a lot higher in men than in women.

Chemicals: there is a very small industry which imports raw material to produce mainly paints, medicinal products, and pesticides.

Animal Diseases: the most important problem is scrapie in sheep and goats. Other diseases being closely monitored include: cattle brucellosis, avian flu, cattle tuberculosis, enzootic bovine leucosis, Aujeszky and other swine diseases.

Drinking and Bathing Water: other than the municipal water supply, the quality of bottled, vending machine and truck-delivered water is also monitored. The chemical and microbiological quality of the water is high. Heavy metals and pesticides are under detectable levels. Cyprus' bathing waters are the safest in Europe with the blue flag awarded to various beaches.

6.2 Challenges

The main challenges are listed as follows:

- Development of biomedicine, medical technologies, and the technical management of health.
- Population aging.
- Climate change.
- Genetic and biological factors.
- Behavioral and habitual factors.
- Environmental factors.
- Danger of applying new medical methods.
- Quality and safety of blood and blood contents, human tissue and cells.
- Development of tolerance to antibiotics.
- Problems in the organization of the Health Services.
- Information sharing and dissemination of knowledge.
- Food safety.
- Lack of management culture that will allow for higher productivity and quality of services.
- Globalization of trade and increased import of products with demand for increased safety checks, inspections and monitoring.
- Trade across the Green Line.
- Drought and water scarcity.

6.3 Strategic Objectives

The main goal is the continuous improvement of health via disease prevention and organization and supply of quality medical services.

For the period 2007-2013, the strategic plan includes the following:

- Development of the appropriate infrastructure so that the Health System can meet the increased needs of the population for higher quality and more affordable medical care.
- Design and enforcement of educational programs and programs focusing on health prevention and promotion based on current understanding of science and communication.
- Protection of health and of the physical and mental wellbeing of the population as an essential prerequisite for the improvement of economic competitiveness.

6.4 Actions

Development and Improvement of Health Services:

- Introduction of the General Health Plan.
- Re-organization of the Ministry of Health and its departments, hospital autonomy.
- Development of autonomous peripheral health centers.
- Encourage cooperation with private sector.
- Establishment of Medical, Pharmaceutical and other relative Schools.

Handling Health Threats:

- Continuous informing families, teachers and the overall community on the dangers and means of prevention and protection.
- Continuous education of medical professionals.
- Cost-benefit analysis of the prevention and therapeutic programs on cardiovascular diseases, cancer, etc.
- Evaluation of health information collection and dissemination.
- Development of separate programs for each sex.

Incorporating Health in all Policies:

- Development of information collection systems and monitoring programs for health risk factors.
- Development of methodology for tracing and managing risk factors.
- Development of cooperation protocols between the involved sectors.
- Informing all involved sectors of the potential health dangers and the need to adopt the prevention principle in specific situations.
- Promote the notion of Health Impact Assessment and the development of expertise for the evaluation of such assessments.
- Promote volunteerism.

Development of Public Health Programs on the following issues:

- Infectious Diseases.
- HIV/AIDS.
- Mental Health.
- Suicide.
- Drug abuse.
- Alcoholism.
- Smoking.
- Obesity/ Diet.
- Environment and Health.
- Food Quality and Safety.
- Drinking and Bathing Waters.
- Chemicals.
- Animal well-being.

7. Social Integration, Demography and Immigration

7.1 Existing Situation

The population of the area of Cyprus that is under the control of the Cyprus Government is 776.400 (2005), showing an increase of 2,6% from 2004.

An important demographic characteristic of the last decade is the continued decrease of birthrates (8.167 births in 2001, as compared to 10.000 at the beginning of the 90's), which reduced the birth-rate at 11,6 per 1000 habitats, compared to 18,3 at the beginning of the 90's. The total fertility rate in 2005 was 1,42 (1,50 in 2003) and is forecasted that it will begin to increase progressively, reaching 1,49 by 2020 and stabilising at 1,50 between 2030-2050.

The expected death age in 2005 was 77,0 for men and 81,7 for women, and it is predicted to be in 2050, 81,9 for men and 85,1 for women respectively. The percentage of population in 2006 of age higher than 65 years was 12,1%, it predicted to be 26,2%, in 2050. At the same time, the birth rate presents gradual reduction, resulting in the decrease of the workforce and the viability of the insurance system, with pensions and the job market being under threat. In addition, the rural areas are under populated with intense tendencies of urbanism and ageing of the population.

The Cyprus job market is characterized by conditions of almost full employment, with high rates of employment (73% for 2006) and low rates of unemployment (4,5% for 2006). The early school drop-outs of age 18-24, was 18,2%, in 2005.

In 2004 the poverty risk for the general population was 16% (EU-25: 16%). For the population of age 65 and above, the rate was 51%¹ (EE-25: 18%), while for the children of age 0-15 years old the rate was 12% (EU-25: 20). Among the most vulnerable population groups that are under the risk of poverty, are people living alone (48%), one-parent families (35%) and individuals who are 65 and above (51%). In 2004, 88% of the population was living in privately-owned residences or they had free housing.

Cyprus's economy over the last years is characterized as satisfactory with high rate of development (3,6%, in 2006) and a relatively constant indicator of inflation (2,4, in 2006). The budgetary deficit has showed a tendency for reduction, reaching the 1,4% of the GNP in 2006, while the public debt has decreased to 65,3% of the GNP in 2006.

The sectors of real estate management, hiring and enterprising activities, wholesale and retail trade, transport and communications, and hotels and restaurants dominate the economy of the country. The productivity in Cyprus in 2005, according to EUROSTAT was 80,8 % of the mean of EU-25(16th).The total fixed investments of Cyprus were at 18,9% of the GNP reaching the mean of EU-25 (19,9%).

In Cyprus there is only one social insurance policy system that covers all the categories of workers and all professions. The policy provides protection with the following payments:

- Retirement Pension.
- Minimum Pension.
- Social Pension.
- Special Subsidy to Pensioners.

For the period 2004-2006, the basic pension has increased by 12,8%, according to the increase of the indicator of insured acceptances. Also, additional pensions increased 9,26%, the same as the increase in the indicator of consumer prices for the same period.

The mean total pension of social insurance (basic and additional) increased by 12,5% for men and 13,1% for women. The pension increase for widows was 11,7%, while the increase in the mean pension of disabled people was 10,3% for men and 12,5% for women.

7.2 Challenges

- The reduction of the risk of poverty among the persons above the age of 65, aiming at the increase of the income of households that live under the limit of relative poverty.
- The integration of vulnerable teams in the job market with an increase of the percentage of individuals of age 55-64, of women, of people with disabilities and of recipients of public aid in the work force.
- The prevention of social exclusion of mainly children, through, education, considering that poverty and social exclusion are connected with the level of education.
- Collaboration of programs of the governmental authorities, local authorities and non-governmental organizations with objectives of social incorporation.
- Promotion of unexploited domestic sources of work, such as inactive women, individuals of old age and individuals with disabilities.
- Problems of young citizens regarding their integration in the job market and specifically in employment issues (unemployment among people between 15-24 was 10% in 2006, comparing to the general percentage of unemployment that was only 4,5%).

7.3 Strategic Objectives

Reduction of danger of poverty: the target set is the reduction of general percentage of danger of poverty at 14% by 2010.

Integration of vulnerable groups in the job market: the integration and rehabilitation of the disadvantaged and vulnerable groups in the job market are one of the priorities of National Reform Program (reaching 63% and 53% rate of employment for women and individuals of older age respectively until the year 2010).

Prevention of social exclusion of children: prevention of premature drop-outs from school, access of children of immigrants in secondary education, improvement of infrastructure of information science in public schools and extension of day-long schools in all elementary schools are some of the targets.

Establishment of an integrated and cohesive demographic policy for confrontation of demographic challenges: in 2008 a study will be developed for the establishment of a demographic policy and the specific sectors of intervention for confronting demographic changes.

Increase of presence of women and workers of old age in the job market: increase of employment rate of women at 63% by 2010 and increase of employment rate of citizens above 65 at 53% by 2010.

Increase of the general rate of employment to 71% up to 2010: promotion of the employment of young individuals and increase of the attendance of individuals with disabilities in the work force.

Encouragement and reinforcement of economic activities of women in the sectors of self-employment, small and medium business and part-time employment.

Growth of social infrastructures and other measures that strengthen the harmonization of professional and family responsibilities of men and women.

Change of mentality and stereotype perceptions with regard to the social roles of sexes, with the use of education, information/sensitization, the change of projection of traditional models from the media, etc.

Improvement of socio-political conditions for the balanced attendance of women in the decision-making centers.

Youth: promotion of social integration and cohesion issues, equality, access in the job market and employment and education of youngsters specifically those with fewer opportunities.

Replacement of low added value with high added value with parallel exploitation of human resources and reinforcement of applied research and growth in the productive process.

Abolishing of counter-productive practices and institutions in the public service.

Development of a productivity culture.

Promotion of targeted inquiring actions on productivity issues.

7.4 Actions

Reduction of danger of poverty

- Public Aid.
- General System of Social Insurances (for all workers in Cyprus).
- Social Pension.
- Special Subsidy for Pensioners.
- Social Card for Pensioner (special reductions in various public services).
- Benefits for Children (for all families independently of how many children they have).

Integration of vulnerable teams in the job market

- Individualized guidance and support.
- Policy of employment of foreigners.
- Professional Training (unemployed, recipients of public aid, financially inactive women, graduates of secondary education, individuals with serious disabilities).
- Minimum Wage (it will be progressively increased to the 50% of national median wage up to 2008).

Youth

- System of Apprenticeship.
- Plans for granting economic assistance for rehabilitation of former dependent persons.
- Computer courses for deaf young people.
- Pilot programs of creative expression.
- Community Initiative «EQUAL» (Network for the Promotion of Juvenile Employment).
- Juvenile Business Dexterity (50% subsidy of their eligible expenses).
- E-Learning.
- Human Rights – Cross-cultural Learning.
- Program "Proposal" - Advisory Services (for neglected students).
- Prevention Centers.
- Reinforcement of activities of young people.

Women

- Assistance for care of children and other dependent individuals for encouragement of integration and rehabilitation of women in the job market.

Individuals with Disabilities

- Center of Professional Reinstitution of Disabled (40 participants per year).
- Plan for self-employment of individuals with serious disabilities.
- Plan for professional training of individuals with disabilities.
- Plan for the employment of individuals with serious handicaps.
- Plan for motivating individuals with serious handicaps.
- Unit of labour re-institution of mental patients.

Prevention of Social Exclusion of Children

- Promotion of areas of educational priority.
- Program of reinforcing teaching (for the illiterate children of elementary schools).
- Programs of literacy (for students of high schools).
- Support of children with special needs (use of special teachers).
- Promotion of technologies of information science and communications.
- Pre-school education.
- Day-long school (for the year 2005-6 operated 150 elementary schools and 9 kindergartens).
- Cross-cultural education.
- Informative program of the dangers of drug use .
- Establishment of an integrated and cohesive demographic policy for confrontation of demographic challenges.

Increase in the Rates of Employment

- Reinforcement and modernization of public service.
- Increase of attendance of individuals with disabilities in the job market.
- Professional training and promotion of recipients of public aid at employment,
- Promotion of flexible forms of employment.
- Promotion of training and employment of financially inactive women.
- Promotion of training and employment of the unemployed population.
- Intensification of electronic literacy for the unemployed population.
- Promotion of training and employment of new graduates of schools of secondary education.
- Upgrade and modernization of a system of apprenticeship.
- Training newcomers in the employment on issues of health and safety.

Replacement of low added value with high added value with parallel exploitation of human resources and reinforcement of applied research and growth in the productive process.

- Transition from job positions of low added value to job positions of high added value
- Improvement of the quality of work.
- Exploitation of human resources.
- Support of incorporation of research and development in businesses aiming in the improvement of production procedures, products and services.

Abandonment of counter-productive practices and institutions in the public service

- Application of mechanisms of direct intervention.
- Diagnostic work.
- Simplification of procedures.
- Introduction of performance measuring systems.

Development of culture of productivity

- Cultivation of the significance of productivity in all the levels of education.
- Promotion of the reward of companies, organizations and public services for improved productivity.
- Measurements of productivity in companies.
- Promoting publicity activities.

Promotion of targeted inquiring actions on productivity issues

- Promotion of collaborations in the research sector.
- Planning and preparation of specific studies.

8. Global Challenges

8.1 Current Situation

After Cyprus joined the European Union in 2004, the policy regarding developmental collaboration was redefined, so as to be aligned with the priorities of European Union. The philosophy that serves, as a basis for Cyprus's policy for Developmental Collaboration focuses on the achievement of the Millennium Developmental Objectives. Cyprus consistently supported the efforts of European Union for growing improvement of the standard of living for recipients countries in a way so that fair distribution of world wealth is ensured, protecting at the same time the environment and the right of future generations for an environmentally sustainable planet.

Cyprus supports all efforts that aim in an effective and efficient developmental aid, in order to reach those for which it is intended for and need it more. The Cyprus government is aligned with efforts aiming at the improvement of collaboration and co-ordination between the donors and the recipients at a national, regional, and international level. The suitable distribution of burden between donors and the cohesion of developmental policies are critical factors for the promotion of colliding and competitive programs. For this reason, the Cyprus government selected the methodology of concession of help via delegated cooperation with EU member-states, which provide the infrastructure and the experience of implementation of work in the recipient's countries.

The distribution of Developmental Aid in various sub sectors for years 2004-2006 is as follows:

- Humanitarian help: 20%
- Contribution to international organizations: 70%
- Technical assistance: 10%

8.2 Challenges

Cyprus phases a series of challenges on the issue of Official Developmental Aid, and, specifically, on the growth of possibilities and administrative infrastructure for the efficient and effective contribution in the obliteration of poverty and the upgrade of the standard of living and prospects in developing countries. These obligations are the result of the determined political commitments of the European Union. Specifically, for new member-states, it is recommended that their policy aligns with the following:

- The achievement of quantitative and qualitative objectives of concession of help with orientation to the countries of Africa, particularly the sub-Sahara region,
- the concession of one third of the aid in social sectors,
- the co-ordination and collaboration between donors for the maximization of effectiveness of the assistance,
- the distribution of work aiming at maximum efficiency.

The quantitative objective for Developmental Aid concerning the new member-states and specifically Cyprus is:

- The target of 0.11% of the Gross Domestic Product (GDP) up to the year 2006.
- The target of 0.17% by 2010.
- The target of 0.33% by 2015.

For the years 2004 and 2005, Cyprus reached the values of 0.04% and 0.09% respectively, while for 2006 this percentage increased to 0.13%.

At a national level, the challenges that are faced include the need for increased public awareness on issues of developmental help, as well as the involvement of non-Governmental Organizations (NGOs) in the issues of concession of developmental help.

8.3 Strategic Objectives

The Cyprus Developmental Aid aims at the efficient and effective distribution of help and the maximization of benefits for the recipient countries. The objectives of Cypriot Developmental Aid are summarized as follows:

- Promotion of Sustainable Development.
- Focusing on the efforts of achieving the Millennium Developmental Goals, and more specifically the objective of obliteration of poverty.
- Exploitation and utilization of comparative advantages that Cyprus has, aiming at the achievement of the developmental goals.
- Improvement of efficiency and effectiveness of Developmental Aid.
- Collaboration with other EU member-states and international organizations in a joint effort for assisting third world countries
- Progressive increase of assistance so that it corresponds to the obligations of the European Union.

Geographical Orientation:

After the accession of Cyprus in the European Union and the implementation of the necessary changes regarding its obligations in the sector of developmental help, there has been a redefinition of the framework on developmental, technical and humanitarian aid. The geographic orientation of the Cyprus Official Developmental Aid was transferred from the countries of Eastern Europe and the countries in the Community of non-aligned countries to the region of Africa and the countries of European Neighborhood. The Cyprus Developmental Aid is now directed to a number of countries where Cyprus provides specialized forms of technical aid, such as scholarships, education through work and technical equipment. The countries to which Cyprus provides aid are Armenia, Azerbaijan, Bosnia-Herzegovina, Gambia, Georgia, Iran, Indonesia, Kazakhstan, Kyrgyzstan, Moldavia, Bangladesh, Uzbekistan, Pakistan, Sudan and Tajikistan Egypt, Mali, Lesotho, and the Autonomous Palestinian Area and Lebanon.

Thematic Priorities:

The thematic priorities of the Cyprus Official Developmental Aid take into consideration the comparative advantages of the country and the Millennium Developmental Goals. They are separated in the following four sectors:

1. Social Sectors and Services: governmental departments and non-governmental organizations allocate experience and specialization in the sectors of services, health, education, tourism, growth of human potential, promotion of equal treatment etc.
2. Development and improvement of infrastructure: Cyprus provides its wide experience in the private and in the public sector regarding road construction and transport infrastructure, dams and sewage systems, irrigation systems, infrastructure of solar energy systems, forestry management, telecommunications infrastructure, health services etc.

3. Environment: promotion of new policies regarding environmental protection, land use planning, urban planning, environmental monitoring, assessment of environmental impacts, protection of public health specifically concerning the use of chemicals and insecticides, protection of marine environment, atmospheric protection, management of noise, etc.
4. Education: The experience of Cyprus in the sector of education and the existence of high level public and private academic institutions provides the appropriate tools for the recipient countries to benefit from technical aid and educational services.

8.4 Actions

Actions in the following priority countries:

- Lesotho: in cooperation with Ireland, Cyprus is promoting the development of an orphanage house.
- Mali: in cooperation with Belgium, Cyprus is promoting an integrated program of waste management.
- Egypt: partial financing of a program under World Food Program for providing lunch to children under the age of 6.
- Yemen: in cooperation with Germany, Cyprus is promoting a program for improving the health of mothers.

A number of long and short term scholarships are provided for specific educational programs at academic institutions in Cyprus.

Cyprus supports the promotion of the transformation of the United National Environment Programme into a specialized organization within the UN. Having this in mind, Cyprus has participated at the First Friends of the UNEO (United Nations Environment Organization) Group held in Agadir in April 2007, and will continue to support and participate in all future efforts towards the goal set.

9. Urban Development

9.1 Current situation

Nicosia, Limassol, Larnaca and Paphos are the only urban settlements under the legal control of the Republic of Cyprus, and their population is less than the European standard of 250.000 inhabitants. Despite their size and weakness to achieve economies of scale, they have the potential to function as development poles. It is expected that these poles, in association with the rural areas of their influence, will function in the framework of multi-centrism, which consists the basic axis of the European territorial strategy. The above mentioned towns represent the 70% the island's population. The historical centres of the towns, like the centres of other European towns, face problems of degradation and under-development.

Cyprus has gradually transformed itself from an exporter of agricultural products and minerals in the period 1960 to 1974 and an exporter of processed goods in the second half of the '70s, to a major tourist destination and services centre. This focus on the tertiary level of production and the ensuing concentration of the economic activity in the urban centers and coastal areas caused spatial inequalities between these economically active areas and other rural areas.

The absence of town planning zones in many areas, and even their existence in some cases, did not provide the necessary guidelines as a framework of a wider planning and design, for the promotion and control of the land development in such a way as to protect the natural and human-made environment. Further to the deficient institutional framework, other economic and social characteristics, and the real estate mechanisms contributed to the uncontrolled proliferation of building plots and isolated houses in the town outskirts as well as inner town empty building plots. The extensive division of the land ownership was the essential obstacle for designing and implementing united and properly organized developments.

9.2 Challenges

The Republic of Cyprus seeks to resolve the following characteristics through the strategic and political measures:

(a) Urban Structure: the radial and concentrated structure of urban settlements was developed on the basis of the traditional road network. This lead to the overload of the main arteries with commercial and other uses, degradation of the environment and traffic congestion.

(b) Land Use: the proximity of incompatible land uses affects negatively the quality of the housing, work and recreation environment, causing risks on human health.

(c) Urban Development Sprawl: the sprawl of housing or other development with the interruption of empty undeveloped plots and land render the construction of infrastructure economically non-sustainable.

The Local Plans of Nicosia, Limassol, Larnaca and Paphos for the year 2003 (revision year 2006), identified that the capacity of certain housing zones is a multiple (ratio population to capacity is envisaged 1:2.6 – 1:3.9) of those expected to live in the year 2012. The General Development Strategy of the Local Plans is based on the concept of sustainable development and it is a spatial setting policy. This policy motivates the promotion of housing

development within the limits of controlled development combined with the declared policy for sprawl discouragement in other areas.

(d) Tourist Development: the rapid tourist development without the necessary infrastructure along the coastal zones restricts, and even in some cases eliminates public access to the sea.

(e) Ports and Industries: problems concerning the function, service, traffic, environmental pollution and negative visual impacts are connected with the ports, industries and scattered industrial installations which degrade the central areas of Limassol and Larnaca.

(f) Traffic, Accessibility of Towns, Parking, and Public Transport: the capacity of the road network is limited due to dependence on private cars, uncontrolled car parking, inefficient public transport and deficient pedestrian and cyclist infrastructure connected with urban development sprawl.

(g) Free Spaces: inadequate public green and recreational spaces in urban and coastal areas disrupt the comfort of the local and visiting population. In Nicosia, Limassol, Larnaca and Paphos the green space for a resident is equal to 1.4, 3.9, 3.0 and 3.0 sq.m, respectively, in comparison to some European capitals which have indices greater than 10 sq.m.

(h) Architectural Heritage: the natural damage and demolition of protected and other historical buildings for the construction of new and low aesthetic buildings lead to the interruption of the historical continuity and the degradation of the historical centre of the town centres.

(i) Gradual movement and ageing of local population: the percentage of the elderly population live in Nicosia, Limassol, Larnaca and the down town of Paphos is 16.8, 29, 18, 11.6%, respectively. The movement of the population from the centres to the outskirts of the towns creates new areas of social exclusion and degraded life quality, and leaving inhospitable deserted buildings (9% in urban areas) and public spaces.

(j) Infrastructure: the incompleteness of the basic infrastructure projects, e.g. sewage system, pavements, etc, results to the lack of service to the population.

(k) Social-cultural Infrastructure: the inadequacy of the social infrastructure that appears in the urban centres such as multipurpose centres, centres for children and elderly people, health centres as well as of the cultural infrastructure, reduces the life, work and entertainment of both the locals and visitors. A possible future establishment of cultural infrastructure could on one hand enhance the cultural resources of the country and on the other contribute to the coupling of culture and tourism to the social and economic benefit of the Republic.

In May 2004, Cyprus entered the EU with positive perspectives for the improvement of its economy and the standard of living for its citizens. In this framework, urban development focusing on sustainable development represents a real challenge and a substantial need. Urban environment needs action at national and local level in order to enhance the legal framework for economic and social progress and cohesion.

9.3 Strategic Objectives

Strategic Development Plan 2007-2013: define the medium-term strategic objectives for sustainable economic development with social cohesion in Cyprus.

The general strategic objective will be achieved by three specific strategic objectives, which are: the improvement of competitiveness; the comprehensive and qualitative employment and strengthening of social cohesion; and the promotion of sustainable development.

The Strategic Development Plan 2007-2013 determine the 7 basic Development axes:

- Axis 1: Enhancement of economy competitiveness.
- Axis 2: Strengthen of social cohesion.
- Axis 3: Improvement and protection of the environment.
- Axis 4: Improvement of quality of life.
- Axis 5: Improvement of access: expansion and improvement of the basic infrastructure.
- Axis 6: Continuous development of the human workforce.
- Axis 7: Balanced spatial and rural development.

The framework of the National Strategic Reference Framework identified the following 5 thematic priorities:

- Thematic Priority 1: Enhancement of the Production Basis of the Economy and Support of Businesses.
- Thematic Priority 2: Human Resources, Employment, Social Cohesion.
- Thematic Priority 3: Infrastructure for the Environment, Transport and Energy.
- Thematic Priority 4: Establishment of Viable Communities.
- Thematic Priority 5: Building the Knowledge Based Society and Promotion of Innovation.

National Reform Programme: a 3-year action plan for the involvement of Cyprus in the achievement of the objectives according to the Revised Lisbon Strategy. A specific reference will be done on the following 2 objectives:

1. Balanced spatial and rural development: the main objective is the balanced spatial and economic development of the urban and rural areas. The specific objectives for the urban development involve the convergence of development and income level between the urban and rural areas, the economic and social revival of the degraded urban areas, and the enhancement of the local authority principles. The above mentioned objectives for urban areas will be achieved by intervention on the priority axes, which are the development of the degrading urban areas and areas nearby the green line and the decentralisation of authorities and resources to local level.

2. Establishment of viable communities: the term “viable communities” refers to the natural space of the settlements and to the social group that constitute them. These communities contribute to the improvement of the quality of life by being safe, with the optimum structure of buildings and their management, and support the public participation in the decision-making process. This objective can be achieved by the combination of horizontal and focused interventions in specific urban areas.

9.4 Actions

Balanced spatial and rural development:

Development of degrading urban areas and areas nearby the green line: the main objective is the social and economic convergence between urban sub-areas, focusing on those that are close to the green line. To achieve this, several actions must be implemented, such as, the reinforcement of business activities, the re-integration of isolated population groups and the improvement of the natural and human-made environment in order to achieve economic development and improve the quality of life of these areas by the following measures:

1. Development of social structure: incorporation of the citizens of the degraded urban areas in the broad community through the expansion of opportunities of socio-cultural activities and the facilitation of access to the public services.

2. Enhancement of business activities: this can be done in degraded areas resulting to the enlargement of local opportunities for qualitative employment.
3. Upgrading of basic infrastructure and urban environment: improvement of the degraded urban areas for housing, employment and entertainment uses that can be achieved by the incorporation of environmental parameters in the town planning process.

Integrated Urban Areas Revival Plans

The main objective is the socio-economic enhancement of selected urban areas (in wall centre of Nicosia, Kaimakli, Pallouriotissa and Agios Dhometios), is to attract new investors, citizens and visitors. This measure promotes the improvement of the natural and human-made environment through the rehabilitation of public spaces, restoration of buildings, creation of squares and green spaces, provisions for social services, development of businesses and application of Geographical Information Systems (GIS).

Establishment of viable communities

The establishment of viable communities concentrate on spatial actions for the enhancement of the urban centres' role in the framework of EU directions for the urban development, as well as, the differentiation of the rural areas' economy and the improvement of their citizens' quality of life, which aim to reverse the demographic situation. The specific objectives and the expected results of the proposed actions are:

1. Appointment of cultural resources and enhancement of cultural infrastructure: this objective comprises important axis for the quality of life improvement in the urban centres and the rural communities, but also enforce the effort for enrichment of tourist product and development of services.
2. Urban revival: the basic parameter should be the creation of a local dynamic, in order to safeguard the long-term viability development.
3. Corporate programme for the sustainable development and competitiveness: this objective aims to improve the competitiveness of the economy in the framework of sustainable development. This programme consists of five priority axes:
 - 3.1. Basic Infrastructure on the field of environment and energy.
 - 3.2. Basic transport infrastructure.
 - 3.3. Community of knowledge and innovation.
 - 3.4. Productive environment.
 - 3.5. Revival of the urban and rural areas.

Synergies with Other Thematic Strategies

Synergies between many policy areas can be developed, giving improved results, both for the environment and for the overall quality of life in the urban areas. Appropriate measures are introduced for the achievement of sustainable development objectives, in order to contribute in the followings:

- Sustainable urban design will help to reduce sprawl and improve the economic and functional structure of towns aiming at the improvement of life quality.
- Sustainable urban transport plans will help to reduce pollution and noise, encourage cycling and walking, improve health and enhance accessibility within and outside the towns.
- A long-term basis programme on tourist carrying capacity in urban areas focusing on competitiveness of the tourist product's quality.
- Concentration of industries in certain areas, efficient functions of ports and airports and cross-function of these and others uses in spatial planning.

- Increase the recreational and entertainment activities through an operational system of green places, pedestrian network and access to the beach.
- The promotion of new types of development of multiple urban uses in order to meet the needs of the new era of economy and employment.

Moreover, promotion is needed for the necessary institutional and administrative reforms that focus on the enhancement of country and town planning mechanisms.

10. Environmental Education and Awareness

10.1 Current situation

Environmental education began in Cyprus in the mid-1990s, with the introduction of the European Programme "Ecological Schools", mainly in primary and secondary education. Over the current decade, environmental issues have been established as the focal point of education. Since 2005, Cyprus has adopted the European Strategy on Education for Sustainable Development, the implementation commitments of which require the drafting of a National Educational Strategy for Sustainable Development.

10.2 Challenges

In Cyprus, the institution of environmental education did not advance in the same pace as in other countries of the European Union. This can be largely attributed to the fact that the priorities which guided educational policy were based on the newly formed socio-political circumstances that resulted from the Turkish invasion.

10.3 Strategic objectives

Education in relation to sustainable development in Cyprus, is based on the EU 6th Environment Action Programme "Our Future, Our Choice", the revised EU Sustainable Development Strategy, the Lisbon Strategy and the Strategy on "Education for Sustainable Development in Europe: 2005 - 2015". The guiding principles comprise:

- The three pillars: society – development – environment.
- Participatory action.
- The utilization of the local community.
- The pursuit of alternative solutions for improving the quality of life.
- Network cooperation.

The strategic objectives focus on issues of:

- Climate change and atmospheric pollution.
- Nature protection and biodiversity.
- The quality of life and the sustainable development and management of natural resources and waste.
- Energy.
- Water pollution.
- Agriculture, food and soil degradation.
- The increase in population, poverty and inequalities.
- Waste.
- National security.
- Production and consumption.
- Gender equality.
- Justice and peace.
- Health.
- The development of rural and urban areas.
- Environmental ethics.
- Human rights.
- Multiculturalism.

- Environment and civilization.
- The active and environmentally responsible citizens.

The central objective of the educational policy for sustainable development is to create environmentally responsible, aware and active citizens who will participate in decision making and in actions for the protection and improvement of the environment.

The basic objectives of the Strategic Planning focus on the formulation of an educational policy that will aim at:

- Citizens to acquire knowledge, skills and attitudes that will enable them to participate in environmental actions.
- The development of a personal and collective responsibility for the protection of the environment and for safeguarding sustainable conditions for life.
- The development of educational procedures for environmental issues.
- The consideration of environmental matters on a personal and collective basis at all levels.
- An understanding of the environment.
- The adequate training of educators.
- The promotion of modern methodological and educational approaches.
- The connection of formal, informal and non-formal education.
- The creation of educational material regarding the environment.
- The promotion of research on the various levels of education and sustainable development.
- The development of network cooperation on a national and international level, the exchange of opinions and the development of common actions for the promotion of sustainable development.
- Portraying the social character of the institution with the purpose of connecting school with the need of the local society.
- The establishment of Environmental Education Centers.
- The utilization of local knowledge, the enhancement of cooperation with local communities, and the promotion of communication networks.
- The promotion and enhancement of cooperation with non-governmental organizations.
- The strengthening of cooperation with government services.

The National Strategic Action Plan for Environmental Education covers the period 2007-2012 with an intermediate evaluation within 2.5 years of its implementation.

10.4 Actions

Organizational Framework implementation measures:

- Creation of a cross-sectoral Committee (representatives of all the Departments of the Pedagogical Institute).
- Establishment of an Environmental Education (EE) and Education for Sustainable (ESD) Development team at the Pedagogical Institute.
- Creation of an operational framework for the Environmental Education Centers and the EE programmes implemented in schools.

Detailed Programme implementation measures:

- Holistic examination of all environmental subjects, through Detailed Programmes for all levels of education.

Educational Material and Teaching Methods implementation measures:

- Creation of educational and teaching tools for EE and ESD.
- Creation of software programmes for EE and ESD.
- Creation of a database for EE and ESD.

Research – Evaluation implementation measures:

- Conduct research among educators and students to diagnose their needs in relation to EE and to investigate the obstacles for the promotion of EE and ESD.
- Promote research for the evaluation of the EE and ESD programmes implemented and the existing educational tools.
- Investigate the opinions of educators in relation to EE and ESD and diagnose their needs.

Educating Teachers implementation measures:

- Implementation of educational programmes for teachers on subjects of educational methodologies and practices for EE and ESD.
- Development and implementation of educational programmes addressed to various population groups.
- Organization of educational programmes for all administrative staff involved in education.
- Preparation of a special educational programme addressed at various professional groups for raising awareness on environmental and sustainable development issues.
- Organization of international meetings for EE and ESD aimed to transfer international experience to the educators.

New Technologies and Media implementation measures:

- Promotion of new technologies (multimedia, webpage) in school procedures on issues of EE and ESD.
- Creation of WebPages on EE and ESD.
- Promotion of network cooperation at the national and international level on issues of EE and ESD.

Cooperation at the Local and International level implementation measures:

- Development of cooperation with governmental and non-governmental organizations.
- Enhancement of international and bilateral cooperation.
- Use of European funds for the development of actions for EE and ESD.

Environmental Education Programme implementation measures:

- Expansion of current environmental education programmes and development and implementation of new ones.
- Utilization of the rural environment as a basic learning tool through the promotion of environmental education programmes carried out in the countryside.
- Promotion and implementation of European Environmental Education Programmes and ESD Programmes in the framework of interstate partnerships.

Environmental Education Programmes implementation measures:

- Creation and promotion of a network of EE centers.

Building Infrastructure implementation measures:

- Promotion of environmental management in schools.

11. Research, Technological Development and Innovation

11.1 Current Situation

In Cyprus, there has been a considerable progress in the field of Research and Development (R&D) over the last years. The expenditure on research has increased from 0.18% of the GDP in 1992 to 0.37% of the GDP in 2004. This progress is mainly attributed to the growth of public research.

The number of researchers has also significantly increased over the last years. It has almost doubled over the period 1998 to 2004. The number of full-time researchers in 2004 was 1017, an increase from 922 in 2003.

Despite the progress, the expenditure on R&D in Cyprus remains very low in comparison with other EU countries (24th of the 25 MS). It should be noted that the EU25 average is 1.95% of the GDP. Furthermore, the contribution of the private sector has reached only to 28% which is way below the EU target of 67% granting Cyprus the last place among member-states.

The improvement in R&D is hindered by a number of factors such as the inadequacy of infrastructure, the small number of research centers and the limited involvement of private enterprises in research due to the fact that the majority of them are SMEs. Another factor is the absence of universities and institutes which were only established in the '90s. There are, however, significant scientific human resources in Cyprus and abroad that can be utilized.

The government's goal is to aid the growth of R&D, shifting the economy towards the development of services with high added value. A number of initiatives and measures have been implemented so as to improve work opportunities for researchers, to encourage the employment of researchers and to promote research culture in the educational system. The development of the Cyprus Technical University, the promotion of private universities and the implementation for public research infrastructure is expected to contribute to the growth of R&D.

The most significant contribution in the growth of research was the establishment of the Institute for the Promotion of Research (IPR). The IPR is a non-profit organization, supported by the government, with a mission to develop, implement, and manage the national research programmes. Other factors contributing to the growth of R&D were the establishment of the University of Cyprus in 1992, the participation of Cyprus in the European Community's Framework Programme for Research and Technological Development, the increased activity of Research Centers (Institute of Agriculture Research, Institute of Neurology and Genetics, the Department of Fisheries, the Cancer Center and the State Laboratory).

Table 1: Total expenditure on research for the period 1998-2006

<i>Year</i>	1998	1999	2000	2001	2002	2003	2004	2005	2006
<i>Total Expenditure on Research (Thous. CYP)</i>	270	450	850	1035	1460	2879	5060	6763	10000

Source: Institute for the Promotion of Research

The figures in Table 1 show that the total expenditure on research for 2006 was 10 million Cyprus pounds, an amount that is almost double than that of 2004 and almost ten times more than that of 2001.

The national policy on R&D is implemented through the IPR programs for research, technological development and innovation. The programs of 2003-2006 included specific actions dedicated to sustainable development aiming at the implementation of programs promoting sustainable development in the field of agriculture, fisheries and forestry, the natural environment and the build environment.

11.2 Challenges

- Increase of the funding for R&D to 1% of GNP until 2010.
- Formulation and implementation of new programs by IPR covering the period 2007-2010.
- Upgrade of current research and establishment of new infrastructure for research.
- Encouragement of corporations (private sector) in participating in research, development and innovation activities.
- Encouragement of the participation of researchers and institutions in the 7th Framework Programme.
- Enhance the cooperation of Cypriot researchers with others.

11.3 Strategic Objectives

The formulation and implementation of the IPR Programs for R&D for 2007-2010, falls under the terms and the strategy of the Operational Programme «Sustainable Development and Competitiveness 2007-2013» of the National Strategic Reference Framework.

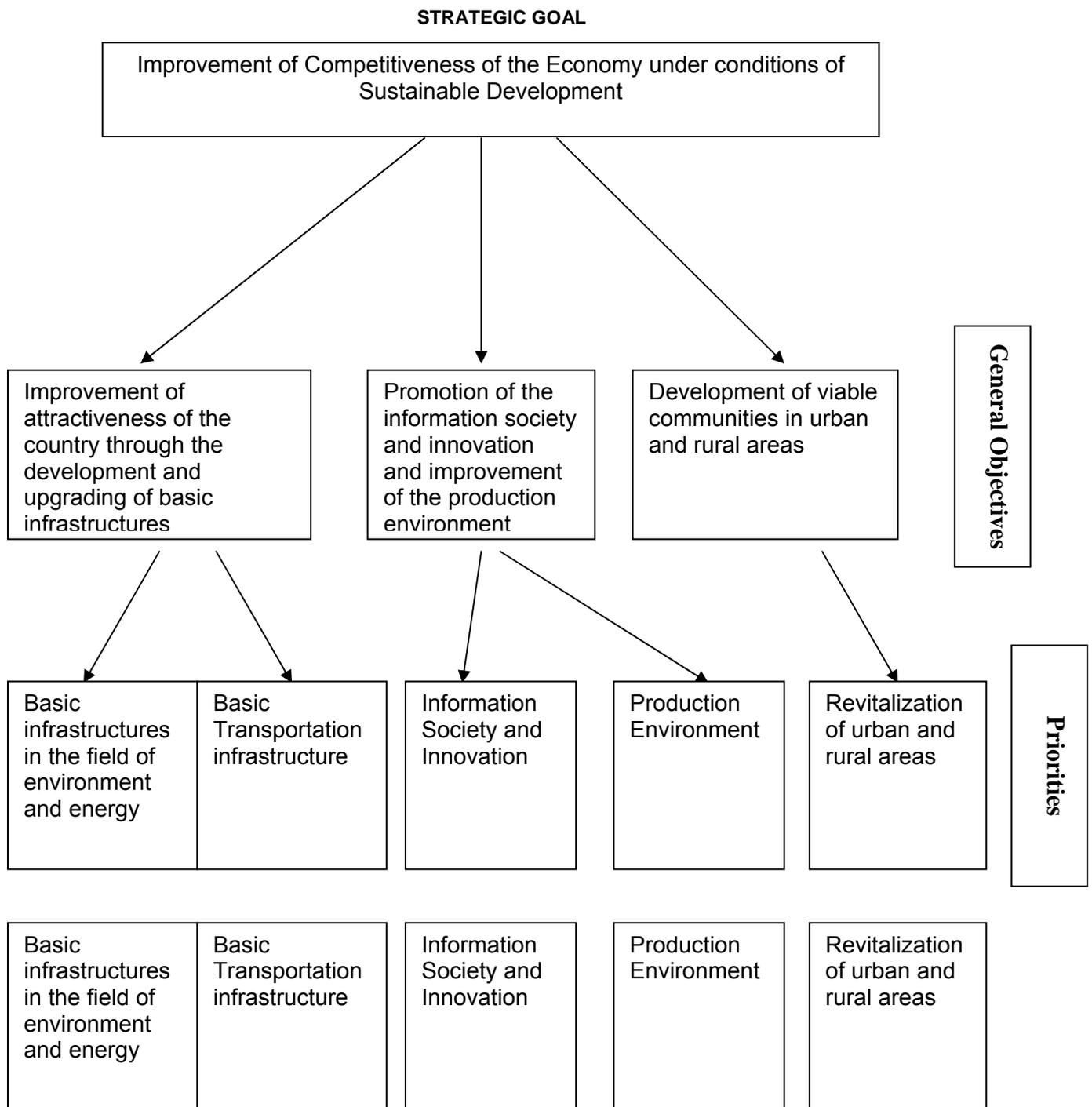


Diagram 1: Strategic Goal and Priorities of the Operational Programme “Sustainable Development Competitiveness».

Source: Operational Programme “Sustainable Development and Competitiveness”, Planning Bureau, March 2007.

The IPR Programs for the 2007-2010 have been formulated in order to serve the goals and priorities shown in Diagram 1, for the benefit of the Strategic Goal “Improvement of Competitiveness of the Economy under conditions of Sustainable Development”.

11.4 Actions

The IPR “Programs 2003-2006” funded 21 projects in the field of “Sustainable Development” of a total budget 1 283 645 CP.

The projects selected for funding enhance further the establishment and enforcement of “tools” promoting “sustainable development” for the majority of the funding programs. A number of projects were funded under the programs for

- (a) New Researchers.
- (b) EUREKA.
- (c) Research Infrastructure.
- (d) International Cooperation.
- (e) Thematic Actions
- (f) Corporate Research.

Additionally the IPR participates in two European Projects, URBAN-NET and MARIFISH, funded by the E.C. through (ERA-NET) of the 6th Framework Programme of EU for R&D that concern with specific aspects of sustainable development. The URBAN-NET project aims in the identification and characterization voids and needs regarding research for sustainable development of the urban environment. The MARIFISH project is established for the responsible authorities for fisheries and aims at the development of strategies for sustainable fishing.