

ICAM Methodology and Proposed ICAM Strategic Framework



PRIORITY
ACTIONS
PROGRAMME



Table of Contents

List of Figures	ii
List of Tables	ii
1. ICAM Concept, Principles and Current Experience: Mediterranean and EU Dimension.....	1
1.1 Coastal Areas	1
1.2 The Coastal Area of Cyprus – A Brief Summary	1
1.3 Mediterranean and European Perspectives	2
1.4 CAMPs	3
2. An Overview of Coastal Development in Cyprus.....	5
2.1 The Process and Extent of Coastalization	5
2.2 The Policy Front	7
3. Sectoral Policies	12
3.1 Population Trends	12
3.2 Economic Policies	13
3.3 Water Development Policies.....	14
3.4 Fisheries Policies.....	15
3.5 Agricultural Policies	18
3.6 Roads, Infrastructure and Coastal Works Policies.....	19
3.7 Tourism Policies	20
3.8 Land and Sea Use Planning Policies.....	21
4. Key Issues, Problems and Deficiencies	23
4.1 Fisheries.....	23
4.2 Agriculture and Water Resources	23
4.3 Population and Rural Development	24
4.4 Tourism (Coastal/Hinterland Split).....	25
4.5 Land Use Planning and Sea Use Issues	26
4.6 Landscape and Heritage	27
4.7 “Artificialization” of the Coast.....	28
5. Need for Harmonization – Towards ICAM Strategy Framework.....	33
5.1 An Overview	33
5.2 The Main Approach Adopted For the Formulation of the ICAMSF	33
6. ICAM Strategy Statement	37
6.1 ICAM Approaches – Options, Implications, Merits, Demerits	37
6.2 Development-Driven Approach.....	37
6.3 Conservation-Driven Approach.....	38
6.4 Integrated Approach	39
6.5 Integrating the ICAMSF in the National Policy Framework.....	40
6.6 The Role of the Island Plan	40
6.7 The Proposed Integrated Coastal Area Management Strategic Framework (ICAMSF).....	41
Annex I: The Lisbon Strategy.....	47
Annex II: Strategic Development Plan 2007-13, Planning Bureau, Republic of Cyprus	49
Annex III: Case Studies Illustrating Some of the Environment/Development Conflicts in Coastal Areas	51
Annex IV: A strategic Approach to the Management of the Cyprus Coastal Zone	53

List of Figures

Figure 1: Concentration of population, development and infrastructure plants in the coastal areas (Source: World Bank “Environmental Review Report”, 1992)..... 5

Figure 2: Population by age and sex, 2005 13

Figure 3: “Artificialized” coast..... 29

Figure 4: Natural coast..... 29

Figure 5: Administration of coastal areas: planning system and multiple building licensing responsibilities along coastal areas 31

Figure 6: Typical policy and managerial zones and areas of ambiguity along coastal areas..... 31

List of Tables

Table 1: Tourism hotel accommodation capacity (no of beds) 1980, 1990, 2005..... 2

Table 2: CAMP Projects 4

Table 3: Coastal population increase in Cyprus 1981-2001..... 6

Table 4: Population decline in rural areas 1981-2001 by order..... 7

Table 5: Population by sex (census years)..... 12

Table 6: Indicators of result for Priority Axis 3 17

Table 7: Result Indicators for Priority Axis 5..... 18

Table 8: The quality of the bathing waters of Cyprus for the years 2004-2006..... 24

Table 9: Development along the coast (length of coastal land in km)..... 28

Table 10: Development profile of the Cyprus coast..... 29

Table 11: Built up area in the coastal municipalities/communities 30

Table 12: Coastal municipalities/communities by district 30

Table 13: Coastal protection status in selected countries 32

Table 14: Approach to ICAM Framework 34

Table 15: Mediterranean, EU and National Strategy Documents 34

1. ICAM Concept, Principles and Current Experience: Mediterranean and EU Dimension

1.1 Coastal Areas

Coastal areas are unique geographical spaces where development and environmental processes interact intensely. Coastal areas are locations of both dynamic coastal economies and sensitive, and often vulnerable, ecological system, making coastal planning and resource management particularly challenging. Integrated Coastal Area Management (ICAM), responding to this challenge and recognizing the dual role of coastal resources as ecological functions and a productive socio-economic asset, provides a perspective for reconciling conflicts of uses and short-term / longer-term priorities to support strategies for sustainable coastal management.

Mediterranean coastal zones are characterized by high concentration of population and economic activities. In countries without adequate coastal zone management resource degradation and threats to the productivity of economic activities are emerging threats. Tourism, for example, whose economic vitality depends crucially on the quality of the coastal environment, tourism development itself often threatens that quality which is the resource base for tourism. Landscape quality, heritage sites, water quality, beach access and open sea views, often overstressed by the extent of building development, are as important for the economic vitality of tourism as capital investments and entrepreneurial initiatives.

1.2 The Coastal Area of Cyprus – A Brief Summary

The “coastal zone”, the area that extends 2 km inland from the coastline covers 23% of the country's total area, in which about 50% of the total population lives and works and 90% of the tourism industry is located. Coastal areas generate by far the largest source of household income, as well as other major activities and most of the urban development.

In Cyprus there is no single legal or functional (planning) definition of the “coastal zone” or “coastal area”. There are three main widely used geographical definitions referring to “coastal zone/area”, each one related to the purposes of a different law and institutional context:

- The *Foreshore Protection Law* defines the “foreshore” as “all lands within 100 yards (91.44 m) of the high water mark”. The foreshore area is public property falling under the jurisdiction of this Law.
- The *New Tourism Policy* of 1990 (under the Hotel Accommodation Law and the Town and Country Planning Law – Countryside Policy) designates a “zone” of 3 km. from the coastline for the purpose of regulating tourism development.
- The *Coastal Protection Study* of the Coastal Unit of the Ministry of Communications and Works has adopted for the purposes of the survey of coastal erosion problems, a definition of the “coastal strip” as the area of 2 km from the coastline.

It is noted however that the Integrated Coastal Zone Management (ICZM) Protocol under the Barcelona Convention will be signed by the Ministry of Agriculture, Natural Resources and Environment on behalf of the Republic of Cyprus. The area to which this Protocol applies shall be “*the seaward limit of the coastal zone, which shall be the external limit of the territorial sea of States Parties and the landward limit of the coastal zone, which shall be the limit of the competent coastal units as defined by the States Parties*”. According to the above, the landward limit of Coastal Zone Development Map produced in 2007 by the Department of Lands and Survey is the limit of the competent coastal administrative units.

The Town and Country Planning Law contains no specific definition of the coastal area. The Local Plans and the Policy for the Countryside contain land use / development control zones that cover coastal and non-coastal areas within the same Plans.

Thus, in this Report the terms “coastal area” and “coastal zone” are used interchangeably. After all, the small size of Cyprus and the close proximity of all areas to the coast, combined with the dominance of coastal tourism create a strong functional overlap between the coastal area and other areas, blurring the physical boundary between coastal/hinterland areas. However, as it will be apparent later, there is a strong socio-economic and developmental disparity coastal and hinterland areas. The development pattern in Cyprus is polarized: Strong coastalization and depopulation and near abandonment of many parts of the hinterland areas which lose not only their economic vitality but also their social cohesion (See further elaboration in 2.1).

Tourism development in Cyprus is predominantly concentrated in costal areas where hotel accommodation increased rapidly over the past 25 years.

Table 1: Tourism hotel accommodation capacity (no of beds) 1980, 1990, 2005

Location	1980	1990	2005	1980-2005 Average annual increase %
Nicosia	1,920 (15.33%)	2,464 (4.16%)	2,403 (2.51%)	>1%
Limassol	4,357 (34.78%)	13,013 (21.95%)	15,876 (16.60%)	5.3%
Larnaca	1,334 (10.65%)	8,970 (15.14%)	8,533 (8.92%)	7.7%
Ayia napa	447 (3.56%)	13,653 (23.03%)	21,072 (22.04%)	16.7%
Paralimni	1,020 (8.15%)	8,169 (13.78%)	16,885 (17.65%)	11.9%
Paphos	1,464 (11.70%)	11,207 (18.91%)	28,848 (30.16%)	12.7%
Hill resorts	1,982 (15.83%)	1,795 (3.03%)	2,031 (2.12%)	>1%
Total	12,524 (100%)	59,271 (100%)	95,648 (100%)	8.5%

Source: Cyprus Tourism Organisation

Many of the declining rural areas are in the Paphos hinterland, for example, which lost population to the Paphos urban area and elsewhere where tourism grew rapidly. Tourism accommodation capacity in Paphos registered the second highest growth between 1980-2005 with the number of hotel beds increasing from, roughly, 1,500 to 29,000 raising its share from a modest 12% to 30%.

1.3 Mediterranean and European Perspectives

A growing concern about the threats of environmental degradation in coastal areas has led to the establishment of regional level cooperation in the Mediterranean in the context of the Barcelona Convention (1975) and the development of programmes targeting at actions towards sound coastal resource management on an integrated basis. Early enough though it had become apparent that problems of environmental quality in the marine environment, which was the initial focus of the Barcelona Convention, are linked to human activities many of which are concentrated along the coastal areas and further upstream. The realization that environmental protection requires control of development and environmental management has given rise to the initiation by MAP of a programme of regional level activities for Integrated Coastal Area Management. Influential Mediterranean level strategies contain important goals for the protection and enhancement of the coastal and marine environment.

The Mediterranean Environmental Technical Assistance Programme (METAP), launched in 1990 by the World Bank, the European Investment Bank in partnership with the European Union and the United Nations Development Programme, has established a fund for projects and investments in the region with the technical support of MAP's Priority Actions Programme. Influenced to a great extent by UNEP MAP work, METAP has provided funding totaling approximately US\$ 5.4 million for the implementation of 18 ICAM projects in 10 Mediterranean countries (Albania, Algeria / Tlemcen and El-

Kala, Croatia / Cres-Losinj, Cyprus / Akamas, Israel / Haifa Bay, Lebanon, Morocco / Al Hoceima National Park, Tunisia / Hammanet Gulf, and Turkey / Belek beach.¹

Influential Mediterranean level strategies contain important goals for the protection and enhancement of the coastal and marine environment.

In particular, the *Mediterranean Strategy for Sustainable Development* urges the countries, among other things, to:

- contribute to economic development by enhancing Mediterranean assets;
- change unsustainable production and consumption patterns and ensure the sustainable management of natural resources; and
- improve governance at the local, national and regional levels

The Action Plan for the Protection of the Marine Environment and the Sustainable Development of the Coastal Areas of the Mediterranean concludes that the countries should:

- ensure sustainable management of natural marine and land resources and integrate the environment in social and economic development and land use policies;
- protect the marine environment and coastal zones through prevention of pollution;
- protect nature, and protect and enhance sites and landscapes of ecological and cultural value; and
- contribute to the improvement of the quality of life.

The Integrated Coastal Zone Management Protocol (2007) states that the countries should:

- facilitate thorough rational planning of activities and sustainable development of coastal zones and preserve coastal zones for the benefit of current and future generations;
- ensure preservation of the integrity of coastal ecosystems, landscapes and geomorphology; and
- achieve coherence between public and private initiatives and between all decisions by public authorities at the national, regional and local levels which affect the use of the coastal zone.

The Euro-Mediterranean Partnership offers another platform for regional cooperation in coastal zone management, established in Barcelona (1995) a joint initiative by 27 states of the EU and in the Mediterranean. The environment has been recognized as one of the main fields where increased cooperation was needed providing a focus for the efforts to achieve sustainable development in the Mediterranean. The Short and Medium Term Priority Environmental Action Programme (SMAP), adopted by the Ministerial Euro-Environmental Conference in Helsinki in 1997 identified five priority fields of action, one of which is Integrated Coastal Zone Management.

1.4 CAMPs

There have been several coastal management projects in the Mediterranean adopting ICAM as their base. To sharpen the focus on the ICAM approach at national level, the CAMP has been launched (1989), mostly at local or sub-regional level, promoted and implemented since then by PAP/RAC.

Since 1989 three cycles of CAMP have evolved with projects implemented in Albania, Algeria, Croatia, Egypt, Greece, Israel, Lebanon, Malta, Morocco, Slovenia, Syria, Tunisia and Turkey. Cyprus is the most recent CAMP project, while two more are in the pipeline, Montenegro and Spain. A short annotated summary of the main CAMP Projects is given in the Table 2.

CAMP Projects have common and diverse characteristics: The main common characteristic is the use of the ICAM methodology applied to respond to country-driven coastal development concerns. The diverse elements derive from the tools used to strengthen the response and give a practical content to CAMP initiatives.

In summary, the main characteristics of CAMP Projects include the following:

- Locally specific: focusing on specific coastal areas suffering particular coastal problems;

¹ UNEP/MAP/PAP: White paper: Coastal Zone Management in the Mediterranean, Split, PAP/RAC, 2001.

- Issue-led: sparked off by a policy or planning issue used as the Project’s “entry-point” to the coastal area;
- Practical: focused on an existing concern by the competent authorities;
- Modest: Aiming at limited but demonstrable outcomes;
- Country-driven: Proposed and supported by the host country.

Table 2: CAMP Projects

CAMP Project / Country	Main focus
CAMP Croatia	Kasela Bay Area
CAMP Syria	Coastal Region – Coastal Area Study
CAMP Rhodes – Greece	Small Island – Development Scenarios and SD Strategy
CAMP Izmir – Turkey	Coastal pressures and pollution issues
CAMP Tunisia	Sfax city coastal area
CAMP Malta	Small Island – NW Region, Local Plan Area
CAMP Lebanon	Southern coastal region
CAMP Egypt	Fuka-Marsa Matruh NW coastal region
CAMP Slovenia	Coastal area and bordering municipalities
CAMP Cyprus	Large Island – island-wide coastal management policy issues / reforms

2. An Overview of Coastal Development in Cyprus

2.1 The Process and Extent of Coastalization

Cyprus is a growing and stable “service-based” economy whose growth is driven by activities located on the coast. Despite the economic importance of the coast, economic policies are formulated and implemented outside an overall framework of integrated coastal zone management to harmonize development and environmental priorities.

As illustrated in Figure 1, almost all development activity and infrastructure of national importance are located on the coast, including:

- The largest urban centres in Cyprus, except Nicosia, are coastal (Limassol, Larnaca and Paphos) accounting for 48% of the total population and 58% of the total urban population, with Nicosia, the capital, accounting for the remaining 42% of the urban population.
- Employment is likewise concentrated in the coastal areas. 100,000 out of 149,000 non-agricultural jobs are concentrated in the coastal towns and in the tourism area of Ayia Napa and Paralimni. 15,600 in the hotel and restaurant sector, 12,500 in the financial sector and 21,000 in the trade sector.
- As much as 95% of tourism accommodation is located in the urban coastal towns and the smaller tourism settlements of Ayia Napa, Paralimni and Polis. The “narrow” tourism sector of hotels and restaurants accounts for 20% of the Gross National Product, whilst the wider tourism sector, including parts of the agricultural, trade and financial services sectors closely linked to tourism demand is estimated to account for as much as 70% the Gross National Product.
- The two international airports are on the coast (Larnaca and Paphos) and the two ports (Limassol and Larnaca).
- The broad coastal belt of Cyprus, stretching from Paphos in the south west to Limassol, Larnaca and Paralimni in the east, is connected by the second heaviest used highway, second to that connecting Nicosia to the coastal highway.
- The population of the rural coastal settlements (about 20 in number, including Ayia Napa and Paralimni) are the largest and fastest growing rural settlements, accounting for about 25% of all rural population, growing at nearly 2.0% per annum, higher than the rate as the urban population and twice as high the average growth rate of the inland rural settlements (about 275 in number).

Figure 1: Concentration of population, development and infrastructure plants in the coastal areas (Source: World Bank “Environmental Review Report”, 1992)



The following main population growth indicators for the period 1981-2001 sum up the coastal concentration pattern and the extent of coastal pressures:

- Total population growth: 35%;
- Total urban population growth: 46%;
 - Coastal urban growth: 55%;
 - Inland urban growth: 35%;
- Total rural population growth: 15%;
 - Coastal rural growth: 45%;
 - Inland rural growth: 8%.

Table 3: Coastal population increase in Cyprus 1981-2001

Population	1982	1992	2002	1982-02 Increase
Total	512,000	602,000	689,500	34.6%
Urban	325,500	407,000	474,500	45.7%
Coastal (Limassol, Paphos, Larnaca)	176,500	230,000	274,000	55.2%
Inland (Nicosia)	149,000	177,000	200,500	34.5%
Rural	186,500	195,000	215,000	15.3%
Coastal *	35,000	41,300	50,600	44.5%
In-land **	151,500	153,700	164,400	8.5%
Total Coastal	211,500	271,300	324,600	53.5%
Total Inland	300,500	330,700	364,900	21.4%

Source: CAMP Cyprus Project, Diagnostic Report

Areas of Population Decline

It is indicative of the strong coastalization pattern of development in Cyprus that while the population of the expanding three largest coastal towns of Limassol, Paphos and Larnaca grew from 176,500 in 1981 to 274,000 in 2001 (56%), and that of the rural coastal communities from 35,000 to 51,000 (45%), almost all other rural communities with weak or no links to the coastal economy have actually declined, many of which at high rates.

However, about 20 hinterland areas (clusters of small rural communities) registered population decline during the same period (1981-2001) ranging from 10% to nearly 60%. In total these, listed below, lost over 16,000 population, mostly young economically active population:

- 8 Areas in Paphos District: Salamiou, Mamonía, Lysos, Lasa, Marathounda,,Tsada, Droushia, Yiolou
- 6 Areas in Limassol District: Omodos, Prodomos,Troodos, Agros, Trimiklini, Louvaras
- 4 Areas in Nicosia District: Marathasa, Palechori, Solea, Tylliria
- 1 Area in Larnaca District: Lefkara

The Table 4 shows, the hinterland areas, comprising clusters of small rural communities, which registered population decline rates of over 10% in the period 1981-2001. These 20 rural areas have lost over 16,000 population, mostly young population, over 20 years, roughly from 50,000 34,000. All of them are mountainous or semi-mountainous areas.

Many of the declining rural areas are in the Paphos hinterland which lost population to the Paphos urban area and elsewhere where tourism grew rapidly. Tourism accommodation capacity in Paphos registered the second highest growth between 1980-2005 with the number of hotel beds increasing from, roughly, 1,500 to 29,000 raising its share from a modest 12% to 30%.

It is evident that the development pattern in Cyprus is polarized. The reverse side of the coastalization pull is the depopulation and near abandonment of many parts of the hinterland areas which lose not only their economic vitality but also their social cohesion.

Table 4: Population decline in rural areas 1981-2001 by order

Area	1981	1991	2001	Change 1981-2001 (%)
Omodos Area	3,436	1,962	1,447	-57.88 (1)
Prodromos Area	1,127	689	492	-56.34 (2)
Salamiou Area	1,803	1,097	809	-54.31 (3)
Marathasa Area	3,209	2,160	1,653	-48.48 (4)
Pano Panayia Area	2,338	1,626	1,256	-46.27% (5)
Troodos Area	1,842	1,220	1,005	45.43 (6)
Manonia Area	754	479	441	-41.51% (7)
Lysos Area	948	705	600	-36.70% (8)
Palechori Area	3,391	2,602	2,226	-34.35 (9)
Lasa Area	1,123	879	744	-33.74% (10)
Agros Area	6,453	4,992	4,644	-28.03 (11)
Droushia Area	1,193	918	868	-27.24% (12)
Marathounda Area	1,686	1,328	1,231	-26.98% (13)
Tsada Area	4,034	3,119	2,959	-26.64% (14)
Solea Area	7,135	5,828	5,246	-26.47 (14)
Trimiklini Area	1,455	1,311	1,140	-21.64 (16)
Lefkara Area	2,355	2,029	1,881	-20.12 (17)
Louvaras Area	2,300	2,012	2,013	-12.47 (18)
Tylliria Area	1,593	1,546	1,397	-12.30 (19)
Yioulou Area	1,472	1,390	1,310	-11.00% (20)

2.2 The Policy Front

2.2.1 Land Use Planning System

Land use planning policy in Cyprus is carried out under the 1972 Town and Country Planning Law (TCPL), which came into force on 1 December 1990. The coordination of land use planning policy is the responsibility of the Department of Town Planning and Housing. Prior to 1990 land use control was exercised under the old Street and Buildings Regulation Law of 1946. The TCPL provides for the preparation and enforcement of a hierarchy of Development Plans, the operation of a network of Planning Authorities with responsibilities for the exercise of Development Control through powers for issuing Planning Permissions relating to the provisions of the Development Plans.

The Development Plans comprise a three-tier hierarchy, namely the Island Plan, the Local Plans and the Area Schemes.

The Island Plan

The Island Plan is a dead letter now. It has remained inactive as a strategic planning instrument for the whole island since 1974 due to the division of Cyprus. In view of that, under the TCPL a “replacement” Development Plan was introduced, the **Statement of Policy for the Countryside**. In theory, the Island Plan is positioned at the top of the hierarchy, it is meant to cover, as the name implies, the whole territory of the island. Its preparation is the responsibility of the Minister of Finance and its scope is to determine the long-term strategy for the distribution of population, employment and the location of the infrastructure of national importance, the utilisation of resources and the identification of future development opportunities. It is intended to function as a comprehensive strategic plan containing proposals for the overall direction of physical development, harmonised with the objectives set out by the national economic development strategy, providing the strategic context for the preparation of the Local Plans. The Island Plan presents the Government’s intentions for the use and protection of land through policies including:

- the regional distribution of population;

- regional level locational policies for major land uses and major infrastructure relating to economic and social policy (ports, airports, hospitals, etc.);
- the designation of areas of special historical, social, architectural, cultural and environmental value; and
- the national and regional transportation network.

The Local Plans

The Local Plans, the middle tier of Development Plans, cover the main urban areas together with their urbanised fringes subject to pressures for expansion and population growth. Local Plans are under periodic review, legally required at least every five years. They are prepared by the Department of Town Planning and Housing as adviser to the Minister but may also be prepared by the Municipalities (Local Authorities) for the area under their respective jurisdiction. The purpose of Local Plans is to guide, control and organise the pattern of urban development within the defined urban development areas, to indicate the general principles on which urban development will be promoted and controlled, to protect buildings and areas of historical and cultural interest, safeguard land for future major roads and other infrastructure and indicate phases of development. Local Plans comprise a Written Statement and a series of Maps showing:

- the allocation of land for the main land uses (agriculture, housing, commerce, industry, public open space, education, health centres, public buildings, etc.); and
- the designation of site-specific land use zones and the applicable building coefficients (plot ratio), height limitations and site coverage.

Eight such Local Plans are currently in force; four in the main urban areas (Nicosia, Limassol, Larnaca, Paphos) and four in the main semi-urban areas (Polis, Lefkara, Derynia, Athienou).

The Area Schemes

The Area Schemes, at the lower end of the hierarchy, cover specific smaller areas of particular interest, either within or outside the framework of a Local Plan, and detail site-specific development proposals on the basis of the strategic guidelines and policies of the Local Plans or the Policy for the Countryside. They are prepared by the Department of Town Planning and Housing as adviser to the Minister but may also be prepared by the Municipalities (Local Authorities) for the area under their respective jurisdiction.

Box 1: The Cyprus Planning System

The three-tier hierarchy of Development Plans introduced by the 1972 Town and Country Planning Law is based on the concept of the "Island Plan", which refers to the national territory and the regional distribution of resources and development opportunities; the "Local Plans", which refer to the major urban areas, areas of exceptional importance or areas undergoing intensive development pressures and rapid physical development; and "Area Schemes", at the lower end of the hierarchy, which generally refer to areas of a smaller scale and are more detailed and specifically project oriented. For all territory where neither a Local Plan or an Area Scheme is in force, an additional type of development plan was introduced to the planning system in 1982, the "Policy Statement for the Countryside" (PSC), a legally binding document in the form of an adopted regional plan *for the control of development* (emphasis added) and the protection of the environment in villages and rural areas. Along with this document a series of zoning plans have been published for the majority of rural settlement, while areas of outstanding natural value, selected coastlines and natural protection areas, as well as areas of protected landscape are all delineated on a detailed cadastral inventory which complements the guidelines of the PSC. With the 1974 Turkish invasion and subsequent military occupation of a sizeable portion of the island, the preparation of the Island Plan was no longer feasible. *The PSC, however, is not a regional development plan, it rather defines land use zones for most rural areas and communities and areas of special or exceptional natural or environmental value.*

Source: *Planning System in Cyprus, European Knowledge Network, 2004, www.eukn.org/Cyprus, emphasis added.*

Despite the needs for preparation and implementation of Area Schemes in many parts of Cyprus, particularly in the coastal areas, no such Plans have actually been published and legally in force until now. However, three such Area Schemes have been prepared and approved (Central Area of Nicosia, Central Area of Limassol and the old village core of the fast Nicosia growing suburb of Strovolos) while a few other such Plans are under preparation (such as the Central Area of Larnaca, the Area of Aglanjia around the University of Cyprus, the Area of the Paphos Seafront).

2.2.2 The Performance of the Land Use Planning System

The land use planning system is on the “front line” of the policy framework on coastal development in Cyprus. The Development Plans (*Local Plans* and the *Policy for the Countryside*) are the vehicles for the formulation and implementation of policies for and controls over coastal development.

The Land Use Planning System, in Cyprus and elsewhere, can best be understood in terms of four key parameters:

- the type and scale of Development Plans and the procedures followed for their formulation, approval and revision;
- the type and quality of information used for that purpose;
- the implementation process and the mechanisms involved; and
- the interactions of the planning process with market forces.

The merits and limitations of the Land Use Planning System derive from the way the above parameters operate. The present state of coastal development and its characteristics reflect both the achievements and the gaps in the System’s management capability.

Plan formulation

The Plan formulation is a composite process involving institutional responsibilities, competency for approval, participation, the revision development process and the principles used to define Plan goals, objectives and strategies for the future.

The formulation of Development Plans is a centralised process carried out by the Department of Town Planning and Housing advising the Minister and the Planning Board which approves the final version of the Development Plans. Public participation is a formalised activity occurring within the framework of the “Joint Boards” engaging a cross section of stakeholders (technical, business and local organisations) which in practice offers a platform for the promotion of sectional interests rather than broad ideas about long term goals and objectives. The conflicts and demands emerging from the meetings of the “Joint Boards” are filtered by the Department of Town Planning and Housing fed into the periodic revisions of the Development Plans. A major obstacle to effective public participation is the often inadequate local and regional level awareness of and concern for long term urban and coastal management issues. In practice, Development Plans are formulated with the aim of regulating building development with reference to use and density zoning whose definition is often a process of conflict of interests rather than instruments for promoting sustainable development. Although the Plans are intended to outline the overall direction of future development, primary emphasis is placed on the locations where different building uses (housing, tourism accommodation, etc.) are allowed and the conditions regulating their development. Coastal protection is effected primarily through stricter conditions in environmentally sensitive locations and in cases of areas defined as of exceptional environmental value (i.e. in parts of the Natural 2000 sites) through very low allowable density. Cases of absolute prohibition of development are very rare. The plot-by-plot focus within the planning system overwhelms strategic planning and management issues.

Box 2

“The most important characteristics of land use change arising from haphazard urban expansion are the shrinking of agricultural land in favour of residential land; fragmented settlements and isolated buildings, uncontrolled growth often coupled with insufficient services; and a spatial pattern of land use in the fringe areas that is heterogeneous and unstable. Parallel to rapid residential growth, the fringe areas have witnessed an influx of other urban uses such as industrial, commercial and institutional. All these have a very negative impact on the physical and human environment caused by industrial wastes, increased levels of traffic congestion, air and noise pollution, lack of open space, lack of adequate facilities and infrastructure, loss of agricultural land and visual deterioration”.

Source:

National Report of the Republic of Cyprus, Habitat II, 1996 (Department of Town Planning and Housing)

Information for Planning

The information that supports the formulation of Development Plans lacks an island-wide coverage containing data capable of linking spatial issues with an overall social and economic strategic framework with broad policy principles and development priorities. Local Plans are formulated incrementally through periodic revisions incorporating in most cases new provisions for development expansion following a process of local consultations and pressures. Research in housing, tourism, social and economic needs, water constraints, landscape and environmental resources are irregularly used and applied to plan making. Most importantly, information on resource capacities, strategic environmental concerns and on the value of environmental resources, necessary for an integrated approach to coastal management, is conspicuously missing.

Implementation

Plans are implemented primarily through development control exercised on planning applications submitted by individuals and or developers. Implementation lacks a proactive perspective such as to define and undertake timely interventions in securing open space, providing infrastructure, adequately protecting environmentally sensitive areas prior to development, securing finance for compensation and putting in place fiscal and financial instruments (for example, betterment tax creating revenues from up-zoning planning decisions and speculative land holding). The lack of a proactive approach is also weak in succeeding to contain development and promoting a shared planning vision between the public and private sector and guiding strategic planning decisions. Implementation is thus confined mainly to development control which in practice is laborious, detailed and essentially weak to withstand the market-driven development pressures.

Despite the achievements of the planning system in providing a framework for building control, forestalling uncontrolled coastal and urban development, the planning system as a whole accommodates development tendencies and follows the vagaries of the market forces rather than driving towards the realisation of a defined planning strategy. Several resource damaging development trends illustrate the main concerns. Urban development areas sprawl deep into the countryside, several coastal areas are overbuilt, rapid population growth in several coastal communities occurs prior to adequate water and wastewater infrastructure and measures for the protection for natural beaches, coastal forests and habitats. For instance, in the coastal community of Peyia (Paphos) population increased by 55% over its 1982 level and coastal holiday houses increased fourfold. Such volume of development and its impact on the road network and technical infrastructure have not been envisaged by the Development Plan. The same pattern had occurred in the past in Ayia Napa and repeated in Kissonerga, Tala and Sotira.

Two main factors operate within the planning system to partly explain the primacy of market forces over planning policy in coastal development:

- the tendency of the Planning Authority to over-zone for future development (much beyond projected development needs); and
- the social pressures exercised by local land-owners to include agricultural land in urban development for speculative gains. Despite the gross over-provision of urban and tourism development land, land prices continue to increase particularly in the fringes of core development areas due to the speculative demand for land, over and above the real demand for development, in anticipation of future land use change from agriculture to housing and tourism.

Conflicts between policy objectives that compromise environmental protection abound:

- development of golf courses and water management restrictions;
- coastal building development and conservation and management of rural and cultural heritage assets;
- urbanization of agricultural land at the edges of major urban areas and the water supply constraints;
- expansion of tourist development zones in natural coastal area without proper infrastructure and services;
- use of scarce coastal forest areas in or near Natural 2000 sites for infrastructure to serve nearby tourism facilities, for example the National Forest “Kavo Gkreko”, in Famacusta District;
- expansion of housing areas near sensitive ecosystems and attractive rural landscape.

3. Sectoral Policies

3.1 Population Trends

The population of Cyprus has been growing steadily in the last century reaching 703,529 individuals in 2001 (Table 5). Based on the latest annual demographic report, published by the Statistical Service, the population of Cyprus at the end of 2005 was 854.3 thousand people, excluding the number of illegal settlers from Turkey (about 150-160 thousand people)². Out of the 854,300 inhabitants, the estimated composition of the population, by community, at the end of 2005 was:

- Greek Cypriot community 656,200 or 76.8%;
- Turkish Cypriot community 87,900 or 10.3%
- foreign residents 110,200 or 12.9%.

Table 5: Population by sex (census years)

Ημερομηνία απογραφής	Πληθυσμός Population			Αριθμητική αύξηση Numerical increase			Ετήσιο ποσοστό αύξησης % Annual growth rate %			Census date
	Σύνολο Total	Άντρες Males	Γυναίκες Females	Σύνολο Total	Άντρες Males	Γυναίκες Females	Σύνολο Total	Άντρες Males	Γυναίκες Females	
1881, 4 Απριλίου	186.173	95.015	91.158							1881, 4th April
1891, 6 Απριλίου	209.286	106.838	102.448	23.113	11.823	11.290	1,2	1,2	1,2	1891, 6th April
1901, 31 Μαρτίου	237.022	121.066	115.956	27.736	14.228	13.508	1,3	1,3	1,3	1901, 31st March
1911, 2 Απριλίου	274.108	139.383	134.725	37.086	18.317	18.769	1,5	1,4	1,5	1911, 2nd April
1921, 24 Απριλίου	310.715	155.965	154.750	36.607	16.582	20.025	1,3	1,1	1,4	1921, 24th April
1931, 27 Απριλίου	347.959	172.754	175.205	37.244	16.789	20.455	1,1	1,0	1,3	1931, 27th April
1946, 10 Νοεμβρίου	450.114	222.510	227.604	102.155	49.756	52.399	1,7	1,7	1,8	1946, 10th November
1960, 11 Δεκεμβρίου	573.566	281.983	291.583	123.452	59.473	63.979	1,7	1,7	1,8	1960, 11th December
1973, 1 Απριλίου	631.778	312.566	319.212	58.212	30.583	27.629	0,8	0,8	0,7	1973, 1st April
1976, 30 Σεπτεμβρίου ³	497.879	248.711	249.168							1976, 30th September ³
1982, 1 Οκτωβρίου ¹	522.845	259.938	262.907	24.966	11.227	13.739	0,8	0,7	0,9	1982, 1st October ³
1992, 1 Οκτωβρίου ¹	615.013	306.383	308.630	92.168	46.445	45.723	1,6	1,7	1,6	1992, 1st October ³
2001, 1 Οκτωβρίου ¹	703.529	345.322	358.207	88.516	38.942	49.574	1,5	1,3	1,5	2001, 1st October ³

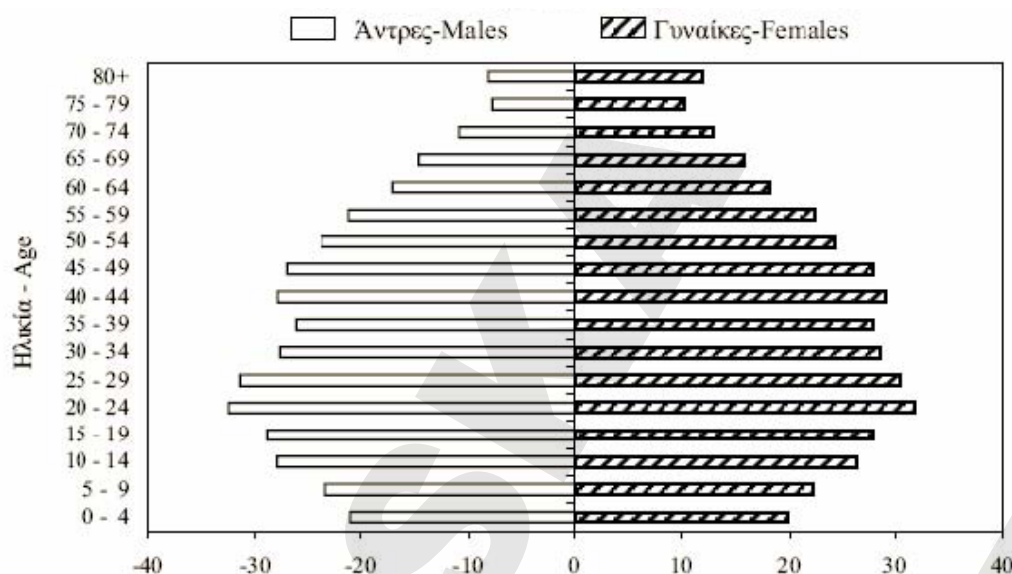
Source: Demographic Report 2005, Population Statistics, Series II, Report No. 43, Statistical Service

The population of Cyprus accounts for 0.2% of the total population of the 25 European Union countries and its annual growth in 2005 was 2.0 %.

The population of the Government controlled area was estimated at 766.4 thousand at the end of 2005, compared to 749.2 thousand at the end of 2004, recording an increase of 2.3%. There was a gradual increase in the proportion of middle-aged individuals and a decrease in the proportion of children, demonstrating the aging process that can be also seen in Figure 2.

² Demographic Report 2005, Population Statistics, Series II, Report No. 43, Statistical Service.

Figure 2: Population by age and sex, 2005



Source: Demographic Report 2005, Population Statistics, Series II, Report No. 43, Statistical Service

Net migration has been positive during the last decade³. A high net migration was recorded the last three years reaching 14.416 in 2005. According to the Passenger Survey, in 2005 the number of long-term immigrants (Cypriots and foreigners arriving for settlement or for temporary employment for 1 year or more) was 24.419 compared to 22.003 in 2004.

3.2 Economic Policies

The Planning Bureau has an executive role in the implementation of various development projects undertaken by the other governmental departments. It is responsible for approving the budgets for the implementation of those projects and in general the Bureau manages a large number of European and national grants.

For development projects that are directly or indirectly related to environmental issues, the Bureau uses the “the Polluter Pays Principle”. In general, the Bureau has set as a high priority the protection of the environment and subsequently the protection of the coastal regions.

The strategy of the Planning Bureau, for development projects implemented in coastal areas, results from a number of different sources out of which the most important are the following:

- The National Strategic Reference Framework on the Policy of Cohesion 2007-2013 December 2006;
- The Strategic Plan for the Environment, which has been prepared by the Environment Service;
- The “National Reform Program for Cyprus October 2006 – Progress Report”.

In the “National Reform Program for Cyprus October 2006 – Progress Report” there are various references to environmental issues especially on the protection of the coast, mainly from pollution. The same report refers to various planned activities that are related to environmental issues:

- treatment of urban sewages;
- management of solid waste;
- management of dangerous waste;
- implementation of the Coastal Areas Management Programme (CAMP).

Regarding the Coastal Area Management Programme, the report explains that the agreement between the Republic of Cyprus and the United Nations Environmental Programme (UNEP) requires

³ Demographic Report 2005, Population Statistics, Series II, Report No. 43, Statistical Service.

the implementation of a program in the region of Larnaca. The implementation of the program will serve a pilot case for the whole island.

In the report there are also descriptions of several other projects, which have already been completed or will be completed over the next few years. Some of these projects (which are however found scattered in the text) relate to the coastal zone. As such are the following:

- Construction of Marinas (Page 67);
- Incentives for upgrading or withdrawing hotel units (Page 68);
- Construction of a four-lane road from the new port in Limassol to the Limassol-Paphos highway (Page 81);
- Construction of a new passenger building in the New Limassol Port (Page 83);
- Increase the capacity of the storage space in the New Limassol Port (Page 83);
- Increase the depth of the basin of the new port in Limassol (Page 83);
- Reformation of the port in Larnaca (Page 84);
- Extension of the central sewerage systems of the cities (Page 86);
- Installation of central sewerage systems in communities with more than 2000 residents. Some of these communities are found in close proximity to the coast (Page 87);
- Environmental and nature protection policies.

The responsibility for the implementation of the environmental and nature protection policies lies mainly on the Environment Service of the Ministry of Agriculture, Natural Resources and the Environment. Except from the Environment Service, more than ten other Governmental Departments and authorities from different Ministries are also involved. For example the Game Fund of the Ministry of Interior is responsible for the protection of the avifauna. The environmental policies are usually expressed in sectoral policies of various natural resources (water, air, forests etc).

The Environment Service is responsible for the implementation of a number of European Directives that aim at the protection of the environment and natural resources of Cyprus. One of the most important directives is the Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora, also known as Habitats Directive. According to this Directive, which was transposed in the national law [N.153(I)/2003] Cyprus is expected to establish a number of protected areas that will be part of the Natura 2000 network. So far, in the Government controlled area, thirty-eight areas have been designated as Natura 2000 sites and seven of them are coastal which are, Kavo Greko, Thalassia Periochi Nisia, Periochi Polis-Gialia, Thalassia Periochi Moulia, Faros Kato Pafou, Akrotirio Aspro-Petra tou Romiou and Alykes Larnakas. Chersonisos Akamas as coastal area with natural beauty is a candidate site under Natura 2000 under consideration. Annex I shows the designated sites under Natura 2000 network. Under the Chapter VI. 1-2 of the Recommendation of the European Parliament and of the Council concerning the implementation of Integrated Coastal Zone Management in Europe (2002/413/EC), the Republic of Cyprus has prepared a Report on the State of the Coast in Cyprus for the year 2005.

3.3 Water Development Policies

The Water Development Department is responsible for the management of most water resources in the territory of the Republic of Cyprus. The duties of the Department include the qualitative protection and quantitative management of ground and surface waters. One of the most important objectives of Water Development Department is the protection of aquifers from pollution and from infiltration of marine water in the ground water.

In addition, the Water Development Department in collaboration with the Department of Fisheries and Marine Research is responsible for the implementation of the provisions of the *Water Framework Directive (2000/60/EC)*, which also applies to coastal waters.

The goal of the Directive is to prevent further deterioration of the water quality and to achieve at least "good status" for all water bodies by 2015. In the context of the Water Framework Directive, the

Department is at the early stages of implementing a monitoring programme for the physical, chemical and biological characteristics of water bodies.

Another important role that the Water Development Department carries out is the preparation of management plans for water resources and particularly rivers and dams that are found near coastal regions.

Some of the projects the Department is planning to implement over the next few years are:

- two Dams in Paphos (one at Episkopi and one at Cha Potami). In addition, in Paphos there will be a deviation project at the Diarizos River in the area of Souskiou;
- construction of two flood-preventing dams and placement of two pipelines for irrigation purposes in the region of Aradippou;
- enrichment of the Akrotiri aquifer with recycled water from the central sewerage system of Limassol-Amathountas;
- implementation of two desalination facilities, one in Limassol and one in Paphos.

Apart from the above projects, the WDD is in the process of evaluating the possibility of enriching the aquifer of Agia Napa-Paralimni using recycled water from the local central sewerage system.

3.4 Fisheries Policies

The Department of Fisheries and Marine Research has recently prepared the *National Strategic Plan for Fisheries (NSPF)* for the period 2007-2013. The preliminary document that describes the NSPF is included in Annex II.

The general objectives determined for the fisheries sector for the above timeframe, in the context of NSPF, are the following:

- the management of fishery resources, the adaptation of the fishing effort, the promotion of fishing methods that are friendly to the environment and the growth of fishing activities;
- the sustainable growth of aquaculture in a way that the industry can cope with the new competitive conditions;
- the viable growth and promotion of fishery and aquaculture products with emphasis on their quality and hygiene;
- the increase of competitiveness of the fisheries sector, as well as the improvement of its administrative and organizational structures;
- the growth of fishing areas, the upgrade of professional facilities, the maintenance of job positions and also the creation of new jobs in the fisheries sector;
- the protection and improvement of the marine environment.

For the realization of the objectives, set in the context of NSPF, five axes of priority have been determined. Within those five axes several projects will be designed and implemented as described below:

Priority Axis 1 – Measures for the Adaptation of the Community Fishing Fleet

Aim and Objectives of Priority Axis 1

Priority Axis 1 involves the implementation of various measures for the adaptation of the Community Fishing Fleet. The objective of this axis is to finance activities that will be utilized by professional fishermen and will aim at the adaptation of the fishing effort at levels that are consistent with the available fishing reserves. In the context of implementing this axis the following specific measures will be implemented:

- permanent and provisional withdrawal of fishing vessels;
- modernization of fishing vessels;
- support of small scale coastal fishing; and
- use of socio-economic incentives for professional fishermen.

Priority Axis 1 also aims at the modernization of fishing vessels so that they are rendered competitive. In addition, the axis supports activities that aim at the improvement and upgrading of the profession through socio-economic incentives.

The specific actions that will be undertaken for the realization of the objectives determined by Priority Axis 1 are the following:

- withdraw bottom trawls either by dissolution or by changing their use e.g. turn them into museum exhibits;
- subsidize fishermen and workers to permanently withdraw vessels in which they are employed;
- provisionally pause fishing activities in case of unanticipated events and natural catastrophes;
- invest on personnel safety, improved working conditions, improved quality of fishing products and energy saving;
- finance engine replacement for professional fishing vessels;
- educate fishermen on safety issues and upgrade their professional dexterities;
- differentiate fishing activities (*e.g. fishing tourism*);
- support new fishermen who want to purchase their first vessel;
- plan for premature retirement of fishermen working in small-scale coastal fisheries.

Priority Axis 2 – Aquaculture, Fisheries in Inland Waters, Production and Marketing of Aquaculture and Fishery Products

Aim and Objectives of Axis 2

The main objective of Priority Axis 2 is the promotion of viable enterprises and the creation of jobs in the sector of aquaculture, production and marketing. More specifically Priority Axis 2 aims at the production and viable growth of qualitative fishing products.

For the implementation of the objectives determined by Priority Axis 2, several investments will be made to support the foundation, extension and modernization of enterprises, as well as investments in aquaculture.

Also, in the context of achieving the objectives of the Common Fisheries Policy, several activities will be promoted aiming at the improvement of the working and health conditions, improvement of quality of products and the reduction of negative impacts on the environment.

Priority Axis 3 – Measures of Common Interest

Aim and Objectives of Axis 3

The general objective of Priority Axis 3 is the implementation of actions of collective interest, through active participation of enterprises or organizations that act on behalf of the producers and through the participation of other relevant organizations recognized by the state.

In the context of Priority Axis 3 measures of common interest will be financed, but in a wider scale than the measures undertaken by private enterprises. This is expected to contribute to the implementation of the objectives of the Common Fisheries Policy. During the timeframe of this priority axis, 17.6 million Cypriot pounds will be invested.

The measures that will be taken are listed below:

- promotion of collective action;
- implementation of activities aiming at the protection of the aquatic fauna and flora;
- improvement of fishing ports, fishing shelters and spaces of unloading;
- growth of new markets and promotion of expeditions;
- implementation of pilot plans.

The Table 6 presents the indicators of the results that Priority Axis 3 is aiming to achieve.

Table 6: Indicators of result for Priority Axis 3

Indicators of Result	Unit of Measurement	Current Situation (year 2007)	Objective	Forecasted Situation (year 2013)
Improvement of fishing ports	Percentage	0	100%	100%
Improvement of fishing shelters	Number	10	3	-
Construction of fishing shelters	Number	10	1	11

Priority Axis 3 aims at the achievement of the following special objectives:

- protection and improvement of the marine environment;
- construction of new fishing shelter and upgrading of the existing;
- improvement of the quality of aquaculture and fishery products;
- improvement of the competitiveness of the aquaculture sector and of production and marketing;
- upgrading of professional employment in the sector of aquaculture, production and marketing;
- promotion and growth of new markets for fishery and aquaculture products.

In addition, another objective determined by Priority Axis 3 is the support of investments in existing fishing ports and shelters that aim at the improvement of provided services. In particular, there will be investments for the restructuring and improvement of the unloading conditions of fishes.

Generally, the strategic objectives for this priority axis are the following:

- construction of new fishing shelter;
- improvement and upgrade of existing fishing shelters; and
- creation of fish-wharf and space for mooring of fishing ships in the new port of Limassol.

The above objectives aim at the safe mooring of fishing ships and in providing fish catches of high quality and hygiene. The construction of new fishing shelter, as well as the maintenance, improvement and expansion of existing fishing shelters contribute to the safety of the fishing vessels, to the improvement of working conditions for fishermen and to the healthy distribution of fish catches, while at the same time they contribute also to the growth of the local economies and to the upgrading of the areas that depend on fisheries for income.

The construction of the fish-wharf in the region of the new port in Limassol is a necessity and it aims at the creation of suitable spaces for unloading fish catches, at the improvement of the quality of fishery products that supply the market, as well as at the modernization and reorganization of the marketing system of fishing products.

Priority Axis 4 – Sustainable Growth of Fishing Areas

Aim and Objectives of Axis 4

For Priority Axis 4 several activities will be financed aiming at the sustainable growth of fishing areas. The areas are selected based on a holistic strategy, with the goal to support the implementation of the objectives of the Common Fisheries Policy, taking into account mainly socio-economic criteria.

The main objective of Priority Axis 4 is the improvement of the quality of life of people living in those fishing areas. The measures that will be applied in order to achieve this objective will aim at:

- the maintenance of social and economic prosperity in these regions and the proper exploitation of fishery and aquaculture products;
- the maintenance and the creation of new job positions in fishing regions. This can be achieved through the support provided for differentiation and through economic and social reformation of the regions that face socio-economic difficulties due to changes in the fishing sector;
- the improvement of the quality of the coastal environment;
- the promotion of national and international collaboration among fishing regions.

Priority Axis 5 – Technical Aid

Aim and Objectives of Axis 5

For the implementation of Priority Axis 5 several actions will be financed that relate to the preparation, implementation, management, monitoring and evaluation of the National Strategic Plan for Fisheries. These actions will take up to 5% of the total sum of the program.

The main objective of this axis is to support, to the best degree possible, the implementation of the NSPF, as well as the effective absorption of EU and national funding for the period 2007-2013. It is expected that 500,000 CYP will be spent for the implementation of the individual objectives and actions that constitute Priority Axis 5.

Through Priority Axis 5 the following special objectives will be targeted:

- immediate implementation of the NSPF;
- briefing of potential beneficiaries and involved institutions;
- preparation of actions and projects that will be included in the program; and
- effective implementation, management and control of the program.

Table 7: Result Indicators for Priority Axis 5

Indicators of Result	Unit of Measurement	Price of Base	Objective
Transaction of studies	Number	0	5

Based on the objectives of the NSPF, the Department of Fisheries and Marine Research has significant involvement in the implementation of the *European Directive (92/43/EEC) on the conservation of natural habitats and of wild fauna and flora*. The Department of Fisheries and Marine Research is involved in the determination of marine areas that should be protected under this directive.

3.5 Agricultural Policies

The Department of Agriculture of the Ministry of Agriculture, Natural Resources and Environment does not plan to implement any projects that are in close proximity to the coastal zone or affect the coastline. The “Agricultural Development Plan 2007-2013” that has been prepared by the Ministry of Agriculture, Natural Resources and Environment is in accordance with the Common Agricultural Policy of the E.C. and the Community Strategic plans. The plan is expected to be implemented with the following Strategic Objectives:

- increase of the competitiveness in the agricultural sector of that Cyprus;
- improvement of the environment and biodiversity;
- improvement of the quality of life, and expansion of the of the agricultural economy;
- increase of employment opportunities in rural area.

The “Agricultural Development Plan 2007-2013” includes 3 priority axes, each one promoting a series of measurements and actions. A fourth axis aims in the improvement of the capabilities of farmers while the fifth concerns the technical support. In summary the Axes, include the following provisions:

- Axis 1: Improvement of the competitiveness in the sectors of agriculture, forestry and farming (measures to improve the skills of the working force and measures to improve the quality of the agricultural commercial activities);
- Axis 2: Environment and landscape upgrade (measurements that aim in the sustainable use of agricultural and forestry land);
- Axis 3: Improvement of the quality of life (measures of the impartment of agricultural economy, an improvement of the quality of life in the agricultural regions);
- Axis 4: LEADER (measures for the implementation of strategic local development, local and international collaboration and the operation of local action teams, acquisition of skills and improvement of in the region);
- Axis 5: Technical Support.

The Department of Agriculture, has submitted to the competent authority in accordance with the local regulations a Strategic Environmental Impact Assessment, for the “Agricultural Development Plan 2007-2013”.

The Environmental Authority has issued a statement concerning the proposed Agricultural Development Plan for 2007-2013. The environmental statement includes in general the following provisions:

- The competent authority should prepare and implement a monitoring program that will examine various environmental parameters like the quality of atmosphere, the use of renewable energy, the quality of water bodies, and the quality of soil.
- Particularly for the water bodies the following indicators should be monitored in relation with the Agricultural Development Plan: Quantities of water, quality of water sources, excessive ground water exploration, pollution of water bodies.

The above mentioned monitoring plan should be prepared and submitted to the Environment Service for approval.

3.6 Roads, Infrastructure and Coastal Works Policies

The Department of Public Works, of the Ministry of Communications and Works and the Department of Town Planning and Housing, of the Ministry of Interior are the authorities designated for designing and constructing new roads, as well as coastal ones. The Coastal Unit of the first Department is involved extensively in the implementation of projects that aim at the protection of the coast from erosion and in the implementation of projects that relate to the mooring of ships. The objective of the Department is to protect the coasts in Cyprus that face intense erosion problems, in a way that minimizes the negative environmental impacts.

Currently, there are General Plan Studies for coastal projects in three different areas of the island. These areas are found near the cities of Larnaca, Limassol and Paphos. Part of the study that has been prepared for minimizing erosion problems in those areas is presented in Annex III (Coastal Zone Management for Cyprus – Unified Report, Delft Hydraulics June 1996).

The implementation of these projects has already begun in Larnaca and Limassol. Six breakwaters have been constructed in the region of Oroklini/Pyla (see figures in Annex) and fourteen breakwaters have been constructed in the wider region of the city of Limassol (see figures in Annex V). In addition, a number of illegal vertical cantilevers have been removed.

At the moment, General Plan Studies for four more areas are being prepared. Those areas are:

- Chrysochou Gulf;
- Zygi-Kiti (15 breakwaters);
- Kato Pyrgos (16 breakwaters);
- Geroskipou (12 breakwaters).

The General Plan for the Chrysochou Gulf has been submitted already and the plan includes the construction of four breakwaters. Annex VI includes information on this project and it is presented in the “Study for the Protection and Improvement of the Coast of Chrysochou Gulf, *National Technical University of Athens*, January 2002.

The General Plan for the Zygi-Kiti area is finalized and the construction of fifteen parallel breakwaters, will begin next year. Details for that plan are found in Annex VII.

The study for the region of Kato Pyrgos is still at the preliminary stage. The preliminary plans for the implementation of the project in that area are found in Annex VIII. Besides the plans mentioned above, a Preliminary Plan Study for the area of Geroskipou has been prepared and at the moment it is in progress, pending finalization.

In the long run, the goal of the Department of Public Works is to prepare General Plans Studies for all the regions in Cyprus facing erosion problems.

Along with the projects for the protection of the coast from erosion, the Department of Public Works will announce shortly a tender for the construction of a Fishing Shelter in Zygi and the preparation of study for the designing of a fish-wharf in the area of the new port in Limassol. In addition, the Department plans the preparation of a study for the siting of fishing shelter in the region Pissouri.

Moreover, the intention of the Department of Public Works is to announce a tender for the preparation of plans for various projects in the Liopetri River. It's worth noting that the Department has also submitted various proposals for the construction and upgrading of new docks and ramps, mainly in the region of Agia Napa and Paralimni.

Also, the Department has already examined the area in Polis Chrysochou for the siting of a new ramp and has already prepared construction plans for a dock in the region of ancient Amathounta, which will be used mainly for tourist purposes.

In addition, the Coastal Unit of the Department of Public Works on defining and understanding the dynamic behavior of the coastal system around Cyprus by monitoring a number of parameters, by analyzing and interpreting the relevant data and by formulating policies for coastal protection and improvement measures⁴.

In the near future the Ministry of Commerce, Industry and Tourism will assign to a private company the construction of a marina in Limassol, while at a later stage it is expected that marinas in Paphos, Larnaca and Agia Napa will be constructed.

3.7 Tourism Policies

The Cyprus Tourism Organization, a semi-Governmental Organization under the Ministry of Commerce Industry and Tourism is the authority responsible for the tourism policy in Cyprus. The goal of the Cyprus Tourism Organization is to render Cyprus as a destination that will satisfy visitors with various interests and at the same time ensure the improvement of the quality of life of the Cypriot citizens. The Cyprus Tourism Organization aims at the growth of tourism in Cyprus with simultaneous protection of the natural environment and sustainable use of the natural resources of the island.

The objectives of the Cyprus Tourism Organization include among others the increase of expenses that are realized by each visitor, the improvement of the seasonality of the tourist current, the increase in tourist arrivals, the increase of duration of stay and the increase of repeated visits.

The Cyprus Tourism Organisation in cooperation with public and private sector partners has compiled the Strategic Plan for Tourism 2003-2010. The Strategic Plan aims to reposition Cyprus in the international tourism market based on quality and sustainability. The Plan provides for a series of interventions in marketing, product development and quality/value sectors, which will enable Cyprus to reveal its unique identity, attract the desired market segments and fulfill its socioeconomic goals with respect towards its cultural and natural environment.

The Cyprus Tourism Organization aims at creating in Cyprus a tourist product that will be based on the cultural and environmental heritage of the island and not just on the "Sea and Sun". Along with this, the organization aims at creating special tourist products that will attract visitors with special interests. Such products, which relate to coastal issues, are the following:

- infrastructure for swimmers;
- marine parks;
- marinas and fishing shelters;
- marine sports centers;
- cruises and boat trips.

⁴ Loizidou Xenia. 2000.Coastline Management and Erosion Control in Cyprus. Proceeding of SURVAS Expert Workshop on European Vulnerability and Adaptation to impacts of Accelerated Sea-Level Rise (ASLR). Hamburg, Germany.

As far as the number of available hotel beds is concerned, a decision of the Council of Ministers is in force, which regulates the number of hotels in various areas of Cyprus. The decision was taken after considering several factors such as the status of the natural environment, the availability of human resources and the capacity of the beaches.

For a deeper understanding of the current situation in Cyprus regarding the number of hotel units, statistical data are presented in Annex X showing the capacity of hotels in different areas of Cyprus.

3.8 Land and Sea Use Planning Policies

3.8.1 Land Use

The land use planning policy in Cyprus is regulated by the Town and Country Planning Law (TCPL) that came into force in 1991 and is under the responsibility of the Town Planning and Housing Department, of the Ministry of Interior⁵. Specifically, the Department of Town Planning and Housing is responsible for the approval of development projects that are implemented in the terrestrial region.

The strategy of the Department, regarding development projects that are in close proximity to the coast, is determined either by the Local Plans (where appropriate) such as the Local Plan for Limassol, Larnaca, Paphos, Agia Napa and Derynia, or by the Statement of Policy which regulates development and the protection of the environment in the countryside and in villages.

As far as the Local Plans are concerned there are relatively few references relevant to the objectives of the Department of Town Planning and Housing for development in the coastal areas. An example is paragraph 13.7.2 of the Local Plan of Limassol, which determines the General Objective of the Plan for the environmental resources of the region. The coastal area can be characterized as such resource. In this paragraph, it is pointed out that specialized studies and terms are needed for the approval of a development project that can impact regions with rich environmental resources. Similar statements can be also found in the other Local Plans.

In the Statement of Policy, there is a reference on the approval of development projects in areas that are in close proximity to the beach. The reference is included in paragraph 7.4 and it is about the coasts and nature protection areas. The policy of the Urban Planning authorities for these regions is explained precisely in paragraphs 7.4.2.1 to 7.4.2.4 and it can be concisely described as restrictive in terms of approving development projects in coastal and nature protection areas.

In addition, “The Foreshore Protection Law” regulates the approvals for development projects issued by the Department of Town Planning and Housing. One of the most important articles of the Law is the one that determines the Coastal Protection Zone of the coast, which generally extends 100 yards or 91.44 meters of the high water mark. Development projects are generally prohibited in this area, because the foreshore area is public property falling under the jurisdiction of this Law.

On a smaller scale, the Department of Town Planning and Housing prepares local regulating plans aiming at the protection of the coast, the protection of public access to the beach, the organization of road network and parking spaces, as well as the establishment of optical escapes. Those plans are sometimes prepared in collaboration with private consultants.

The department has also contributed to the final evaluation and definition of the proposed Natura 2000 sites. Within the framework of the preparation of Development Plans, the department proceeds in the adoption of coastal conservation areas, designated in the Natura 2000 Programme, in the view of providing the appropriate spatial development policies.⁶

The governing policy of the Department of Town Planning and Housing, for projects in coastal regions, is that the project must be compatible and consistent with the surrounding natural environment. The

⁵ Loizidou, Xenia. Land use and coastal management in the eastern Mediterranean: the Cyprus example. AKTI Project and Research Centre.

⁶ Constantinidou Joanna. Cyprus-State of Play in Implementation of the EU ICZM Recommendation.

strategy that the Department follows, for the approval of coastal projects, requires the evaluation of the impacts of the project on the coast using its type, use and intensity aspects as a guiding tool.

Of course, the criteria used for the approval of an application for a development project in a coastal region are multidimensional and involve town planning, environmental, demographic, economic and other issues.

3.8.2 Sea Use

Along with the Department of Fisheries and Marine Research, the Department of Merchant Shipping, of the Ministry of Communications and Works, is responsible for regulating sea use through a number of activities such as registration of ships, administration and enforcement of the merchant shipping legislation, investigation of marine casualties, control of shipping and enforcement of international conventions. The department also focuses on the prevention of marine accidents and pollution from ships and in the near future the department will focus on the management of accidents that may result into oil spills. The Town and Country Planning legislation that regulates spatial planning on land is not applicable to the sea, though it is of course applicable to the coastal zone and shoreline. In Cyprus there is no single law for marine spatial planning and for resolving any conflicting uses of marine areas. Ultimately where such conflicts arise they are submitted to the Council of Ministers for decisions, if they cannot be resolved on a service or ministerial level. A number of laws have provisions that address and regulate sectoral interests. A report on “Marine Spatial Planning in Cyprus” has been prepared for the Priority Actions Programme Regional Activity Centre (PAP/RAC), in the framework of Mediterranean Action Plan.⁷

⁷ Marine Spatial Planning in Cyprus, Andreas Demetropoulos, September 2007.

4. Key Issues, Problems and Deficiencies

4.1 Fisheries

The Department of Fisheries and Marine Research plans to expand the aquacultures in Vasilikos but this may be in conflict with other economic activities taking place in that area. Vasilikos has an interesting coastal morphology but it faces coastal erosion problems from various human activities. Although the human population in the region is limited, the industrial plants present (including a cement plant and a disused chemical plant) create land and sea use conflicts.

Also, aquaculture development often conflicts with tourism activities since often both compete for the same land and resources. Tourist infrastructure and facilities occupy a large part of the available coastline (no data are available as to the total number of tourist businesses operating within 3Km from the coast), making it difficult to find suitable places for aquaculture. To resolve this issue, offshore marine aquaculture has been promoted in the last few years but the conflict has not been fully resolved yet, since the tourism industry argues that even if the hatcheries are offshore they still impact tourism negatively.

4.2 Agriculture and Water Resources

The Water Development Department designates specific areas to be used as irrigation land, based on the irrigation systems that have been placed. Often, this conflicts with other land uses that various governmental departments and authorities designate for those same areas.

The high development rates in coastal regions and particularly in Paphos create several problems since the existing water supply networks in those areas cannot sufficiently meet the rising demands in water. For example, in Geroskipou large apartment complexes are being built and more housing units are planned for future development but the water supply in the area is inadequate. It is estimated that 140 liters of water are used by every inhabitant of Cyprus per year while according to the data held by the statistical service the population of Cyprus per District (for the year 2001) is:

- Nicosia: 273,642;
- Larnaka: 115,268;
- Limassol: 196,553;
- Pafos: 66,364;
- Famagusta: 37,738.

It can thus be concluded that about 144,139.1 m³ of water are required every year, just for domestic purposes.

Other coastal issues related to water development and water resources include:

- over-pumping of aquifers causing sea water intrusion;
- nitrate pollution resulting into leaching of nitrates to the sea;
- building of dams and major irrigation networks near the coast causing land use conflicts and landscape changes. Dams accelerate coastal erosion (by trapping sediment) and provide incentives for large-scale development because of increased water availability.

Limited rainfall and scarcity of water in Cyprus forced the government to search for alternative sources of water such as desalination plans and recycled water. These options have negative impacts on the marine environment because they require the rejection of brine and biological load into the sea. The largest desalination plant in Cyprus is currently operating in Larnaca district and has an output of 52,000 m³ per day.

In addition, increased water availability, either through dam construction or desalination and treatment plants, provide incentives for development and increased agriculture activities that may result in sea pollution. In the case of agriculture, the use of pesticides, insecticides and agrochemicals increase run-off pollution that often ends up in the sea. Nitrate concentrations in some coastal plain aquifers have increased due to agricultural and urban development. Nevertheless, the principal groundwater quality problem is salinity due to over pumping.

Generally, the quality of the sea water in Cyprus is very good, but since the marine environment is of special importance, it requires the utmost care. There is no industrial effluent discharged into the sea apart from a number of wineries in Limassol. The affected area is restricted between Limassol's two harbors. Pollutants from non-point sources (i.e. agriculture, urban areas) occasionally cause temporary problems. Also, pollutants from aquaculture (i.e. nutrients, loading of organic matter) are currently being monitored.

The quality of the sea water in Cyprus can be viewed in the following table that presents data from the monitoring program for the Quality of the Bathing Waters of Cyprus for the years 2004-2006.

Table 8: The quality of the bathing waters of Cyprus for the years 2004-2006

Coastal Zones	Σ	C(I) (%)	C(G) (5)	NF (5)	NC (5)	NB (5)
2004	100	86	81	9**	5*	0
2005	100	100	100	0	0	0
2006	100	99	99	0	1	0

Σ: total number of swimming areas

C(I): % of sampled swimming waters that fell within the obligatory quality levels

C(G): % of sampled swimming waters that fell within the obligatory and indicative quality levels

NF: % of swimming waters with inadequate sampling

NB: % of swimming waters where swimming is forbidden during the swimming season

NC: % of sampled swimming waters that fell within the obligatory quality levels

NS: % of swimming waters where no sampling took place or where data are not available

Note: The data for the year 2007 is not available to the public yet.

4.3 Population and Rural Development

Currently, the major development trends in Cyprus are: sub-urbanization (i.e. rapid population growth and urban development in suburbs located at the edge of the main urban areas) and coastal development (i.e. rapid coastal tourism development).

With the majority of all tourism accommodation found on the coast, urban population in the coastal cities of Cyprus (mainly Limassol, Larnaca and Paphos) recorded a much higher population growth than Nicosia for the period 1982-2001 (55% and 35% respectively). The analogous relationship for the rural areas is much more skewed with the growth in coastal rural areas reaching 45%, while inland rural growth was only 8%. In fact, the coastal rural population growth was higher than the total population growth.

An example of this trend can be found in the Peyia coastal area which experiences rapid holiday housing development, mainly for expatriates. This kind of rapid development, at the scale observed, creates land use conflicts and infrastructure challenges. Since Peyia is found on the border of the southern edge of the ecologically sensitive marine and terrestrial sites of Toxeftra, the development poses serious threats to the coastal environment of the region. According to the Coastal Zone Development Map produced in 2007 by the Department of Land and Surveys, 7.4% of the Pegeia Municipality land cover is built up while the number of housing units in the municipality reached 2067 (2001 figures).

Another example of rapid development that creates land-use conflicts is the northern urban coastal area of Paphos where development pressures appeared prior to infrastructure planning and provision. The area is subject to growing urban sprawl pressures resulting from housing and tourism

development. The road network is burdened with increase traffic without adequate provision of local access roads, pavements, pedestrian footpaths and water infrastructure. At the moment there are no data available as to the total number of kilometers of the coastal road network in Cyprus.

A very similar situation is observed in the southern urban coastal area of the city of Larnaca. This area incorporates several competing land uses and major infrastructure installations of regional and national importance. It is located south of the city of Larnaca, extending from the Salt lakes to Mazotos, including the area of Larnaca International Airport, the adjacent tourism development settlements of Kiti and Meneou and newly established water desalination and sewage treatment plants.

This area presents multiple coastal planning and management problems due to the fact that sectoral policies have been developed and enforced by various authorities at different levels of administration (national, municipal and local) without a unified and integrated approach.

Development pressures and coastal urbanization are not only confined to the coastal urban areas but expand to surrounding coastal urban-rural fringe areas which are included in the sprawling tourist zones. In many such areas agricultural land is lost to housing development and as a result vegetable groves are rapidly converted into buildings. In many cases the agricultural land left over remains uncultivated. Some of the main problems resulting from the development pressures and coastal urbanization include:

- loss of coastal landscape and degradation of the natural environment due to the intensity of development;
- establishment of a mixture of incompatible uses, heavy traffic and lack of open spaces;
- erosion of the shore;
- overuse of the beaches, which in certain areas reach the upper limit of the beach's carrying capacity;
- problems of beach access due to private infringements and aesthetic pollution;
- deficiencies in infrastructure, landscaping and the provision of basic facilities;
- high building densities in the urban coastal areas, particularly in Limassol, and also in the villages that have been transformed into tourism centers;
- inadequate protection of the "Salt Lakes" of Akrotiri (Limassol) and Larnaca and lack of adequate protection measures suitable to their wetland.

In general, the urbanization of the coastal areas increases the need for valuable scarce natural resources often resulting in their degradation. Also, it increases the risks of polluting the marine environment.

4.4 Tourism (Coastal/Hinterland Split)

The coastal zone is an area of vital economic importance for Cyprus. It covers only 13% of the island's area but it supports 90% of the tourist industry, which is the main economic activity of Cyprus. As much as 95% of all licensed tourism hotel accommodation capacity is found on the coast. Of all coastal tourism accommodation capacity, 55% is concentrated in the suburban tourism centers around the cities of Limassol, Larnaca and Paphos and about 40% is located in the rapidly growing coastal village communities that have grown into tourism centers. According to the Coastal Zone Development Map produced in 2007 by the Department of Land and Surveys, 9.2% of the Cyprus Coastal Zone is currently built up.

The coasts of Cyprus attract nearly 3 million of tourists per year. Poorly controlled coastal development prior the implementation of the Town and Country Planning Law (TCPL) in 1991 created various conflicts especially at main coastal tourist areas in Limassol, Larnaca, parts of Paphos and Paralimni. Intermediate causes include construction of tourist facilities, quarrying of gravel (prohibited by law after the 1970's) and the construction of breakwaters.

The goals set by the Cyprus Tourism Organization for the period 2003-2010 (presented in Chapter 1.8) require the creation and implementation of a number of projects, relevant to the coastal zone, which may be in conflict with other uses designated by other departments. Some of these projects require the construction of facilities that aim at increasing the number of tourists in certain coastal areas and in Cyprus in general. The construction of fourteen new golf courses and the renovation of the two existing ones will enrich the tourist product. An example is the golf course that will be built in Tersefanou Community, which is close to the pilot study area of the southern peri-urban coastal area of Larnaca Town.

Tourism and holiday housing development, attracted by the quality of the coastal landscape, imposes its footprint on the landscape, degrading therefore its quality mainly by to over-development or development near sensitive ecosystems.

Increased development, driven by tourism policies, puts a burden on the coastal regions of the island since tourism often has a significant environmental impact on coastal areas. Besides using land, tourism's demand for resources (such as water) and need for waste disposal facilities cause pressure on water resources, natural coastal habitats and structures such as wetlands and sand dunes. The example of the construction of the port and the marina in Larnaca by private companies in collaboration of the Ministry of Communication and Works will enhance quality of the tourist product, but will cause pressure on the coastal resources. The efforts to transform Larnaca port into tourist / passenger port were placed in 2005 following a governmental decision to promote the development of the port and the marina as a unified project. The goal is to will be the largest passenger port of Cyprus and the marina will have the capacity of 1.000 ships.

Also, the use of the coastal land for tourism purposes results in excessive increases in prices, which can be prohibitively high for other forms of development and uses. Apart from the competition for land, tourism development limits also the available sea sites-candidates for other uses such as aquaculture.

In some cases tourism competes with local coastal wildlife for space and resources. For example, sunbeds and umbrellas, found on many tourist beaches, prevent female turtles from reaching a suitable nesting location on the beach. Umbrellas in particular may damage nests or interfere with incubation temperatures. Although tourism and conservation are not necessarily incompatible, because they often need to exploit the same resources it is important that tourist activities are carefully planned, to avoid irreversible and destructive impacts on local coastal flora and fauna.

4.5 Land Use Planning and Sea Use Issues

The absence of a holistic island-wide coastal development strategy impedes appropriate integrated planning for environmental and coastal issues. Also, the lack of effective planning enforcement mechanisms and the absence of appropriate tools (e.g. fiscal measures) to support spatial planning and sustainable development are some additional major weaknesses of the planning scheme in Cyprus.

The dual role of the coastal environment as an ecological and economic resource is not integrated in the existing policy and remains a source of conflicting priorities. The coastal zone is not a unified planning area and there is no separate institutional or land use planning framework specifically pertaining to coastal areas, especially for the sea spatial planning where the Council of Ministers decide on the approval of construction of projects in the sea, i.e. marinas. Coastal land use zones are parts of several Development Plans applying to different local administrative areas.

Detailed data regarding the land use planning zones along the coast per district are not available at the moment. It can be estimated however, that islandwide the extent of land use planning zones along the coast is as follows:

- tourist zones cover approximately 103 km;
- open areas/Protected zones cover approximately 125 km;
- agricultural zones cover approximately 36 km;
- residential zones approximately 17 km; and
- industrial approximately 9 km.

There are many important economic activities that compete for coastal space. Besides housing and tourist facilities other infrastructure such as airports, ports and oil refinery are also found on the coast creating a growing pressure on water resources, infrastructure and community services. **Recently, the government is discussing the installation of floating Liquefied Natural Gas (LNG) terminal of the coast of Cyprus for the introduction of natural gas to the island.** This would be an additional pressure on the coastal environment of the island. Policies applied so far have not, generally, managed to resolve land use conflicts, leading to the loss of agricultural land, coastal traffic problems, erosion of the shore, overcrowding of beaches, deficiencies in infrastructure, high building densities in many coastal urban areas and insufficient protection of areas of natural importance.

A broader legal framework that affords strong protection of private land development rights encourages development expectations. Land ownership is broadly distributed among the population of Cyprus giving rise to widespread expectations for development in coastal, rural and semi-urban land. Existing development commitments and attitudes towards planning policies synergistically create difficulties for implementing sound coastal and management measures.

This has had important consequences on the coastal management because policy measures such as zoning and designation of protected areas were, and to a large extent still are, opposed at the local level irrespective of their merits as mechanisms for resource conservation with long-term benefits.

An example of this situation can be found in the Polis-Gialia area, which is part of the Natura 2000 network because it is an important nesting site for the Green turtles (*Chelonia mydas*) and the Careta (*Careta careta*). This is an area of considerable ecological importance subject to rapid tourism and urban-type settlement growth. The local authorities in the area are in favor of protecting the turtles but at the same time they want to take advantage of the economic opportunities that are available and develop the surrounding land to an extent that it will contribute to the economic growth of their communities.

In some cases, protection of the environment can be ineffective because the short-term gains from development are not compared to the longer-term environmental costs of development imposed on the wider society. The one-sided approach to development focused on private short-term capital gains prevented the integration of environmental and socio-economic objective in the overall planning process.

It is now documented that the severe erosion of the last three decades is mainly due to human activities. A considerable length (about 30%) of Cyprus coastline is currently subject to beach erosion.⁸ The phenomenon of beach erosion has been steadily increasing during the last three decades, as both development pressure on coastal areas and the degree of urbanization have intensified.

In particular, four main activities have been identified as the major causes of human-induced beach erosion in Cyprus:

- construction of coastal works/projects;
- beach mining;
- dam construction;
- urbanization of coastal areas, without allowing for adequate buffer zones.

4.6 Landscape and Heritage

Coastal urbanization and coast-centered economic growth have minimized the importance and overshadowed the landmarks of rural heritage and the quality of coastal landscape in many parts of the island. These elements should have been supported opportunities for a quality-based development strategy. Market driven development has instead concentrated exclusively on the construction of large beach hotels thus altering the coastal landscape and the social profile of coastal communities.

⁸ Loizidou Xenia. 2000. Coastline Management and Erosion Control in Cyprus. Proceeding of SURVAS Expert Workshop on European Vulnerability and Adaptation to impacts of Accelerated Sea-Level Rise (ASLR). Hamburg, Germany.

A social transformation has occurred in the now economically prosperous tourist villages. For example in Ayia Napa old family homes in the village core have been changed into tourist apartments, restaurants and clubs, displacing village life to new low-density housing area.

The loss of rural heritage is also experienced in the declining non-tourist coastal villages (like in Akamas) where lack of economic opportunities and limited income from agriculture have caused the emigration of young people to tourism areas leaving behind a growing stock of empty village houses.

The result is a socio-economic polarization between the prosperous tourist villages in the outskirts of Paphos, Limassol, Larnaca and Paralimni-Ayia Napa (where tourism development has been encouraged by the planning policy) and the coastal villages that are now under a stricter planning regime like in Akamas and the eastern coast of Paphos.

4.7 “Artificialization” of the Coast

4.7.1 Artificialization Through Coastal Development

The rather extreme polarization of the development pattern, revealed by the concurrent strong coastalization and on-coastal rural hinterland depopulation, creates not only an economic disparity with significant social and environmental consequences. Coastal area are under high pressures and risks are beginning to emerge. On the other hand, the near abandonment of the rural hinterland precipitates the loss of cohesion in areas with rich cultural and social potential.

The pressures on the coastal areas should be a primary concern in spatial planning policies through the policy provisions made for the type and degree of development allowed/encouraged, while equally important is at the more “micro” spatial level the protection of the coastal morphology and the integrity of the shoreline. The changing character of the shoreline in several parts of the coast and the construction of buildings on the coast tend to alter the natural profile with a trend towards “artificialization”. This issue, in addition to the concern about the productivity of coastal activities as buildings congregate in development zones, raises an issue of aesthetic and visual quality that is inherently important for an island society like Cyprus. As revealed by the *Environmental Economics Pilot Applications Case Study* under CAMP Cyprus (December 2007), visual quality and views also have economic benefits which may be lost if aesthetic quality is reduced.

It is beyond the scope of this Report to provide a detailed analysis of the changing physical character of the Cyprus coast (artificialization), but some key indications may be set out for reference.

The following table provides some broad figures of the change of land use on the coast.

Table 9: Development along the coast (length of coastal land in km)

Development type	1974	1991	2000*
Undeveloped	150 (83%)	102 (56%)	72 (40%)
Suburban	9 (5%)	48 (27%)	74 (41%)
Urban	22 (12%)	31 (17%)	35 (19%)
Total length of coast examined	181 (100%)	181 (100%)	181 (100%)

Source: Based on “World Bank, *Environmental Review and Recommendations, Republic of Cyprus*”, 1992.

* Figures for 2000 are rough estimates based on a rapid assessment carried out in the context of the preparation of the *Feasibility Diagnostic Report for CAMP Cyprus 2002*.

The natural (undeveloped) coastal area was reduced from 150 km in 1974 to only 72 km. in 2000. The suburban coastal areas sprawled considerably and twice as much as the urban coastal areas.

A broad survey of the development profile of the coast of Cyprus carried out in 2006 for the purposes of CAMP Cyprus, and based on a rapid field investigation, shows the following situation:

Table 10: Development profile of the Cyprus coast

Type of Area	Area	Length of coast in km	% in each category
Urban coastal areas (Urban, tourism and infrastructure)	Coastal Local Plan Areas	90	30%
Tourism-driven development areas (Expanding tourism development in areas with designated tourism development zones, with pockets of agricultural land)	Liopetri-Sotira-Ayia Napa-Paralimni, Pervolia-Kiti-Meneou, Pissouri area	45	15%
Rural coastal areas (Mainly agricultural area mixed with increasing holiday homes)	Mazotos – Moni area (up to eastern boundary of Limassol Local Plan), Episkopi area – Paphos Airport (easter boundary of Paphos Local Plan), Limni - Pomos	106	36%
Protected coastal areas	Akamas Peninsula, Cape Greco, Salt lakes, Limni and Paramali	55	19%
Total length of coast		296	100%
Inaccessible coastal areas	Sovereign Base Areas of Akrotiri and Episkopi	72	
	Northern coastal area	404	
Total coastal length of Cyprus		772	

Protected coastal areas make up, roughly 20% of the coastline, while coastal areas with rapidly changed profile, with increasingly dominant building development, make up roughly 80%. Coastal areas almost totally arterIALIZED comprise at least 45%.

The data provided by the Cartographic Unit of the Department of Lands & Surveys for 2003 show that then number of coastal communities in Cyprus (the area under the control of the Republic of Cyprus is 67, of the total of 356 communities, covering a total area of 128,348 ha or 1,283 sq.km. The built-up area in 2003 was 11,852 ha representing 9.2%. If is assumed that the on-shore area with direct interaction with the coastal environment extends up to 500 meters from the shore, comprising roughly about 10% of the area falling within the administrative boundaries of the coastal communities, and further assuming that only half of the build up area is within this band of 500 meters from the sea, then the development “footprint” along the 500 meter wide coastal band may be up to 46%.

The above mentioned data shows that the municipalities/communities with the highest percentage of built up area relative to the total area are the ones presented in the Table 11.

If the above coastal communities are grouped by area, the pattern presented in the Table 12 emerges.



Figure 3: “Artificialized” coast



Figure 4: Natural coast

Table 11: Built up area in the coastal municipalities/communities

Community	Area (square meters)	Built up area (square meters)	% of built up area
1. Limassol (Town)	34,615,271	24,716,000	71.5
2. Paphos (Town)	16,840,113	10,854,000	64.5
3. Chlarakas (Paphos suburb)	4,856,133	2,192,000	45.1
4. Larnaca (Town)	32,363,831	14,105,000	43.6
5. Yermasoyia (Limassol suburb)	15,616,696	4,585,000	29.4
6. Ayios Athanasios (Limassol suburb)	14,241,812	4,123,000	28.9
7. Moutayiaka (Limassol suburb)	4,803,205	1,186,000	24.7
8. Yeroskipou (Paphos suburb)	10,337,987	2,314,500	22.4
9. Zygi (Rural Community)	2,249,515	469,000	20.8
10. Voroklini (Larnaca suburb)	15,384,539	2,692,000	17.5
11. Meneou (Larnaca suburb)	4,455,769	741,000	16.6
12. Pervolia (Larnaca suburb)	8,499,247	1,409,000	16.6
13. Ayios Tychonas (Limassol suburb)	9,706,503	1,423,000	14.7
14. Paralimni (Tourism resort)	50,008,563	7,275,000	14.5
15. Mari (Rural Community)	11,052,717	1,407,000	12.7
16. Ayia Napa (Tourism resort)	31,325,303	3,900,000	12.4
17. Kato Pyrgos (Rural Community)	6,449,609	787,000	12.2
18. Kissonerga (Paphos suburb)	8,766,050	967,000	11.0
19. Derynia (Tourism resort)	31,767,016	3,257,000	10.3
20. Pyla (Larnaca suburb)	28,960,887	2,483,000	8.6

The remaining 47 communities have lower % of built up area.

7 communities between 5-8.5%, 14 communities 1-4.99% and 26 communities below 1%.

Source: 2003 data from Lands & Surveys Department, analysis CAMP Cyprus Project.

Table 12: Coastal municipalities/communities by district

Group of communities	Area	Built up area	% of built up area
Limassol and suburbs	78,983,487	35,611,423	45.0
Larnaca and suburbs	89,664,300	21,430,000	24.0
Paphos and suburbs	68,800,283	16,327,000	23.7
Paralimni-Ayia Napa-Derynia	113,100,882	14,432,000	12.7
Zygi – Mari *	13,302,232	1,876,000	14.0

** Area with some concentration of public sector infrastructure establishments.*

Source: 2003 data from Lands & Surveys Department, analysis CAMP Cyprus Project.

4.7.2 Protection of the Coastline – Foreshore Protection

The *Foreshore Protection Law* defines the “foreshore” as “all lands within 100 yards (91,44m) of the high water mark”. The foreshore area is public property falling under the jurisdiction of this Law. The foreshore set back line is one of the main issues elaborated in the *ICZM protocol* (2007) under Article 8 – *Protection and sustainable use of the coastal zone*. It states that: “the Parties shall establish in coastal zones, as from the highest winter waterline, a zone where construction is not allowed.....this zone may not be less than 100 meters in width (taking the necessary measures to regulate or, if necessary, prohibit activities that may have adverse effects on wetlands and estuaries). Stricter national measures determining this width shall continue to apply.”

In Cyprus the foreshore building set back line is set at a distance of 100 yards from the shoreline. Within this zone no building development is allowed except very rarely for light structures (sheds, footpaths, etc.), after approval by the Council of Ministers following recommendation by the District Officer and on advice by the Director of the Department of Town Planning and Housing. Complications occur however due to coastal erosion that washes the shoreline closer to the land. There is some concern in the context of the operation of the Planning System in Cyprus about the multiplicity of responsibilities for issuing planning and building permissions.

Figure 5: Administration of coastal areas: planning system and multiple building licensing responsibilities along coastal areas (Source: Department of town planning & housing)

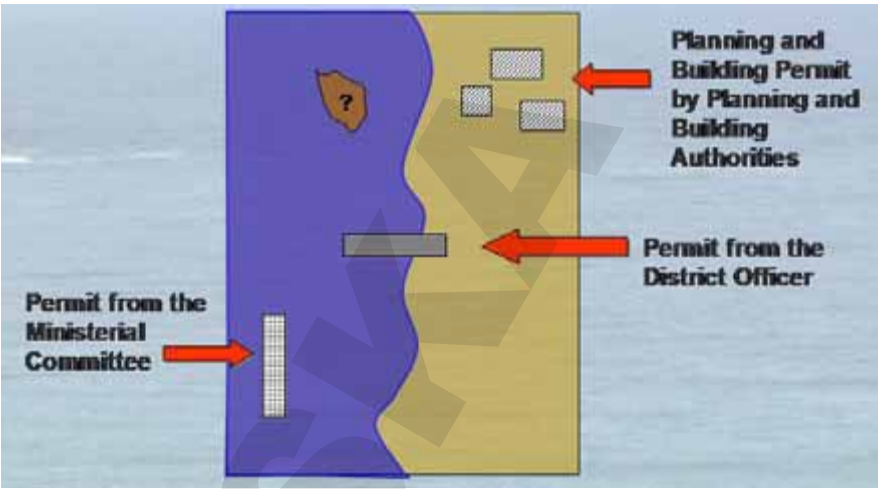
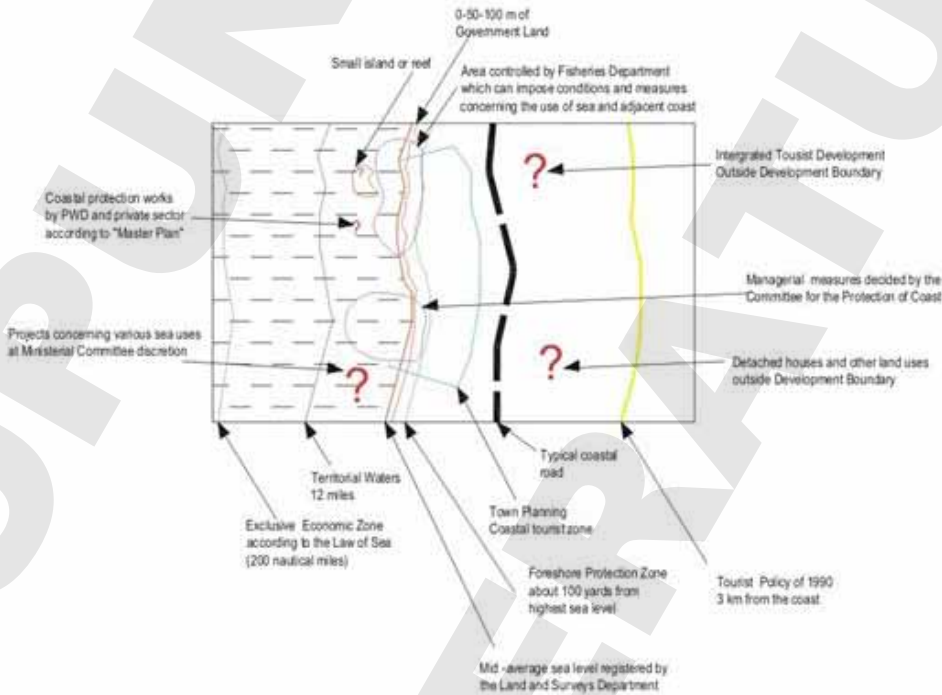


Figure 6: Typical policy and managerial zones and areas of ambiguity along coastal areas (Source: Department of town planning & housing)



The Table 13 shows for comparison the regulation applying to some other countries.

Table 13: Coastal protection status in selected countries

Country	Law and its limiting provisions	Sanctions	Specific country characteristics
Croatia	Marine property is 6 m. strip. Law of 2004 defines coastal zone of 1000 m No construction within 70 m (housing) and 100 m (tourism) in urban areas and 100 m in other areas.	Fines and demolition of illegal units with owners paying the cost	Plans for land use are general with insufficiently strong instruments of management or implementation. Coastal towns, however, have retained their typical features. Pressure though still low is increasing with illegal dwellings.
Egypt	General littoral zone (up to 30 km). No building normally allowed within 200 m. Building with 200 m requires an EIA.	Fines and possible demolition	Laws are not well enforced. Poor coordination between authorities and overlapping and conflicting responsibilities result in severe and increasing pressure. A framework for ICZM issued in 1996 and steps are being taken to prepare a national ICZM strategy.
France	Littoral zone is defined by coastal municipalities. No building within 100 m.	Fines and demolition	Considerable illegal construction, more or less tolerated by authorities. Public management needs strengthening. ICZM is weak because of a plethora of laws and planning instruments that are poorly coordinated.
Israel	Varies from 1-2 km. No building allowed within 100 m.	Fines	Most land is under national ownership and public access is not a problem. But the national Land Administration has joined Local Authorities to "privatize" a lot of coastal land which has reduced public access to beaches. There is a lot of pressure to further convert coastal areas into housing. The new Coastline Protection Law is sound in principle but implementation is crucial.
Italy	Varies according to ecological region. No building within 300 m. Some regional variations (e.g. Sardinia).	Fines and, exceptionally, demolition	Coastal planning is conflicting and fragmented between different levels of government. Frequent amnesties on illegal construction result in a large scale infringement. More than two illegal actions per km of coast, many are luxury developments. Some regional initiatives are encouraging. In Liguria a coastal plan pays special attention to coastal preservation. In Sardinia a wider restriction of on average 2 km has been introduced. Building inside this zone is only possible as part of an urban upgrading or conversion program.
Malta	Littoral zone is 250 m. No construction within zone of variable depth.	Fines	Very great pressure to develop along the coast. The privatization of the coastline is proceeding fast and access to the sea is diminishing.
Spain	Land bound limit is 500 m. Construction allowed within 100-200 m is restricted but not banned.	Fines. Statute limiting action to 12 months. If no legal action is taken there is no sanction	Poor coordination between authorities results in fast coastal urbanization. A lot of illegal building has been taking place and is still ongoing. Considerable controversy on the modification of the Shores Act, which was the basis of coastal regulation. Amendments allow urban plans to override coastal zone protection legislation and make development in coastal areas easier.
Turkey	Landward limit is 100 m and is uniform along the whole coast. Construction prohibited within 50 m but exceptions are made.	Fines and in principle demolitions, but they are rarely used	Implementation of coastal management is very weak. The Settlements Law has been highly misused for improper developments of secondary housing. "Local land use plans" are often careless and override urban planning at higher level.

Source: "Protecting Coastal Zones in the Mediterranean", A. Markandya, S. Arnold, M. Kassinelli and T. Taylor, PAP/RAC, 2007.

5. Need for Harmonization – Towards ICAM Strategy Framework

5.1 An Overview

Notwithstanding the clear and stated commitment of Cyprus for environmental protection, and specifically sustainable coastal development, there exist several gaps:

- There is no established integrated framework for promoting sustainable coastal development. Such a framework is needed to provide a broad “vision” for the future of coastal areas, the role that coastal resources can play in development and to point to the required policy reforms and institutional improvements to effect the shift towards the objectives and measures set out in the Strategic Development Plan 2007-13, the Lisbon Strategy as well as a series of other Mediterranean and EU strategic objectives.
- There is fragmentation of responsibilities and limited effective coordination at different levels of decision making. Policies for, or affecting, coastal development are sectoral policies formulated and enforced by subject-based fragmented legislations (and regulations) as part of the responsibilities of the various competent Ministries/Departments.
- Public participation is a rather weak process giving rise to multiple responses rather than building up a common perception of problems, conflicts and possible solutions.
- Despite the high level technical and professional competency in all policy areas and the existence of spatial development plans for urban and rural coastal area, the linkages across policies are blur and weak. In face of the lack of policy level integration, the authorities resort to often disparate interventions or conflicting developments (water management, golf courses, zoning expansions, coastal agriculture, road infrastructure, desalination plants, etc.).
- There are no effective economic instruments to “internalize” the environmental costs of development so that polluters pay for the damages.
- Moreover, in the process of evaluation and licensing of applications for coastal development and sea use there is a multiplicity of competent authorities.

5.2 The Main Approach Adopted For the Formulation of the ICAMSF

The approach adopted in this Report (discussed in the ICAM Activity Workshops) is based on the elaboration of the current policy practices and issues (in Chapters 1,2 and 3), the examination of the main conflicts and deficiencies (in parts of Chapters 2 and in Chapter 4), and on this basis presenting how ICAM will fulfill the deficiencies. However, ICAM may assume different focus depending on the relative emphasis given to *development*, *environment* or to *integrated development / environmental* approach. It is the focus on ICAM on an integrated approach which makes it an effective tool for sustainable coastal development. This Report proposes an ICAM Strategy Framework after examining the limitations of the previous two options. The approach is illustrated in the Table 14.

Table 14: Approach to ICAM Framework (Source: CAMP Cyprus, ICAM activity)

Sectoral Trends and Policies	Problems and Conflicts	Strategic Actions Needed/Proposed
Current Practice	Main issues and questions (the what questions)	Addressing the conflicts (the how questions)
Population	1. Concerns , for example:	ICAM involving:
Coastal/hinterland balance	▪ Loss of coastal landscape	▪ Policy changes and harmonization
Tourism	▪ Over-building/recreation	▪ Considering approaches:
Agriculture	▪ Degradation threats	▪ Development-driven option
Fisheries	▪ Erosion	▪ Conservation-driven option
Infrastructure	▪ Water quality	▪ Integrated management option
Water development	▪ Beach access	▪ Management guidelines
Land use / Sea use	2. Locations : where?	▪ Institutional implications
Landscape/heritage conservation		Proposing ICAM Strategy Framework

An equally key dimension in the approach to the proposed ICAM Strategy Framework is the importance attached to the various Mediterranean, European and National perspectives and strategies that define regional level commitments and nationally relevant goals that Cyprus should follow. An annotated catalogue of those most important strategic documents is presented below:

UNEP/MAP:

- Mediterranean Strategy for Sustainable Development
- Action Plan for the Protection of the Marine Environment and the Sustainable Development of the Coastal Areas of the Mediterranean
- ICZM Protocol for the Mediterranean

European Union:

- The Lisbon Strategy
- EU Sustainable Development Strategy
- Europeans Spatial Development Perspective
- Environment 2010 – Our Future, Our Choice – The Sixth Environmental Action Programme
- Thematic Strategy on the Urban Environment

Cyprus:

- Strategic Development Plan (2007-2013)
- The Cyprus Lisbon Strategy
- The Strategic Plan for Tourism 2000-2010
- Cyprus Sustainable Development Strategy 2007 and Spatial Development Strategy

Table 15: Mediterranean, EU and National Strategy Documents

Document	Objectives
Mediterranean Strategies	
Mediterranean Strategy for Sustainable Development	<ul style="list-style-type: none"> ▪ Contribute to economic development by enhancing Mediterranean assets ▪ Change unsustainable production and consumption patterns and ensure the sustainable management of natural resources ▪ Improve governance at the local, national and regional levels
Action Plan for the Protection of the Marine Environment and the Sustainable Development of the Coastal Areas of the Mediterranean	<ul style="list-style-type: none"> ▪ Ensure sustainable management of natural marine and land resources and integrate the environment in social and economic development and land use policies ▪ Protect the marine environment and coastal zones through prevention of pollution ▪ Protect nature, and protect and enhance sites and landscapes of ecological and cultural value ▪ Contribute to the improvement of the quality of life

Document	Objectives
ICZM Protocol	<ul style="list-style-type: none"> Establish a common framework for the integrated management of the Mediterranean coastal zone and take the necessary measures to strengthen regional co-operation for this purpose Facilitate thorough rational planning of activities the sustainable development of coastal zones and preserve coastal zones for the benefit of current and future generations Ensure preservation of the integrity of coastal ecosystems, landscapes and geomorphology Achieve coherence between public and private initiatives and between all decisions by public authorities at the national, regional and local levels which affect the use of the coastal zone
EU Strategies	
Lisbon Strategy	<ul style="list-style-type: none"> Competitiveness, building on the existing assets and underutilized potentials in then region to strengthen the existing economic base Attractiveness, building new assets for the region to ensure the inflow of investments and skills in support of knowledge-based economy Livability, ensuring cohesion and a sustainable community with a high level of quality of life and environment for the citizens and for existing and future activities
EU Sustainable Development Strategy	<ul style="list-style-type: none"> Promote sustainable production and consumption patterns Improve management and avoid overexploitation of natural resources, recognizing the value of ecosystem services Actively promote sustainable development to ensure that the EU's internal and external policies are consistent with global sustainable development and its international commitments
European Spatial Development Perspective	<ul style="list-style-type: none"> Development of a balanced and polycentric urban system and a new urban-rural relationship Diverse and productive rural areas Efficient and sustainable use of infrastructure Preservation and development of natural and cultural heritage as a development assets Water resource management, a special challenge for spatial development Creative management of the cultural and natural landscape
Thematic Strategy for Urban Environment	<ul style="list-style-type: none"> Contribute to a better quality of life through an integrated approach to urban areas Control of pollution to avoid harmful effects on human health Promote and ensure sustainable urban management, transport, construction and urban design
National Strategies	
Strategic Development Plan (2007-13)	<p>Strategic Objective 4:</p> <ul style="list-style-type: none"> Upgrade and protection of the Environment Protection of Nature (biodiversity) and Coastal Area through preparation of Management Plans for the Natura 2000 sites and the CAMP Cyprus programme which aims to strengthen actions for Integrated Coastal Area Management, Sustainability Analysis and Public Participation, Carrying Capacity and Strategic Environmental Assessment and use of Resource Valuation and Economic Instruments Improvement of the attractiveness of rural areas by strengthening their economic base and social viability <p>Strategic Objective 8:</p> <ul style="list-style-type: none"> Rational and balanced Spatial and Rural Development Preparation of an "Island Plan" to provide a specific overall framework for strategic planning and guidance for the preparation of Development Plans and Local Plans Introduction of Regional Development Plans Study for the taxation on areas gaining increased value due to new (upgraded) land use zones or infrastructure projects

Document	Objectives
National Lisbon Programme for Cyprus	<p>Current Situation</p> <ul style="list-style-type: none"> The overall environmental situation in Cyprus is characterized by deficiencies in environmental infrastructure (and among other things) a continuous degradation of the natural environment particularly in the coastal areas due mainly to tourist development <p>The main policy priorities include:</p> <ul style="list-style-type: none"> The protection, preservation and management of coastal areas and the internalization of external environmental costs. Two very important measures are underway with regard to the coastal management and sustainable development are the Coastal Area Management Programme (CAMP Cyprus), including Integrated Coastal Zone Management, and the Blue Flag programme: Encouragement of the sustainable use of resources and strengthen the synergies between environmental protection and growth Development of means of internalization of external environmental costs and decoupling of economic growth from environmental degradations
Strategic Plan for Tourism 2000-2010	<ul style="list-style-type: none"> Promotion of Cyprus as a qualitative tourism destination to satisfy the visitors with diverse interests and requirements ensuring continuous improvement of the quality of life of the local population. Priority targets include improvement of the quality of life, provision of high level quality to the visitors and protection of the quality of the environment
Cyprus Sustainable Development Strategy 2007	<ul style="list-style-type: none"> Achieving the goals of the EU Renewed Strategy for Sustainable Development (2006) including improvement of the conservation and management of natural resources to avoid further overexploitation <p>Coastal Areas:</p> <ul style="list-style-type: none"> Strategic objective: Implementation of methods and management techniques which will ensure sustainable coastal management <p>Actions:</p> <ul style="list-style-type: none"> Implementing the various actions of the Integrated Coastal Zone Management Program. Achieving balanced urban and rural development and viable communities
Spatial Development Strategy	<p>Strategic Actions:</p> <ul style="list-style-type: none"> Sustainable urban development to reduce sprawl and improve the economic and functional structure of towns aiming at the improvement of life quality A long-term programme on tourist carrying capacity 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 Promotion of the necessary institutional and administrative reforms focused on the enhancement of country and town planning mechanisms

6. ICAM Strategy Statement

Integrated Coastal Area Management is an adaptive process of resource management for environmentally sustainable development in coastal area. It is not a substitute for sectoral planning but focuses on the linkages between sectoral activities to achieve more comprehensive goals and objectives (UNEP, 1995). According to the definition of the European Commission Council Recommendation, ICZM, a proxy name for ICAM, is a dynamic, multi-disciplinary and integrated process to promote sustainable development of coastal areas seeking to balance the objectives of development and resource conservation.

6.1 ICAM Approaches – Options, Implications, Merits, Demerits

ICAM is the vehicle for overcoming the present fragmented sector-based coastal development control system to move towards an integrated coastal development approach.⁹ Three fundamental elements of ICAM underlie its capacity to bring about and support sustainable coastal management:¹⁰

- improving cross-sectoral and multi level cooperation;
- preserving and protecting the productivity and biodiversity of coastal ecosystems by preventing habitat destruction, pollution and overexploitation;
- promoting rational development and sustainable utilization of coastal resources.

ICAM may assume different emphasis and degrees of integration depending on the relative emphasis given to *development*, *environment* or to *integrated development / environmental* approach. That emphasis determines the ICAM meaningful content as a tool for sustainable coastal development.

Three alternative ICAM approaches are possible with different scope for promoting sustainable coastal management objectives:

- the “development-driven” approach;
- the “conservation-driven” approach;
- the “development-conservation” integrated approach.

It should be stressed here that ICAM is not a Plan for coastal development as such or a detailed programme of actions but rather a *Framework, a frame of reference with goals, objectives and broad priorities and guidelines within which special purpose plans and programmes are expected to be developed.* Its purpose is to set out changes for initiating a continuous, proactive and adaptive process of resource management of coastal areas based on closer integration of policies and decision-making modalities and a set of guiding or *framework* objectives. However, sectoral Plans and detailed Programme will continue to focus on their specific subject-matter adopting and integrating the common goals of sustainable development.

6.2 Development-Driven Approach

Cyprus has, by default, a development-driven coastal management framework where development objectives are overriding environmental conservation objectives. This is a legacy from the past where Cyprus was a poor rural economy and efforts for development were pursued actively, and successfully

⁹ Integration in this context refers to: integrated vision of current coastal problems and conflicts, integrated policies for responding to coastal problems and conflicts, integrated actions at different levels of administration, integrated information basis cross disciplines and sectors, and integrated view of terrestrial and marine components.

¹⁰ UNEP/MAP/PAP, 1997, “Guidelines for Integrated Coastal Area Management in the Mediterranean”, Split, PAP/RAC, UNEP/MAP/PAP, 2001, “White Paper: Coastal Zone Management in the Mediterranean”, Split, PAP/RAC, and several other documents.

from that point of view. Under this prevailing “coastal development philosophy”, opportunities for coastal development are viewed with greater interest as investment actions with environmental conservation considered as an afterthought or an obstacle to be overcome.

The “development-driven” approach operates in terms of the following main characteristics:

Goals

- Goals defined sectorally and inadequately shared and reflected across sectors;
- To the extent that general goals are common across sectors they lack focus and are interpreted more in terms of sectoral priorities than in cross sectoral implications;
- Goals are development-driven creating a bias towards development actions.

Policies

- Policies are sectoral, usually defining short term development priorities independently of environmental considerations and longer term requirements;
- Resource and infrastructure capacity limits arising from development commitments are not considered in most cases;
- Limited use of environmental information in development policy making;
- Inadequate valuation of coastal and natural resources.

Institutional and Implementation Issues

- Public sector comprehensive development strategy either missing, weak or overtaken by market forces, overlooking the need for coordination with environmental management Decision-making bodies act with reference to separate programmes supporting development needs and investment plans;
- Environmental resources protected by relatively weak legislation and enforcement capacities often isolated as anti-development.

Merits

- Reduced need for policy reforms and change;
- Maximization of short-term economic growth.

Demerits

- Risk of overdevelopment and resource degradation;
- Accumulated threats to environmental quality;
- Increasing “cost of environmental degradation” undermining future options and productivity of activities that depend of environmental quality (tourism, agriculture, etc.).

6.3 Conservation-Driven Approach

A possible reaction to the present development dominated approach may be the conservation-driven approach. This approach may attract the support of environmental groups and possibly by the environmentally aware and sensitive sections of the public but will probably have very little appeal in policy making lest it compromises development needs.

The “conservation-driven” approach operates in terms of the following main characteristics:

Goals

- Conservation becomes a sector-driven goal underlying a view of development as a source of conflict and essentially harmful to the coastal environment;
- Goals seek to pursue a conservation policy without taking into account development needs and opportunities;
- Goals not shared by the already well established stakeholders and development groups.

Policies

- Sectoral policies tackling specific terrestrial, coastal and marine resources with little or no reference to economic factors;
- Weak links with economic instruments necessary for sustainable conservation and environmental investment.

Institutional and Implementation Issues

- Implementation relies on restriction and regulation enforced in local spatial contexts whose effectiveness will fluctuate according to the quality and scope of the land use plans and the licensing process;
- The presence of a good legal framework for resource conservation, implementation will remain dependent on enforcement and monitoring requiring good governance and sound environmental awareness which takes many years to build up.

Merits

- Increase in environmental awareness;
- Limits to resource degradation.

Demerits

- Failure to achieve synergies between development and environment, necessary for sustainable resource management.
- Failure to integrated environmental concerns in overall policy framework.

6.4 Integrated Approach

6.4.1 Key Issues

Neither the development-driven nor the conservation-driven approach can ensure, or even contribute to, sustainable coastal management. Both approaches lack the capacity to integrate development and conservation objectives and promote opportunities for synergies between them. Spatial planning is a major policy area for integrating development and conservation objectives. However, at present, the Development Plans encounter the following limitations:

- fall short of enclosing all the policies and actions to ensure sustainable management of coastal development;
- lack an overall development vision harmonizing development and conservation objectives;
- are insufficiently aligned with the wider field of economic and social policies;
- are prepared and implemented as sectoral land use policies poorly coordinated with other sectoral policies with activities influencing or determining the use of coastal resources (tourism, water development, infrastructure development, heritage preservation, landscape conservation, etc); and
- most importantly, lack guidance and support from a higher-tier strategy combining a comprehensive territorial and policy perspective.

The achievement of sustainable coastal management requires an integrated strategy comprising mainly the following:

- **Horizontal integration** of policy goals across all sectors affecting coastal development (land use, infrastructure, tourism, water management, waste management, cultural and heritage conservation, rural development, etc.);
- **Vertical integration** of sectoral actions;
- **Spatial integration** of development priorities according to development/conservation;
- **Integration of ICAM** with the above elements in the national, regional and local policy framework.

6.5 Integrating the ICAMSF in the National Policy Framework

This Activity has focused attention on the need and the methodology for establishing an Integrated Coastal Area Strategic Framework for Cyprus (ICAMSF). It has elaborated on the pressures on coastal resources arising from the increasing concentration of building and infrastructure development and economic activities in coastal areas, and the limitations of the existing policy framework to respond adequately to these pressures **raising concerns about the emerging risks to the quality of the coastal environment as well as to the quality of coastal development itself**. Some of the major problems emphasized include:

- The presence of a multiple set of sectoral policies applied to coastal protection and development forming, however, **a fragmented framework** without a unified approach / vision to the challenges and needs of reconciling development and environmental objectives.
- The **limited effectiveness of the existing planning and management tools** for supporting the enforcement of laws, regulations and policy provisions to achieve sustainable coastal development; While Strategic Environmental Assessment is now a legal requirement embodied in the Cyprus legislation according to the relevant EU Directive, other important tools of Carrying Capacity Assessment, Resource Valuation, Economic Instruments and Environmental Awareness are not used.
- The recurrent delays in implementing plans, policies and projects in coastal and other areas (Akamas Peninsula Management Plan, Paralimni Local Plan, Lefkara Local Plan, Desalination and Sewerage Treatment Plants, etc.) mainly due to **divergent priorities and objectives between the national and the local levels of decision making**.
- The **continuing polarization of “development” and “environmental protection” as strategic national goals** and the dominance of short term over longer term objectives, fuelling the advocacy of often exclusive choices by various private sector organizations of either “development” or “environmental protection” ignoring the obvious synergies between the two.

In this light, the ICAM Activity proceeded to demonstrate the need for and the strengths of an Integrated Coastal Area Management Strategic Framework for Cyprus following an assessment of the shortcomings of alternatives such as the “development-driven” and the “conservation-driven” approaches to provide solutions to the existing issues.

6.6 The Role of the Island Plan

The establishment and operation of the proposed ICAMSF requires a strong linkage within the national level policy framework to act as the mechanism for supporting the achievement of its objectives. The proposal put forward by the ICAM Activity on this issue is the incorporation of the ICAMSF into the *Island Plan*. The *Island Plan*, according to the Town and Country Planning Law of 1972, is the highest level Development Plan document within the hierarchy of Development Plans (Island Plan, Local Development Plans and Area Schemes) the responsibility for which has been given to the Minister of Finance due to the strong linkages between spatial and socio-economic development parameters and goals. Due to the political crisis in Cyprus of 1974 created by the invasion and occupation of the northern part of the island by the Turkish army, the *Island Plan* prepared back in 1968-70 had since remained inactive, temporarily substituted by a *Policy Statement for the Countryside*. Unfortunately, the Policy Statement for the Countryside lacks the comprehensiveness and integrated scope envisaged by the *Island Plan*.

The absence of a comprehensive spatial development strategy has, among other things, prevented the integration of coastal development with the country's economic development strategy resulting in a geographically and thematically segmented approach to coastal resource dominated by the localized spatial Development Plans. The Minister of Finance, and the Cyprus Government as a whole, recognizing the need for fulfilling this deficiency proposed the reactivation of the *Island Plan*, a proposal referred to in the *Strategic Development Plan 2007-13*. The Town and Country Planning Law describes the *Island Plan*:

“to be at the top of the planning policy hierarchy to cover the whole territory of the island, to be prepared by the Minister of Finance having the scope to determine the long-term strategy for the distribution of population, employment and the location of the infrastructure of national importance, the utilisation of resources and the identification of future development opportunities. It would function as a comprehensive strategic plan containing proposals for the overall direction of physical development, harmonised with the objectives set out by the national economic development strategy, providing the strategic context for the preparation of the Local Plans. The Island Plan would present the Government’s intentions for the use and protection of land through policies including:

- *The regional distribution of population;*
- *Regional level locational policies for major land uses and major infrastructure relating to economic and social policy (ports, airports, hospitals, etc.)*
- *The designation of areas of special historical, social, architectural, cultural and environmental value.*
- *The national and regional transportation network”.*¹¹

6.7 The Proposed Integrated Coastal Area Management Strategic Framework (ICAMSF)

6.7.1 Basic Principles

- In view of all the above, the establishment of ICAMSF should be as an integral part of the Island Plan and should be:
 - comprehensive in scope and long term in outlook;
 - inclusive of spatial and economic planning goals and priorities;
 - at the highest level of policy and decision-making system.
- The preparation of the Island Plan, being the responsibility of the Ministry of Finance / Planning Bureau, will ensure close co-operation between all competent Ministries and Departments and in dialogue with private sector stakeholders.
- As a major component of the Island Plan, the formulation of the ICAMSF will be a process for:
 - fostering active and focused participation of all the responsible Departments in the formulation of and agreement on common national sustainable development goals and objectives;
 - strengthening an understanding of “island-wide” cross-sectoral issues in coastal management and environmental risks;
 - bringing, under a common policy framework, economic policies and the spatial and resource management implications;
 - increase the interest in and the responsibility for cooperation among the various levels and actors in the decision making process;
 - encouraging policy makers to view and review priorities and actions within a wider strategic context and local circumstances;
 - allowing better appreciation of the socio-economic and environmental value of the remaining open coastal areas and the need to align development with the benefits of conservation.

6.7.2 The Nature of the ICAMSF

The proposed ICAMSF is not a Plan for coastal management as such or a detailed programme of actions but rather a *Framework* to initiate a continuous, proactive and adaptive process of resource management of coastal areas, a tool for harmonizing policies and multi-level decision-making affecting coastal resource management. To guide the changes needed towards a continuous, proactive and adaptive process of resource management of coastal areas, the ICAMSF sets out the goals, objectives, the institutional and implementation issues involved, recognizing that plans and detailed sectoral programme will continue to focus on their specific subject-matter but adopting and integrating the common goals of sustainable development.

¹¹ Town and Country Planning Law, 1972.

6.7.3 The Logical Base of the ICAMSF

The ICAMF adopts the logic that if the goals embodied in the various important documents set out above are to be achieved, a series of integrated activities will need to be carried consistent with those goals. Between the declared goals and the desired outcomes there is a need for a *framework* to guide the pursuit of coordinated activities contributing towards the achievement of sustainable coastal management. The ICAMSF fulfils this need.

Major issue underlying the need for the establishment of the ICAMSF: The overall environmental situation in Cyprus is characterized by deficiencies in environmental infrastructure and policy harmonization (and among other things) a continuous degradation of the natural environment particularly in the coastal areas due mainly to tourist development (Lisbon Strategy for Cyprus).

Major goal: To establish of a Strategic Framework for Integrated Coastal Area Management including tools for harmonizing goals, policies and actions necessary for better protection of the coastal environment, halt the loss of biodiversity and coastal management.

Main specific goals: A set of specific goals concerning spatial and coastal development are stressed in the National Strategic Reference Framework of Cyprus for the period 2007-13:

- protection, preservation and management of coastal areas through sustainable use of resources;
- promotion of economic development through synergies between environmental quality and economic activities that rely on environmental quality;
- balanced coastal and hinterland development;
- internalization of external environmental costs;
- decoupling of economic growth from environmental degradations.

Integrated Coastal Area Management Strategic Framework

Introduction

Coastal areas are under pressure from building, infrastructure development and population growth. At present there is lack of a common definition of the “coastal area” either in legislation or in the spatial planning system. The various authorities adopt different definitions while the management and planning of coastal areas is segmented into individual spatial plans which, although they take into account local criteria and circumstances, are not guided by a comprehensive strategy for coastal management. Policy formulation and implementation actions are disparate and responses to emerging needs are pursued outside an overall coastal resource management strategy.

To move towards sustainable coastal management policies, actions and programmes should be guided by an Integrated Coastal Area Strategic Framework to ensure, in the first instance, effective protection of coastal resources and ultimately to integrate all sectoral policies within a long term perspective on environmental and development. Sustainable use of coastal resources should be a primary issue in all sectoral plans and policies.

An *Integrated Coastal Area Strategic Framework* set out below defines the main guiding goals and objectives pertaining to an integrated approach to coastal areas cutting across the various sectors centered around four overriding axes:

- protection, preservation and management of coastal areas through sustainable use of resources;
- promotion of economic development through synergies between environmental quality and economic activities that rely on environmental quality;
- restoration of balanced coastal and hinterland development;
- improvement of governance at the local, district and national level.

The ICAMSF also outlines the main implementation and institutional issues.

The Island Plan has remained inactive since 1974 creating a vacuum in the planning and resource management system. The absence of a comprehensive spatial development strategy has prevented

the integration of coastal management with the county's economic development strategy resulting in a geographically and thematically segmented approach to coastal resource dominated by the localized spatial Development Plans. The proposed preparation of the **Island Plan** (proposed in the Strategic Development Plan 2007-13) will fulfill this deficiency given its role as defined by the Town and Country Planning Law.

Protection, preservation and management of coastal areas through sustainable use of resources	
Spatial planning	<p>Adopt ICZM Protocol guideline on foreshore protection</p> <p>Incorporate biodiversity strategy in the Development Plans (including marine, coastal and terrestrial biodiversity)</p> <p>Protect coastal agricultural land and heritage sites from the expansion of designated development zones, and observe Carrying Capacity and Strategic Environmental Assessments</p> <p>Introduce and apply Resource Valuation assessment and Economic Instruments in Plan preparation and implementation</p> <p>Planning decisions and zoning changes that create "betterment" of property values and increased development rights should be taxed to "internalize" development costs, encourage resource conservation and raise revenues for coastal and other environmental expenditure for protection and monitoring</p>
Tourism	<p>Restrain the growth of accommodation facilities and encourage diversity through development of sport, cultural, recreational facilities and nature destinations</p> <p>Protect and promote open coastal areas as a complementary element of tourism attraction</p> <p>Tourism strategy defining development areas should take into account Carrying Capacity constraints and impeding Strategic Environmental impacts, particularly the need for the protection of coastal ecology and the integrity of coastal and marine biodiversity</p>
Water resources	<p>Improve water management in coastal areas and avoid over-exploitation of scarce water resources</p> <p>Prevent building and intensive agricultural development affecting the quality of ground and surface water bodies and the salinity of coastal water supplies</p> <p>Define broad water balance conditions and potential risks as factors in coastal resource management particularly in areas under development pressure</p>
Agriculture	<p>Avoid intensive agriculture in near shore locations and promote "environment friendly" and methods provided in the Agricultural Development Programme 2007-13</p> <p>Restrain the use of chemical pollutants in agricultural production in parts of the coastal areas that may leak to ravines, rivers and the sea</p> <p>Protect coastal agricultural areas and promote coastal agriculture in designated areas as an environmental resource and landscape feature (Agricultural Development Programme 2007-13)</p>
Infrastructure / Traffic	<p>Protect the marine environment and the land/sea interface shore area from interventions and constructions that cause erosion</p> <p>Avoid interventions that alter beach morphology and beach quality and restore area suffering from erosion areas with actions that secure pedestrian accessibility and recreation</p> <p>Prevent vehicular road construction within a distance of at least 100 m from the shore and other road and accesses to the beach that may fragment coastal landscapes</p> <p>Adhere to the conclusions reached by Carrying Capacity and Strategic Environmental Assessments</p>
Economy and society	<p>Change unsustainable production and consumption patterns that degrade natural coastal resources</p> <p>Strengthen social awareness of the value of coastal resources through cost/benefit type information</p> <p>Promote coastal areas as economic assets for tourism and public enjoyment</p>

Promotion of economic development through synergies between environmental quality, social welfare and economic activities

Spatial planning	<p>All development Plans and particularly in those for Akamas, Paralimni, etc., and coastal developments (such as energy projects, marinas, etc.) should be guided and planned as parts of an overall strategy (vision) for coastal management.</p> <p>Development Plans should balance short term and long term consequences on coastal resources, biodiversity, landscape and natural / cultural heritage which ensure economic and social development opportunities for the future.</p> <p>Contain development zones in coastal areas equipped with infrastructure and services to ensure cost-effective development and prevent the wasteful infrastructure costs of scattered development</p> <p>Improve footpaths, cycle tracks and public access to and along the beaches</p> <p>Improve urban design and visual quality in coastal areas (prepare and apply simple guidelines for uniform road signage and control advertisement panels in coastal areas)</p>
Tourism	<p>Diversify tourism development with respect to the type and location of tourism development harmonizing hotel accommodation with recreation facilities</p> <p>Contain the expansion of scattered coastal holiday housing fragmenting development land and opportunities for integrated resort developments</p> <p>Seek and utilize opportunities for the development of integrated community-based tourism centres, including agro-tourism and local agriculture to increase local tourism multiplier and visitor returns</p>
Water resources	<p>Water management should seek to maximize the value of scarce water resources through uses that sustain the most productive economic activities</p> <p>Water pricing should reflect the full cost of water production including the environmental cost</p>
Agriculture	<p>Coastal agricultural should play a more important role in integrated coastal development by creating stronger links with tourism demand to increase local value added</p> <p>Coastal agriculture, even though it may yield lower financial returns relative to housing or tourism, plays a significant indirect economic development role over and above its direct production by adding value to property in adjacent areas</p>
Infrastructure / Traffic	<p>Sea uses (such as off shore energy installations) should be subject of study in terms of both their land use and coastal engineering consequences</p> <p>Establish a road access hierarchy separating car and goods supply vehicle traffic from pedestrian and cycle movement</p> <p>Harmonize efficient road and transport accessibility with environmental quality</p>
Economy and society	<p>Coastal resource management should become an integral part in economic development strategy given that coastal areas are the spatial focus of the Cyprus economy</p> <p>Coastal areas should be given a designated status in economic and spatial planning policy</p> <p>Strengthen effective public participation in coastal management to ensure a more equitable distribution of benefits from coastal development /conservation</p>

Restoration of balanced coastal and hinterland development

Spatial planning	<p>As a rule, avoid further expansion of coastal development by consolidating existing development areas and reducing the pressures on open coastal areas</p> <p>Create development centres in rural areas through an integrated rural development strategy for job creation and population increase</p>
Tourism	<p>Tourism job opportunities and related investments in small and medium size service and manufacturing establishments addressing visitor needs in suitable hinterland areas should be more actively promoted</p>
Water resources	<p>Water allocation to hinterland areas should ensure future development needs and a policy for population and employment increase</p>
Agriculture	<p>Agricultural potential in hinterland areas (vegetables, fruits, dairy products, should be linked to small and medium size manufactured production for local and tourism consumption as well as demand in coastal areas</p>
Infrastructure / Traffic	<p>Improve the accessibility of hinterland areas</p> <p>Improve transport links between clusters of communities and with nearest towns</p>
Economy and society	<p>Building on the existing assets and underutilized potential in hinterland areas to strengthen their economic and social base and ameliorate polarization</p> <p>Support declining rural communities to create livable conditions and better quality of life and environmental conditions</p>

Improvement of governance at the local, district and national level	
Spatial planning	Strengthen the technical, financial and administrative capacities of local authorities as viable partners in land use planning Achieve coherence and complementarity of public and private initiatives
Tourism	Within the framework of the overall tourism strategy, develop district and local level strategies taking into account local needs, aspirations and benefits
Water resources	Development projects creating water demand should take into account regional and local water balance conditions
Agriculture	Water allocation to agriculture should ensure the viability of local production patterns and their potential linkages with tourism and population demand
Infrastructure / Traffic	Road and other infrastructure development of national / regional importance (ports, airports, energy, wastewater treatment plants etc.) should be harmonized with development and environmental conditions
Economy and society	Local society should play a greater role in policies as the final beneficiaries of all economic and social development The “local point of view” on “development” should be given more attention to avoid conflicts over proposed actions (e.g. Akamas Plan, Paralimni Plan, etc.)

Implementation and Institutional Issues

An Overview

An *Integrated Coastal Area Strategic Framework* needs to be incorporated within an island-wide policy document which will define the major long term social, economic, environmental and spatial development objectives. This document will be the **Island Plan** proposed by the Strategic Development Plan for Cyprus 2007-13. The **Island Plan** will thus provide (a) the niche for Integrated Coastal Area Management (*ICAM*) (b) the instrument for closer coordination among Ministries and Departments on strategic planning and (c) the context for the coastal and other Local Plans.

All Ministries and Departments, responding to the need for *ICAM*, should define common and compatible objectives for resource conservation and development targets consistent with the proposed *ICAMSF* to feed into the *Island Plan*.

In light of these common and compatible goals, cooperation should be actively pursued among all Ministries and Departments, and guided by the proposed *ICAM Strategic Framework*, to identify key areas of *interdependence and potential conflicts* in coastal development arising from their particular policies, priorities and actions.

Establishment of an Inter-Ministerial Committee on ICAM

For strengthening the institutional status and for activating effective coordination among the various competent Ministries / Departments, and between the public and private sectors to achieve the above, a *Coastal Area Management Ministerial Committee* should be established, composed by the Minister of Agriculture, Natural Resources and Environment, chairman, Minister of Finance, Minister of Interior, Minister of Commerce, Industry and Tourism, Minister of Communications and Public Works, to be assisted by a high level *Technical Committee* (preferably the *CAMP Cyprus Steering Committee*, enlarged to include more private sector and NGO representatives, chaired by the Director of the Environment Service).

Among the first tasks of the Technical Committee will be:

- Review the present regulations for “foreshore protection” according to the ICZM Protocol requiring prohibition of building development within a distance of at least 100m from the shore.
- Review the present fragmentation of responsibilities in the issuing of development permits for near-shore and off-shore uses, particularly for large developments, involving various authorities (Department of Town Planning and Housing, District Administration, Ports Authority and Council of Ministers) and advise on necessary changes towards its rationalization.

- Ensure that advice is given to the Ministerial Committee concerning potential threats to the coastal and marine ecology and the consequences for coastal erosion from near-shore and off-shore developments.
- Establish a close liaison and engage in consultations with the Planning Board and the Technical Committee on Environmental Assessment concerning ICAM.
- Produce an operational document to be submitted to the Ministerial Committee, outlining the key areas of *interdependence and potential conflicts* in coastal development arising from their particular policies, priorities and actions ensuring that all resources, development sectors and decision-making bodies are interlinked under a common and long term strategic vision on coastal management.

The Role of the Planning Board

The role of the *Planning Board*, responsible for the preparation and approval of Spatial Development Plans under powers delegated by the Minister of Interior, should harmonize its decisions with regard to the Development Plans in line with the goals of the *Island Plan* and the ICAMSF. The *Planning Board* should also ensure that important the tools of ICAM, and the specific policy changes proposed, are integrated within the planning process (such as carrying capacity, strategic environmental assessment and resource valuation instruments).

Public participation, environmental awareness and the strengthening of the role and resources of local authorities should be promoted by the *Ministries of Interior and Agriculture, Natural Resources and Environment*, in the context of an effort towards effective, efficient and appropriate decentralization of spatial planning. In this connection, the proposals of the *Imagine* methodology developed under *CAMP Cyprus* should be adopted and adjusted to local needs.

Annex I:

The Lisbon Strategy

The Lisbon Council of March 2000 launched a strategy, with the objective of making the European Union (EU) the most competitive and dynamic knowledge-based economy in the world. With little progress achieved in the first years of the implementation of the Lisbon Strategy, the European Council invited the Commission in March 2004 to establish a high-level group, headed by the former Prime Minister of the Netherlands Mr. Wim Kok, with the purpose of carrying out an independent review of the Lisbon Strategy. The review, which was presented to the European Commission on November 3, 2004, recommended that the Lisbon strategy refocuses on growth and employment, bearing in mind the need to maintain social cohesion and to ensure environmental sustainability. Building on the findings and suggestions of the Kok Report, and following extensive discussions at the EU and national levels, an Integrated Package of Guidelines was developed and agreed upon, as a basis for the preparation of the National Lisbon Programmes. To enhance the effectiveness of these programmes and increase the sense of ownership of the Lisbon strategy, the European Council called upon member states and the Commission to engage and mobilize all relevant parties and stakeholders at the national and Community levels in the preparation and implementation process.

Cyprus, fully, supports these efforts and welcomes the decision to prepare National Lisbon Programmes, in order to achieve the targets set out in the Lisbon strategy. The initiative undertaken by the European Commission to visit all member states, and discuss with the national authorities and the social partners the preparations of the National Lisbon Programmes, was of particular significance. The consultations, which took place in Cyprus on the 25th of July 2005, were indeed constructive and helpful for the preparation of the National Lisbon Programme.

During the preparation of the National Lisbon Programme of Cyprus, social partners, political parties and the private sector in general were informed and consulted extensively. Thus, the preparation of the report provided a much-needed platform for a constructive dialogue with all stakeholders on the broad reform agenda. The draft Lisbon programme was prepared by mid-September 2005 and discussed with social partners and the political parties and the final version was submitted to and approved by the Council of Ministers. We consider that the strong involvement of all interested parties in the process of preparing the programme has contributed positively in enhancing the sense of national ownership of the Programme.

The National Lisbon Programme will be available on the website of the Ministry of Finance. Upon publication, all stakeholders will be invited to submit suggestions regarding the establishment of an effective monitoring mechanism for the implementation of the Programme. Implementation of the measures and policies included in this report will require a continuous dialogue with all stakeholders and a monitoring mechanism will be established under the coordination of the Ministry of Finance. Progress reports will be prepared on a regular, bi-annual, basis and will be submitted to the Council of Ministers. Gradually, a set of indicators will be developed to facilitate the assessment of progress in the implementation of the Lisbon Programme. As a starting point, the core structural indicators could be used towards this end.

The main paper will concentrate on tackling the main challenges identified for Cyprus. It is structured in three chapters: macro, micro and employment. Annex 1, provides a broad discussion of guidelines not covered elsewhere in the main text. Annex 2 presents information concerning the use of the Cohesion and Structural Funds in support of the Lisbon objectives. Annex 3 comprises of a set of tables with the specific measures and policy actions included in the Programme, the implementing authority responsible for each measure, the timetable set for implementation of these policies, as well as, where this is available, their budgetary impact. This set of tables transforms the National Lisbon Programme into an operational programme and facilitates the monitoring for its implementation.

Key Challenges for Cyprus

1. Sustainability of public finances;
2. Improve the quality of public finances via a redirection of public expenditure;
3. Increase the diversification of the economy towards higher value added activities via, mainly, an increased utilisation of the comparative advantages of the island;
4. Promotion of R&D and innovation and facilitation of ICT diffusion;
5. Structural reforms targeting at enhancing competition and improving the overall business climate;
6. Upgrading of basic infrastructures;
7. Further human capital development;
Enhancement of the links of the educational system to labour market needs;
Development of a comprehensive national framework for lifelong learning
Continuous upgrading and adaptability of skills to labour market needs
8. Further enhancement of the conditions of social cohesion;
9. **Ensuring environmental sustainability.** (emphasis added)

Annex II:

Strategic Development Plan 2007-13, Planning Bureau, Republic of Cyprus

The Strategic Development Plan sets out the vision and the objectives for the economy (public and private sector) and defines the measures for their implementation. It is the first Strategic Plan prepared the accession of Cyprus to the EU and has a seven year span to coincide with the new planning period of the EU.

The Strategic Development Plan includes all the medium term development objectives, with analysis of the priority axes and measures, those which are included in the Programme Documents which will be co-financed by the EU funds as well as those which will be funded totally by the State budget, thus securing the cohesion of the overall development effort.

For the preparation of the Strategic Development Plan the following have been taken into account:

- The development programme pursued by the Government of Cyprus;
- The National Reform programme under the Lisbon Strategy;
- The EU guidelines for the preparation of National Strategic Reference Framework and the Operational programmes;
- The Convergence Programme for the adoption of EURO as national currency;
- The Government commitments towards full compliance with the EU *acquis*;
- The Best Practices from other countries, mainly the Scandinavian countries, as analyzed in a special seminar held with success at the Planning Bureau in November 2005.

The Draft was submitted to the Council of Ministers which approved it, with the decision 62.585 of 5 September 2005, as the basis for consultations with all major bodies representing the wider public and private sector.

For the implementation of the strategic goals of the Plan the following 8 strongly interrelated basic development axes:

- Axis 1 – Strengthening the Competitiveness of the Economy;
- Axis 2 – Promotion of Research and Innovation;
- Axis 3 – Strengthening of Social Cohesion;
- Axis 4 – Improvement and Protection of the Environment;
- Axis 5 – Improvement of the Quality of Life;
- Axis 6 – Accessibility: Expansion and Improvement of basic Infrastructure;
- Axis 7 – Continuous Development of Human Resource;
- Axis 8 – Sustainable and Balanced Spatial and Rural Development.

Under Axis 4 (Improvement and Protection of the Environment) one of the main objectives is the Protection of Nature (Biodiversity) and Coastal Areas. For the promotion of this Objective the following are mentioned, among others (pages 96-97):

“For the protection of biodiversity and coastal areas 38 areas have already been selected within the framework of the Network of Natura 2000, covering 14% of the areas under the control of the Government of Cyprus. The preparation of Management Plans for these areas has started in 2004 and will be completed by 2008”.

“For the sustainable management of coastal areas of Cyprus CAMP Cyprus is under way which aims at the strengthening of existing policies through actions such as Integrated Coastal Area Management, Carrying Capacity Assessment, Strategic Environmental Assessment, Public participation and Awareness and Environmental Economics.”

“The urbanization of coastal areas constitutes an important threat, not only to the marine environment but also to biodiversity in general.”

Under Axis 8 (Sustainable and Balanced Spatial and Rural Development) one of the major Objectives concerns Spatial and Regional Planning. For the promotion of this Objective the following are mentioned, among others (page 167):

“For the promotion of proper and quality-upgraded spatial and regional planning and improvement of the institutional and legal framework the following measures are proposed: Preparation of a new Island Plan to provide a clear context for reference and strategic planning for the Island and a specific guiding framework for the preparation of Local Plans”

Annex III:

Case Studies Illustrating Some of the Environment/Development Conflicts in Coastal Areas

Larnaca Salt Lake – Long Process in the Preparation of a Management Plan

Larnaca Salt Lake, a Ramsar site, is one of the two main wetlands in Cyprus. It is adjacent to the Larnaca International Airport forming a wedge between the southern urban fringe of Larnaca and the northern edges of the expanding villages of Meneou and Dromolaxia. The main Larnaca-Airport road passes through the Lake dividing it into two parts; the main body of the Lake (Great Lake) on the west side of the road, and the small parts of the Lake that practically merge with the area of the Airport. On the southwest bank of the lake there is an archaeological Monument site (Um Harem) and a picnic site and to the north, is surrounded by low-density housing development, including a refugee housing state (Makarios III), and a military camp. To the west there is an animal husbandry estate and near it a wholesale vegetable market.

Land ownership around the Lake is mainly public and institutional. Most of the land belongs to the Government, including forest land, with extensive areas around the Um Harem Mosque belonging to the religious organisation *Evkaf*. There is also private land most of which is surrounded by public land.

Although the water quality of the Lake has not been affected by the surrounding land uses, the ecological balance is expected to change by the construction of the Airport extension on land that was part of the Lake. The Lake to the south constitutes an integral part of the ecosystem that functions, among other things, as habitat for various types of birds. "The area has been environmentally degraded to the greatest degree by the Airport and the coastal tourism development, and will be affected even more by the planned extension of the Airport" ("Protection and Management Programme of Larnaca Lakes", Department of Town Planning and Housing, 1997). A Management Plan has been prepared by the Department of Town Planning and Housing in 1997 in co-operation with several Departments of the MANRE, including Forestry Department, Agriculture Department, Fisheries Department, Water Development Department, Geological Survey Department and the Environment Service, and Municipality of Larnaca and the Larnaca District Administration. The plan has been approved "in principle" by the Council of Ministers in 1997 but has not yet been implemented.

The Report includes a number of observations and conclusions concerning the causes of the problems in the area of the Lakes which are noted here as they depict a set of general issues constraining the effectiveness of planning policy and coastal zone management in particular:

- indecision of the public sector to adopt and impose environmental protection measures;
- the widespread approach that the area of the Lakes is an open access resource, expendable and available for intrusion.

Also:

- lack of an institutional framework specifically for the protection and management of the Lakes (wetlands);
- lack of implementation tools; and
- the lack of a specialised agency responsible for the protection and management of the Lakes.

A Management Plan is currently being prepared by an inter-Departmental group of experts.

Akamas Peninsula Management Plan

The Akamas Peninsula is located in the northwestern corner of Cyprus in Paphos District. It has an area of about 250 sq. km. and it is among the very few remaining undeveloped areas of coastal and

terrestrial biodiversity and natural beauty in Cyprus. Its diverse environmental profile combines coastal nesting areas for turtles (*chelonina medas* and *caretta caretta*), large forest areas, gorges, rock outcrops, extensive natural landscape areas and a cluster of 8 village settlements that remain isolated from the economic development process that generates the island's high-income level.

The Peninsula has been designated as *Nature Protection Shore Area* and remained undeveloped due to the strict zoning restrictions introduced in 1990 by the Policy Statement for the Countryside in the context of the TCPL. The local and other landowners in the area reacted strongly to the restrictions imposed on land development rights in the area and created a lobby to change the planning status through frequent representations to Ministers and Government Departments. In response to this, combined with the national and regional importance of the area, the Government included the Akamas Peninsula in the list of projects to be carried out under the World Bank/METAP programme. The Study ("Conservation Management Plan for the Akamas Peninsula", Phase I & II, World Bank/METAP, 1993 & 1995) reaffirmed the high environmental quality and importance of the area, proposed a sustainable management strategy combining environmental protection with an elaborate economic development programme to enable the local communities to participate and benefit from the proposed development opportunities based on the Peninsula's unique natural quality.

While the proposed strategy was approved by the World Bank, the national authorities continue to deliberate over the management of this area wishing to resolve the conflict between the Management Plan Strategy in this coastal area and the concerns of the local communities who objected to the management strategy because of the consequences of the land development restrictions for their economic future. The long-term management of the Akamas Peninsula is still undecided.

The Limni Area in Polis-Paphos: Coastal Habitat Conservation and Tourism Development

The Limni area in Polis Chrysochou has been investigated and identified for inclusion in the Natura 2000 network of Special Conservation Areas on the basis of the EU Habitat Directive 92/43/EEC as part of the wider area of Polis-Yialias extending east of Polis. The Limni site is a habitat for the *Caretta caretta* turtle falling into Annex II of the Directive and also the provisions of the Berne Convention. However, the site also falls within the area of the existing Polis Local Plan (under the TCPL) which designated Limni as a low density tourism development zone. A long drawn out debate has been under way over the past 5 or so years to resolve the conflict between effective protection of the coastal environment and coastal development.

A major issue in the consultations is the width of the foreshore protection setback line. The local authority demands the legally designated obligation for a 100 yards wide setback line whereas the position of the Environment Service is to increase it to 200 yards.

The Lack of a Local Plan for Paralimni – Conflict of Local and National Planning Goals

The Municipality of Paralimni with a resident population of 13,000 and some 25,000 tourist beds has, until very recently, remains outside the scope of the TCPL. The Municipality had for many years resisted the enforcement of the Law applied to the rest of Cyprus since 1990 applying only rudimentary building control under the old Streets and Buildings Regulation Law. Recently, after many years of extensive building development in this coastal area, the Department of Town Planning and Housing has prepared a Local Plan basically going along with the high density land use coastal zones but providing for low density zones in undeveloped lands set back at some distance from the coast to prevent almost indiscriminate holiday housing development in the uphill locations whose development would alter the landscape and burden further the local infrastructure. The Municipality voices strong objections to the proposed Local Plan together with the land owners who had bought land in the low density proposed zones expecting higher density development zones in the future. Underlying this divergence of opinion between the Department of Town Planning and Housing and the Municipality is the divergence of visions and goals over coastal development, an issue which highlights the need for a comprehensive Coastal Area Management Strategy to determine the role and future of this coastal area in the context of an island-wide perspective.

Annex IV:

A strategic Approach to the Management of the Cyprus Coastal Zone

Report by the Republic of Cyprus under the Chapter VI. 1-2 of the Recommendation of the European Parliament and of the Council concerning the implementation of Integrated Coastal Zone Management in Europe (2002/413/EC), 2006

The existing policy mechanisms impacting on the coastal environment are exercised by a variety of Ministries and Departments. Policy coordination across sectoral / departmental responsibility lines unavoidably reflects not always converging objectives and divergent visions rather than a move towards a common direction and appropriate synergies. Particular difficulties are encountered in reconciling local level development expectations with national level planning objectives. The Departments with competence for formulating and implementing policies for the coastal areas mainly include:

- The *Department of Town Planning and Housing (DTPH)*, Ministry of Interior, is responsible for: (a) the regulation of development through the implementation of Development Plans (Local Plans, Area Schemes) and the Statement of Policy for the Countryside that cover all types of land uses (residential, commercial, tourism, industrial, open space, protected areas, etc.), and (b) the exercise of development control in all parts of the island based on the requirement for obtaining planning permission for all building developments. During 2005 the Local Plan for 3 main coastal towns were re-examined/revised. The main framework of the planning legislation is the Town & Country Planning Law of 1990. The "Island Plan", a statement of the broad national strategy on regional spatial planning with strong links to overall economic and social policy is inactive due to the political problem of Cyprus.
- The *Cyprus Tourism Organization (CTO)*, has prepared a Tourism Development Strategy and Implementation Plan (2003-2010). The strategic objectives of this Plan include the achievement of sustainable tourism development. The Plan's Product Strategy is based on Culture and Environment. The CTO is also financing the preparation of Regional Strategic Studies for each area. The aim of these Studies is the development of Policy Strategies and Action Plans for each area.
- The *Coastal Section of the Public Works Department (PWD)*, Ministry of Communications and Works, and Delft Hydraulics, have carried out, under the framework of a MEDSPA Programme, a project on "Coastal Protection Management for Cyprus" (1993-96). The main task of this project was to identify the proper methods to protect the coastline, without any serious impacts on the environment and to develop a coastal section monitoring system to support shoreline management. Two hundred (200) profiles were established along the coast. The profiles are measured once a year in order to record the seabed, the shoreline position and to assess the rate of erosion. At the end of this project, Master Plans for three (3) selected coastal sections (Limassol, Larnaca and Paphos south), as well as conceptual and detailed designs were prepared. In 1998, the Cyprus Government started the implementation of these Master Plans. This year, the implementation phase will continue in the Limassol area: twelve (12) detached breakwaters will be constructed and fourteen (14) illegal groynes will be demolished. The PWD in cooperation with the National Technical University of Athens, also implemented a project (2000-2006), which is a continuation of the previous one that deals with three (3) new coastal areas in Paphos. The goal is to identify the proper methods to protect the coastline.
- The *Department of Fisheries and Marine Research (DFMR)*, Ministry of Agriculture, Natural Resources and Environment, is responsible for the implementation of the Water Framework Directive's requirements for coastal waters. Under the Habitats Directive a number of marine/coastal areas have been proposed to be included in the Natura 2000 network. The DFMR also carries out programmes on Marine ecology, Eutrophication monitoring, and Conservation of marine turtles.

- The *Water Development Department (WDD)*, Ministry of Agriculture, Natural Resources and Environment, concentrates on the protection of water resources from coastal development such as on the impacts from over-pumping, sea water intrusion, nitrate pollution and leaching of nitrates into the sea. The water management policies are the construction of dams and irrigation networks and the more recently adopted policies with respect to desalination, water treatment and recycling from sewerage.

Despite the impressive economic development of Cyprus, several underlying problems generate concern about the effectiveness of the management of coastal resources and the future sustainability of the development process, including:

- *Land use conflicts:* Like in many other countries, the coasts of Cyprus are a fragile ecological system and, at the same time, the backbone of the economy. Maintaining a sound balance between effective coastal protection and development is essential to avoid conflicts of land uses that degrade the coastal landscape and cause loss of environmental quality. Policies applied have not, generally, managed to reconcile land use conflicts, leading to the loss of agricultural land, coastal traffic problems, erosion of the shore, overcrowding of beaches, deficiencies in infrastructure, high building densities in many coastal urban areas and insufficient protection of areas of natural beauty.
- *Social disparities and loss of rural heritage:* Cyprus had been mostly rural until 1960. Village architecture and rural cultural heritage being the core characteristics of the social profile of Cyprus, were subsequently overwhelmed by urban sprawl, tourism development and holiday houses. Coastal urbanisation and coast-centred economic growth have minimised the importance and overshadowed the landmarks of rural heritage and the quality of coastal landscape in many parts of the island, attributes which could have supported opportunities for a quality-based development strategy. Market-driven development has instead concentrated exclusively on the construction of large coastal hotels thus altering the coastal landscape and the social profile of the coastal communities.
- *Land ownership and local economic interests:* Private land ownership and its high level of protection under the Constitution are among the strongest social institutions in Cyprus. Land ownership is broadly distributed among the population giving rise to widespread expectations for building development in coastal, rural and semi-urban land. Development expectations are encouraged by a broader legal framework that affords strong protection to private land development rights. Existing development commitments and attitudes to planning policies combine to create difficulties for implementing sound coastal planning and management measures.
- *Limited environmental awareness:* Concern for the environment is becoming more evident. This delay has had important consequences for coastal management because policy measures (zoning, designation of protected areas, etc.) were, and to a large extent still are, opposed at the local level irrespective of their merits as mechanisms for resource conservation with long-term benefits.
- *Poor integration of environmental and socio-economic objectives:* Protection of the environment is often unsuccessful because the short term gains from development are not related to the medium to longer-term “environmental costs” of development imposed on the wider society. The one-sided approach to development focused on private short term capital gains prevented the integration of environmental and socio-economic objectives in the overall planning process.
- *Poor harmonisation of environmental and socio-economic objectives* Coastal resources are part of an active coastal economy. This dual role of the coastal environment as an ecological and an economic system, although recognised as hard reality, is not integrated in the existing policy framework and remains a source of conflicting priorities. Protection of the environment through land use and building controls is often inadequate because of the presumed financial consequences that will arise for the property owners from the enforcement of effective coastal protection against building development. Coastal protection has both (financial) costs and (socio-economic) benefits that should be balanced. Sustainable development requires that both private

and social costs and benefits should be taken into account in development/conservation options. Although private gains and losses from land development are, rightly, a major concern in planning policy, social gains and losses and the economic value of the benefits of conservation should be harmonized with land use planning and building control objectives.

It is generally agreed that policy coordination and implementation difficulties constrain the potentials for a more rational management of coastal resources which are the core of the Cyprus economy. The productivity of the coastal areas is the main factor explaining the high share of the Cyprus service sector in the national economy, being well above the average share prevailing in the EU countries. Sustainable coastal management requires initiatives to minimize important development problems, through public awareness, greater policy cohesion, application of fiscal instruments and integrated resource management.