CAMP CYPRUS

FINAL SUMMARY REPORT

May 2008

Note: This Summary Report pulls together the results of the Activities of the CAMP Cyprus Programme for the purposes of the final presentation conference. An earlier draft of the Report has been reviewed and discussed with the Environment Service and subsequently presented and discussed with the Steering Committee. The comments and inputs which emerged from these discussions have been incorporated in the Report.

1.0 INTRODUCTION

1.1 Background to CAMP Cyprus

The CAMP Cyprus Programme Agreement was signed in Athens on the 21st of June 2005 by Mr Paul Mifsud, MAP Executive Coordinator, on behalf of MAP and Mr Nicos Georgiades, at that time Director of the Environment Service, Ministry of Agriculture, Natural Resources and Environment and focal person for MAP, on behalf of the Cyprus Government. The signing of the Agreement was the culmination of a long preparatory process commencing with the approval of the proposal of the Cyprus Government for the implementation of CAMP Cyprus at that Meeting of the Contracting Parties to the Barcelona Convention in Monaco in November 2000.

Several preparatory activities were implemented since the approval for CAMP Cyprus until the signature of the Agreement, the most salient of which are summarized below:

- The decision to commence preparatory activities for the implementation of *CAMP Cyprus* was further discussed between the Director of Environment Service and the MAP Coordinator at the Monaco Meeting which was followed up by the visit of Mr Ivica Trumbic, Director of MAP-PAP/RAC, to Cyprus in September 2001.

- At that meeting of September 2001 it was decided, among other things, to proceed with the preparation of the CAMP Cyprus Diagnostic Feasibility Report (DFR).

- The DFR, prepared by a national consultant commissioned by PAP/RAC, was submitted in June 2002.

- The conclusions and recommendations of the DFR and the proposed activities were discussed and approved by the meetings at the Environment Service in Nicosia in November 2002, chaired by the Director of the Environment Service, which was attended by the Director of MAP-PAP/RAC, the invited representatives of competent Ministries, Departments and Organizations and the national consultant who prepared the DFR.

- Following the approval of the DFR it was decided to assign the consultant to prepare the *CAMP Cyprus* Draft Agreement Report, in consultation with the Environment Service and PAP/RAC.

- The decision for the preparation of CAMP Cyprus Agreement Report was reaffirmed at a high level meeting in Catania in November 2003 between the Director-General of the Ministry of Agriculture, Natural Resources and Environment, the Director of PAP/RAC and the Director of the Environment Service.

- On the basis of the comments received and the conclusions of the high level meeting in Catania it was decided to proceed with the preparation of the Agreement Report for the implementation of *CAMP Cyprus*.

- Several drafts were prepared and revised in light of comments and suggestions and the Final Agreement Document was submitted in May 2005, following concluding discussions between the Director of PAP/RAC and the Director of the Environment Service in January 2005 during the visit of Mr Ivica Trumbic in Cyprus.

- The official commencement of CAMP Cyprus launched at the Inception Workshop in January 2006 in the presence of the 'leadership' of CAMP Cyprus (both from UNEP-MAP and Cyprus

Government), the members of the Steering Committee, the Activity Consultants, representatives of UNEP-MAP's Regional Activity Centres, and other invited interested stakeholders.

- During the implementation of CAMP Cyprus, a mid-term Review session was conducted in Cyprus in February 2007 by a high level official of PAP/RAC with the National Project Coordinator, the CAMP Cyprus Task Manager and all the National Experts and the Activity Team Leaders.

It is noted that between these landmark meetings and activities, there have been frequent communications between the Director and other members of the staff of PAP/RAC and the Director of the Environment Service.

1.2 Main "triggering factors" for implementing CAMP Cyprus [1]

Despite the impressive economic development and the reconstruction effort achieved in Cyprus after 1974, several underlying problems triggered concern about the effectiveness of the on-going approach to the management of coastal areas and its capacity to secure sustainable use of coastal resources. The following table summarizes the main issues:

Existing problems ('triggering factors')	**Opportunities for strengthening policies**
Over-concentration of development in coastal areas Over-concentration of economic activities, population and investment resources in coastal areas leading to the 'coastalization' of the economy, polarization of the spatial structure and social isolation of non-coastal rural communities presenting a deepening imbalance in the spatial structure	- Strengthening awareness of the existing problems of coastal development - Reviewing the strengths and weaknesses of existing policies and tools for controlling and managing coastal development and the use of resources - Increasing awareness of the need for integrated coastal resource management and the methodology for achieving it - Exploring alternatives scenarios of harmonizing development and environmental objectives - Establishing an integrated coastal management framework with long term development and environmental objectives focusing on the use of tools for assessing and taking actions:
Emerging threats to the coastal environment Building development pressure on coastal and marine resources and biodiversity leading to emerging threats to the quality of the coastal environment and the rural heritage	
Loss of productive resources Loss of fertile coastal agricultural land, reduced visual quality of the landscape in coastal areas affecting the competitiveness of tourism	

[1] Elaboration of the 'triggering factors' is included in the *Diagnostic Feasibility Report of June 2002 and in the Agreement Document of June 2005 under sections of these Reports referring to the* need for the CAMP Cyprus.

Lack of development / environment harmonization Lack of harmonization of development / environmental policy objectives, fragmentation of decision making on policies and actions concerning (and affecting) coastal development	- the carrying capacity of coastal resources and infrastructure to support coastal development and land utilization - the strategic impacts of plans, programmes and policies on coastal resources, habitats and protected areas - the human, cultural and ecological importance of biodiversity for future generations - the value of environmental resources as public assets and as quality elements in sustainable development and the benefits of conservation for local development - the potential of economic instruments for increasing revenues from development to fund coastal improvement projects - the importance of strengthening public participation and environmental awareness at local and national levels to ensure better social outcomes from coastal resource management
Problems of infrastructure management Coastal development precedes and overtakes infrastructure planning and provision and lack of effective management of development relative to water resources, uses and delivery constraints	
Shortage of local level facilities Limited provision of organized open spaces, footpaths and other amenities in tourism development areas	
Lack of proper valuation of environmental assets Inadequate appreciation of environmental quality as an asset for sustainable development and long term social welfare in development policies and decisions	
Limited local level environmental awareness Limited local level environmental awareness and recurrent local community reactions to planning proposals emerging from private development interests in and short term land development gains	
Limited use of economic instruments Limited use of economic / fiscal instruments for mobilizing private sector resources, establishing sustainable sources of finance and achieving coastal development objectives and project implementation	

1.3 Major Objectives of CAMP Cyprus

CAMP Cyprus was implemented to develop and propose responses to the main gaps in the existing policy framework and contribute to the establishment of an Integrated Coastal Area Management including a set of tools which aim to increase the coordination of policies, priorities and actions in coastal areas within a long term vision of coastal resource management. Recognizing the need for addressing the existing coastal development problems and issues, and appreciating the opportunities which exist for achieving significant improvements in coastal management in Cyprus, CAMP Cyprus has pursed the following main objectives:

- To produce and propose a *strategic framework for integrated coastal area management* based on the outputs of interrelated Individual Activities (presented below) which, in addition to their specific thematic focus, take into account existing policies, the legal and decision making framework, as well as the needs and opportunities for future changes.

- To incorporate the *strategic framework for integrated coastal area management* into the policy framework, and specifically into the Island Plan (proposed to be reactivated as a comprehensive national level strategic policy document by the Strategic Development Plan 2007-13), to ensure closer harmonization between Ministries, Departments and Organizations responsible for the formulation and implementation of sectoral policies, actions and priorities at all levels of decision-making concerning coastal management.

- To propose a set of necessary and feasible policy reforms / changes required for the on-going operation of *integrated coastal area management* relating to the application of specific tools in key policies on environment and development (land use planning, tourism, landscape and heritage conservation, agriculture, etc.), such as public participation, strategic environmental assessment, carrying capacity assessment and environmental economics.

1.4 CAMP Cyprus Programme proposed policy responses in brief

Coastal areas in Cyprus are under pressure from building, infrastructure development and population growth. At present there is lack of a common definition of the 'coastal area' both in the legal framework and in the spatial planning system. The various authorities adopt different definitions for different purposes, while the management and planning actions in coastal areas are pursued in a segmented form by 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 acted upon outside an overall coastal resource management strategy.

CAMP Cyprus proposes that there is a need to move towards sustainable coastal management policies, actions and programmes guided by an *Integrated Coastal Area Strategic Framework* which will ensure effective protection of coastal resources based on a closer integration of all sectoral policies within a long term perspective on environmental and development.

To achieve this, CAMP Cyprus recommends implementation of the following changes:

- To establish an *Integrated Coastal Area Management Strategic Framework (ICAMSF)*, linked to the *Island Plan*, within which to ensure that the main goals and objectives pursued by the various policies involved in the use of coastal resources will be coordinated to achieve:

    - 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.

- To support and strengthen the operation of the ICAMSF by the incorporation and implementation of a set of tools including the following:

    - Measures for strengthening public participation and environmental awareness targeted at the level of local communities
    - Biodiversity Strategy for coastal and marine resources
    - Strategic Environmental Assessment
    - Carrying capacity Assessment
    - Environmental Economics (Resource Valuation and Economic Instruments)

1.5 Expected Results

The implementation of the CAMP Cyprus recommendations will culminate in **changes to the existing fragmented policy framework on coastal area management towards an integrated approach strengthened by the use of specific tools aiming to support the efforts of the Cyprus Government for sustainable management of coastal and marine resources**. More specifically, the changes envisaged will contribute to:

- Establishment of a unified approach adopted by the competent Ministries / Departments / Organizations to the planning and management challenges in coastal areas guided by a comprehensive and integrated Coastal Area Management Strategy;

- Securing conditions for an on-going Integrated Coastal Area Management process operating within the mechanism and as part of the Island Plan (which is proposed to be reactivated according to the proposals of the Strategic Development Plan 2007-13), also ensuring a coastal management focus in the Island Plan itself.

- Enhancing the outreach of the on-going Integrated Coastal Area Management process to key development sectors with strong development / environment interactions through policy reforms which will harmonise development and environmental management decisions by increasing the capacity to:

    - Assess the strategic environmental impacts of spatial plans and programmes and propose policy / programme level impact mitigation measures and changes in their periodic revisions;

    - Assess the carrying capacity of physical, human and socio-economic resources in the preparation of tourism and land use strategies, plans and policies and adopt criteria for managing and / or overcoming resource capacity limitations in relating to the volume, type and location of development;

    - Assess the economic and social benefits of land use policies and measures which protect, manage and improve the quality of resources and the type of development in coastal areas and justifying the use of economic instruments for correcting distributional effects and raising revenues for further coastal improvement investments;

    - Improve local and national level awareness of environmental conditions and skills for '*imagining*' future trends that either threaten or enhance environmental sustainability;

    - Ultimately, improve the capacity to protect and improve the quality and productivity of coastal and marine resources crucial to the sustainable development of the Cyprus economy.

2.0 CAMP CYPRUS PROGRAMME CONCEPTUAL FRAMEWORK

The design of CAMP Cyprus recognizes and incorporates four fundamental considerations of particular interest to the national authorities[2].

2.1 *CAMP Cyprus* is a *country-driven* programme

It is designed to respond to national and local priorities perceived and defined according to the experiences, realities and problems of the Cyprus legal, administrative and cultural institutions. The Project has endeavored to utilize as much as possible available national and local expertise, while providing for the transfer of regional experience and practical assistance to supplement national expertise and resources.

2.2 CAMP Cyprus is based on an *integrated approach to coastal environment and development problems* in Cyprus

This approach cuts across sectoral policy areas to address the diverse pressures and constraints that affect the coastal environment. The Activities which have been carried out elaborate and demonstrate the application of principles of integrated coastal management as well as tools for expanded environmental assessment, carrying capacity assessment and environmental economics and sustainability analysis and local level awareness.

2.3 CAMP Cyprus addresses particular attention to socio-economic aspects of coastal management

This is particularly important in Cyprus given the importance of coastal development to the national and local economy and the contribution of the protection of coastal resources to future sustainable development opportunities relative to the European competitive tourism market. In this connection CAMP Cyprus has elaborated on the application of market-based instruments and environmental economics as a basis for the harmonisation of coastal policies with private investment concerns.

2.4 CAMP Cyprus transfers useful experience to the UNEP-MAP CAMP Programme

CAMP Cyprus takes from and gives to the wider UNEP/MAP CAMP Programme elements that promote its capacity to provide diverse assistance to Mediterranean countries with changing needs and development patterns, and its capability to respond to the changing challenges of integrated coastal area management. CAMP Cyprus, as a 'late comer' to the CAMP Programme, benefits from the long term experience accumulated from the implementation of three cycles of CAMPs across the Mediterranean since 1988, while, due to the particular needs of Cyprus, CAMP Cyprus expands the focus of attention to the policy-level issues which are the underlying core causes of locally observed coastal development conflicts and to which solutions need to be found. The policy-level focus in CAMP Cyprus adds to the transition in CAMPs towards becoming a programme of assistance that, while retaining its primary concern for integrated coastal management in specific locations suffering from specific resource use conflicts, can go beyond the implementation of local / sub-regional projects whenever country conditions demand it. Given that the overriding constraints to effective coastal management actions in Cyprus lie primarily with the presently poor coordination of policies and lack of harmonization of development and environmental objectives, manifested in several parts of the Cyprus coast.The use of the conventional CAMP instrument of designating a specific CAMP Area has not been chosen in preference for adopting a wider spatial reference to the whole of the Island to highlight policy issues. The use of ICAM tools to supplement the diverse application as part of a nationally-based sustainable coastal management strategic framework.

[2] CAMP Cyprus *Diagnostic Feasibility Report of June 2002 and the Agreement Document of June 2005*

3.0 *CAMP CYPRUS* PROJECT AREA

As Cyprus is a small island, the linkages between coastal and hinterland areas are intimately fused within the island's spatial development pattern. So are the interactions between development sectors, the uses they make of coastal environmental resources and the main ensuing impacts. Despite some degree of differentiation in specific local problems facing different parts of the coastal area, the root causes, the development constraints and the policy issues influencing coastal management problems are relatively common to the Island as a whole. The emphasis of *CAMP Cyprus* on the demonstration and application of Integrated Coastal Area Management methodologies and tools is intended to improve policy level responses to achieve on-going sustainable coastal management capacity for continuous application in all coastal areas.

Thus, the Island-wide scope of *CAMP Cyprus* serves at least three important objectives:

- It ensures that the main conclusions and results of *CAMP Cyprus* will be relevant to the whole spatial and socio-economic framework, rather than to a specific area or location in Cyprus.
- It aims to address most of the key policy issues influencing decisions, institutions, perceptions and conditions that underlie and affect the process of coastal development.
- It maintains sufficient flexibility to expand the scope of *CAMP Cyprus* to the whole island in the future.

However, within the broad island-wide scope of *CAMP Cyprus*, a local spatial dimension is incorporated through the ***Pilot Case Study Application Projects***.

4.0 Project Activities

4.1 Main Project activities

Within the framework of the CAMP Cyprus Agreement of June 2005 and following the Inception Workshop of January 2006, CAMP Cyprus pursued six main Activities grouped under two main thematic categories shown below:

I. Methodology of Integrated Coastal Area Management (ICAM)
(1) Integrated Coastal Area Management
(2) Sustainability Analysis, Public Participation and Awareness (*Imagine*)
(3) Introduction of Biodiversity concerns in ICAM

II. Tools of Integrated Coastal Area Management, including Local Pilot Application Case Studies
(4) Strategic Environmental Assessment
(5) Carrying Capacity Assessment
(6) Environmental Economics (Resource Valuation and Economic Instruments)

Note: The above Activities included Mapping Support and Public Communication activities

5.0 SUMMARY OF ACTIVITIES AND RESULTS ACHIEVED

5.1 ICAM Methodology implemented by PAP/RAC

The implementation of this Activity involved the following main substantive activities:

- Two 2-day Workshops by the Activity Team (October 2006 and January 2007) conducted by the PAP/RAC Activity Consultant Professor Harry Coccossis, assisted by the Activity National Expert and the Activity Team Members, presenting and elaborating the methodology of ICAM, the Mediterranean and European experience, and key issues of coastal area management in Cyprus presented by the Team Members.

- Preparation of a national Report, by the National Activity Expert, covering the existing situation in the various key sectors and their interrelations and conflicts, finally included in the Activity Final Report.

- Close cooperation and recurrent communications between the Consultant, the National Activity Expert and Environment Service and the Task Manager, and guidance by the Consultant for the elaboration of the Integrated Coastal Area Management Strategic Framework (ICAMSF).

- Activity Final Report.

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.

5.1.1 Integrating the ICAMSF in the national policy framework: 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 county'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 of 1972b 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*".

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

Basic principles

(a) In view of all the above, the establishment of ICAMSF should be an integral part of the *Island Plan* and have the following main characteristics:

- Comprehensive in scope and long term in outlook comprising an overall *vision* for coastal management.

- Inclusive of spatial, environmental, social and economic planning goals and priorities.
- Responsive to the key areas of *interdependence and potential conflicts* in coastal development arising from sectoral policies, priorities and actions.
- Relevant to the resource management concerns at both national and local levels of policy and decision-making structure.

(b) The preparation of the *Island Plan,* as the niche for the *ICAMSF*, will be the responsibility of the Ministry of Finance / Planning Bureau. Due to the policy making and coordination role of the Planning Bureau in the public administration in Cyprus, this will ensure close co-operation between all competent Ministries and Departments and effective dialogue with private sector stakeholders on coastal area management. In particular:

- 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, economic instruments, spatial planning and environmental 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 long term context and local circumstances.

5.1.3 The nature and purpose of the ICAMSF

The proposed ICAMSF constitutes a major recommendation made by CAMP Cyprus to the Government of Cyprus which includes necessary changes to the existing fragmented policy framework. As its name reveals, the ICAMDF is not a Plan for coastal management as such or a detailed programme of actions but rather a *Framework* to serve as a tool for initiating 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 this continuous process, the ICAMSF sets out the goals, objectives, the institutional and implementation issues involved, recognizing however 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.

5.1.4 The ICAMSF as an opening to the future of coastal areas

The Lisbon Strategy for Cyprus stresses that 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. This is to a large extent due to the lack of a comprehensive and commonly used coastal area management strategic vision underlying all resource issues and guiding all sectoral activities and decision-making levels.

The ICAMSF adopts the position that to achieve the goals embodied in the various important documents mentioned above, including the *Lisbon Strategy*, activities and decisions relating to the management of coastal areas should be integrated based on common goals.

The formulation of these common goals and their subsequent expression in operational terms relevant to each major sector and level of action, requires the adoption of a *framework* to guide the involved authorities and experts to act in coordination within the context set by the commitments expressed in the various European, Mediterranean and National documents on environmental management. The ICAMSF aims to fulfil this need.

Reference to some of these commitments, which the ICAMSF aims to serve is made in the *National Strategic Reference Framework* of Cyprus for the period 2007-13 as well as in the *Strategic Development Plan* for 2007-13, including:

- 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

5.1.5 Integrated Coastal Area Management Strategic Framework (ICAMSF)

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.

	Spatial planning	Tourism	Water resources	Agriculture	Infrastructure / Traffic	Economy and society
Protection, preservation and management of coastal areas through sustainable use of natural resources	Review and redesign the foreshore protection zone in light of the ICZM Protocol guideline(s) Incorporate biodiversity strategy in the Development Plans (including marine, coastal and terrestrial biodiversity) Protect coastal agricultural land and heritage sites from the expansion of designated development zones, and observe Carrying Capacity and Strategic Environmental Assessments Introduce and apply Resource Valuation assessment and Economic Instruments in Plan preparation and implementation Planning decisions and zoning changes that create	Restrain the growth of accommodation facilities and encourage 'product' diversity through development of sport, cultural, recreational facilities and nature / heritage destinations Protect and promote open coastal areas as a complementary element of tourism attraction 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	Improve water management in coastal areas and avoid over-exploitation of scarce water resources Prevent building and intensive agricultural development affecting the quality of ground and surface water bodies and the salinity of coastal water supplies Define broad water balance conditions and potential risks as factors in coastal resource management particularly in areas under development pressure	Avoid intensive agriculture in near shore locations and promote environment friendly methods provided in the Agricultural Development Programme 2007-13 Restrain the use of chemical pollutants in agricultural production in parts of the coastal areas that may leak to ravines, rivers and the sea Protect coastal agricultural areas and promote coastal agriculture in designated areas as an environmental resource and landscape feature (Agricultural Development Programme 2007-13)	Protect the marine environment and the land/sea interface shore area from interventions and constructions that cause erosion Avoid interventions that alter beach morphology and beach quality and restore areas suffering from erosion areas with actions that secure pedestrian accessibility and recreation Prevent vehicular road construction within a distance of at least 100m from the shore and other road and accesses to the beach that may fragment coastal landscapes Adhere to the conclusions reached by Carrying Capacity	Change unsustainable production and consumption patterns that degrade natural coastal resources Strengthen social awareness of the value of coastal resources through cost/benefit type information Promote coastal areas as economic and social assets not only for tourism but also for public use and enjoyment

	'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	of coastal and marine biodiversity			and Strategic Environmental Assessments	
Promotion of economic and social development through synergies between environmental quality, social welfare and economic activities	All development Plans, and particularly those for Akamas, Paralimni, etc., and coastal / sea use developments (such as energy projects, marinas, etc.) should be guided and planned as parts of an overall strategy (vision) for coastal, marine and sea use management. Part of this vision should be the anticipation of sea and near shore uses that affect the quality, integrity and productivity of coastal / marine resources and	Diversify tourism development with respect to the type and location of tourism development harmonizing hotel accommodation with recreation facilities Contain the expansion of scattered coastal holiday housing fragmenting development land and promote opportunities for integrated resort developments	Water management should seek to maximize the value of scarce water resources through uses that sustain the most productive economic activities Water pricing should reflect the full cost of water production including the environmental cost	Coastal agricultural should play a more important role in integrated coastal development by creating stronger links with tourism demand to increase local value added 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	Sea uses (such as off shore energy installations) should be subject of study in terms of both their land use and coastal engineering consequences Establish a road access hierarchy separating car and goods supply vehicle traffic from pedestrian and cycle movement Harmonize efficient road and transport accessibility with environmental quality	Coastal resource management should become an integral part in economic development strategy given that coastal areas are the spatial focus of the Cyprus economy Coastal areas should be given a designated status in economic and spatial planning policy Strengthen effective public participation in coastal management to ensure a more

	activities Development Plans should balance short term and long term consequences on coastal resources, biodiversity, landscape and natural / cultural heritage to ensure economic and social development opportunities for the future and the interests of future generations 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 Improve footpaths, cycle tracks and uninterrupted public access to and along the beaches Beach areas designated for	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				equitable distribution of social benefits from coastal development /conservation

	sports and the use of motorized equipment should be determined and monitored to ensure the safety and amenity of all beach users 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)					
Restoration of balanced coastal and hinterland development	As a rule, avoid further expansion of coastal development by consolidating existing development areas and reducing the pressures on open coastal areas Create development centres in rural areas through an integrated rural development strategy for job creation and population increase	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	Water allocation to hinterland areas should ensure future development needs and a policy for population and employment increase	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	Improve the accessibility of hinterland areas Improve transport links between clusters of communities and with nearest towns	Building on the existing assets and underutilized potential in hinterland areas to strengthen their economic and social base and ameliorate polarization Support declining rural communities to create livable conditions and better quality of life and environmental conditions

Improvement of governance at the local, district and national level	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	Within the framework of the overall tourism strategy, develop district and local level strategies taking into account local needs, aspirations and benefits	Development projects creating water demand should take into account regional and local water balance conditions	Water allocation to agriculture should ensure the viability of local production patterns and their potential linkages with tourism and population demand	Road and other infrastructure development of national / regional importance (ports, airports, energy, wastewater treatment plants etc.) should be harmonized with development and environmental conditions	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.

5.2 Sustainability Analysis '*Imagine* process' implemented by Blue Plan/RAC

The implementation of this Activity involved the following main substantive activities:

- A series of three 2-day Workshops on the methodology of Imagine were conducted by the Activity BP/RAC Consultants Ms Elisabeth Coudert and Dr Simon Bell, assisted by the Activity National Experts and the Activity Team Leader and Team Members.
    - The first workshop was held on 23-24 November 2006 at the Agricultural Research Institute.
    - The second workshop was held on 20-21 February 2007 at the Ministry of Agriculture, Natural Resources and Environment.
    - The third meeting was held on 3 April 2007 at the Journalist Village in Pervolia village.

- Active participation in the Workshops by the participants guided by the Consultants and the National Experts all contributing to the development of the key elements of the Imagine methodology.

- Preparation of a National Report, prepared by the National Experts, covering various aspects of the legal and policy context and issues / problems of public participation in Cyprus.

- Preparation of lengthy minutes-report of all three Workshops by the National Experts with the guidance of the Consultants.

- Activity Final Report

5.2.1 Introduction – Main issues

This Activity has produced a Final Report containing the proceedings of the three Workshop and the Proposal for the use of the '*Imagine* process' in Cyprus published as a separate CAMP Cyprus Report.

The 1972 Town and Country Planning Law (N.90/72) does not clearly specify procedures for promoting productive public participation in the planning process. However, it specifies how the public may influence the provisions of a Local Plan or Area Scheme at two stages. In the first instance, the public is formally involved at the plan-making stage. Stakeholders include representatives of the Local Authorities involved, government agencies and public bodies whose policies are affected by the plans under consideration, organized citizens' groups and NGO's with an interest in the area under study, as well as persons of special knowledge or expertise in relation to the study area. These Stakeholders form the *Joint Board* which advises the *Planning Board* and the Minister of the Interior during the plan making process. This process is essentially consultative and its main objective is to inform the Minister of the Interior on opinions and suggestions in relation to a Development Plan's current or proposed policies. Public participation during the plan making/revising stage is thus very weak, because the organization of public meetings where the proposed new plan policies can be discussed with the wider public is not a statutory obligation.

Cyprus has signed and ratified the Aarhus convention (see section 3), which sets out precise provisions on public participation and for access to information on the environment held by public authorities. In relation to the Aarhus convention, Law N.119(I)/2004 has been published in

order to conform with European Directive 2003/4/EC on public access to environmental information.

The core issue underlying this Activity is the importance of developing and strengthening capacities for articulating perceptions of environmental conditions prevailing in a particular area, assessing trends and synthesizing proposals for environmental improvements. The main tool for achieving such capacities is the '*Imaging* process' which operates through the engagement of a cross-section of stakeholders in active participation and dialogue culminating not only in a 'locally-based' visions for the future but, equally, in a 'language' for more effective communication with planners and policy makers. The *Imagine* process places strong emphasis on qualitative and quantitative indicators of environmental changes developed through participation in the construction of the 'rich picture' reflecting existing problems and conditions, used as a basis for assessing how future changes, with and without policy changes, will achieve, or fail to achieve, sustainable development.

This Activity is an important component in Integrated Coastal Area Management in fulfilling a gap in the capacities of local communities and other stakeholders to communicate effectively and reach a common understanding of environmental and development problems, conflicts and possible solutions, itself a necessary prerequisite for meaningful and policy-relevant public participation and involvement in the spatial planning and environmental management process.

In the implementation of this Activity three consecutive Workshops were held with guidance by the Blue Plan Consultants and the National Consultants and the participation of Activity Team Members and representatives of several private and public organizations. Despite the fact that participation did not include representatives of all relevant private organizations, and some participants did not attend all three Workshops, the methodology, the tools and the results were successfully presented and linked to the objectives of CAMP Cyprus. Most importantly, a Proposal has been put forward concerning the scope of the *Imagine* process and its use within the Cyprus policy framework to improve public participation and awareness. Good results have been achieved through the active involvement of environmental participants towards achieving sustainable development.

Public participation procedures in the Town and Country Planning process are still weak, ad-hoc and inadequate. This is a major weakness in affecting the desired 'integrated planning process."

5.2.2 Core proposal

The core proposal put forward by this Activity is that the *Imagine* methodology can be usefully applied in Cyprus and most usefully within the framework of the Town and Country Planning Law. Even though that Law provides for and requires a Public Participation process, the basic prerequisites (awareness, other people's perspectives and interests, and, a common language) are missing. It is proposed that the *Imagine* methodology be introduced into the planning practice in conjunction with the preparation of Development Plans. Specifically, it is proposed that before the preparation of a Local Plan or a regional type plan (for example coastal community zoning schemes under the Countryside Policy Statement) *Imagine* Workshop may be initiated (preferably limited to three Workshops) to develop through interaction the 'rich picture', the qualitative indicators of sustainability and the main issues-and-why list. Building up this communication and interchanges will allow the development of a common 'planning language' to be used for the formulation of planning goals and objectives to guide the Plans themselves. Otherwise Local Development Plans will continue to be symbols of opinion conflicts and causing delays and possible inaction. It is further proposed that the *Imagine* methodology should be adopted for all the coastal communities preferably, for practical reasons, groups of adjacent communities, like the Akamas communities, the Peyia, Kissonerga, Khloraka communities, the

Pervolia, Kiti, Meneou communities, etc., as well as for the coastal towns. The application of the *Imagine* methodology should not be confined to Development Plans under the Town and Country Planning Law but used to create common or converging views on major projects such as marinas, golf courses, controversial road schemes, sewerage treatment plants, solid waste landfill sites, etc.

As has already been noted, and as re-enforced by Cypriot experts, public participation is very complex and demanding activity. Its effectiveness presupposes three major 'resources':

- Broad awareness of the state of the environment and the consequences of degradation through excess or wrong development;

- Specific awareness of present conditions and possible future trends; and,

- Exposure to the perspective, views and objectives held by other involved social, economic and policy-making stakeholders.

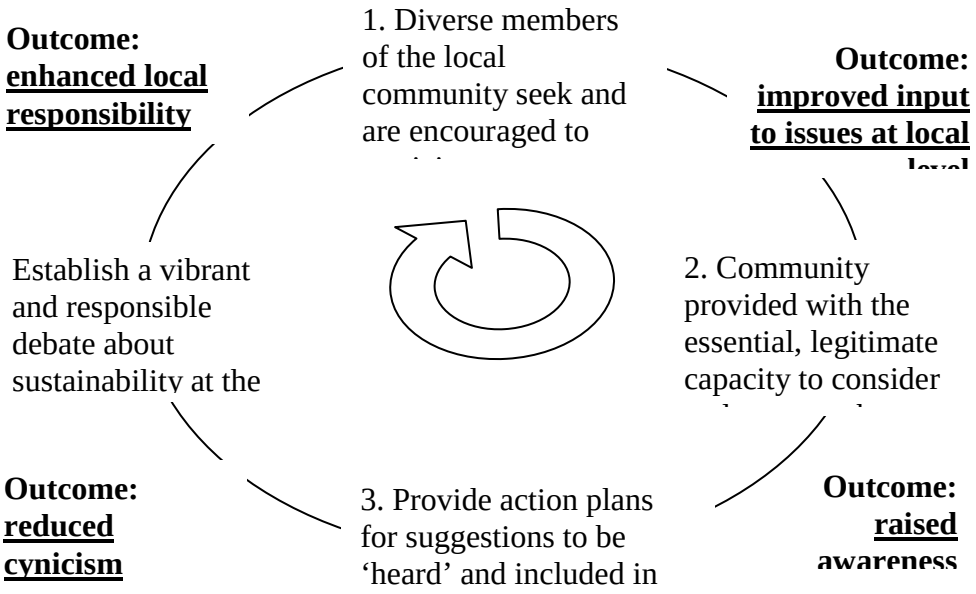
Only when these three resources are in place can public participations be effective and produce lasting results. In Cyprus the Public Participation process is superficial and problematic; it becomes a vehicle for the solidification of diverse but non-communicative opinions insisted upon to maximize preconceived claims, thus deepening rather than resolving conflicts and reaching shared solutions. As examples can be cited the long controversy over the Akamas Management Plan and the implementation of the Paralimni Local Plan.

Even though that Law provides for and requires a Public Participation process, the basic prerequisites (awareness, other people's perspectives and interests, and, a common language) are missing. It is proposed that the *Imagine* methodology be introduced into the planning practice in conjunction with the preparation of Development Plans.

The composition of the *Imagine* awareness group should include a wide spectrum of stakeholders, such as representatives of farmers, property owners and developers, businessmen, environmental NGOs, planners, architects, etc.

5.2.3 The benefits of public inclusion

The desirability of including the public in any setting of a Sustainable Development agenda, including its meaning, has been broadly accepted. There may be debates over the degree of 'top down' and 'bottom up' involvement, and clearly there are issues of environment al and socio-economic perceptions at play in all of this. The issue is perhaps no longer about the desirability of such public involvement, but its practicality. How can the public be best involved? Working from the references cited in the main Activity Report and the experience of the consultants / authors in projects in many parts of the world, the benefits of public inclusion in issues which impact directly on the sustainability of livelihoods are often systemic and conform to a reinforcing cycle as shown in Figure below:



Figure, The values and benefits of public inclusion in decision-making

5.2.4 The value of *Imagine* as a means to achieve public participation and how *Imagine* could be used in Cyprus to achieve local participation

The four outputs noted in figure 1 above: improved input, raised awareness, reduced cynicism and enhanced local responsibility are all key to the *Imagine* methodology.

The *Imagine* approach has been applied in a variety of contexts across the Mediterranean[3]. It has also been applied in the UK and is at present being developed as a Continuous Professional Development generic course for use across the UK by the Academy for Sustainable Communities[4].

In terms of the Cyprus experience of *Imagine*, the Team Leader for the Coastal Area Management Programme comments:

"Imagine provides much needed insights into the problems and gaps of the Public Participation process in Cyprus and identifies methods for building up an awareness strengthening approach particularly relevant to local coastal (and other) communities. The most salient strength of *Imagine* lies in the interactive process and its success in engaging the 'imagination' and activating the perception of participants around current and prospective environmental issues (threats, use conflicts and possible opportunities).

For CAMP Cyprus, this approach has shown how environmental awareness can be enhanced and a convergence of sectional views for the future can be gradually developed through participatory workshops, both being prerequisites for the development of effective public participation at the local community level as a tool for communicating options and planning objectives."

[3] See project reports from Malta, Algeria, Lebanon and Slovenia at: http://www.planbleu.org/publications/littoralUk.html.
[4] For details of this organization and its activities see http://www.ascskills.org.uk/pages/home.

The *Imagine* approach proposes a set of tools and methods to describe, assess and examine the level of sustainability of an eco-socio-system in the past, present and future by means of indicators and a participatory process that considers local actors to be experts at their level.

Imagine is conceived as comprising of five critical outcomes (these can relate to five, three or one workshop(s) depending on the version of *Imagine* being adopted). The five outcomes are set out in the table below.

The Main features of *Imagine*

	Workshop or learning event and main content detail.	Correlation to benefits of public participation
1	Understanding the context – gaining insights into locally defined concerns	Improved input to issues at a local level
2	Agreeing Sustainability Indicators to assess their meaning, and agreeing with stakeholders on what is the acceptable, sustainable value	Raised awareness Action plans
3	Developing the graphic Radar/AMOEBA diagram for representing the Sustainability Indicators (SIs). Scenario Making for reflecting on the SIs future evolution	Responsible debate about sustainability at the local level
4	Review of Scenario Making, sharing this with major stakeholders Developing a meta-scenario	Enhanced local responsibility Reduced cynicism
5	Developing action plan(s), publicity, publicising and Marketing the message	Improved input to issues at local level.

With its proven track record both in the Mediterranean and its wider use now in the UK, *Imagine* has shown itself to be an approach which can work at a number of levels:

- As the full version of *Imagine*. This is the five workshop version usually recommended as the means to develop a sustainable local view of sustainable development.

- As *Imagine Display*. This is a shortened version, developed and applied in Cyprus in 2007 as a means to introduce stakeholders to the *Imagine* approach and to develop provocative sustainability simulations.

- As *Imagine Organization*. This method has been applied in France and the UK as a two day workshop for organizations seeking to better understand their own sustainability.

Imagine Display was developed in Cyprus as a means to introduce the method in this specific Coastal Area Management Programme (CAMP) country context. Effectively this version of *Imagine* involves a group of stakeholders in assessing local sustainability issues in three workshops.

Suggested use of *Imagine Cyprus*

Phase	Content	Outcome
Pre *Imagine* project	Identification of the theme for the application of *Imagine* Selection of stakeholders. This should be based on gaining a diverse group which represents the range of views on the given subject for the application of *Imagine* Stakeholder briefing on the project including agreement on a timetable for the five workshop events.	Clear theme articulated A committed stakeholder group willing to input time to the process Agreed calendar of *Imagine* workshops Agreement on the mandate of the *Imagine* workshops Agreement on what will constitute quorum of the workshops
Project Phase	Three *Imagine* Workshops	Outline of issues Indicators to measure issues AMOEBA diagrams of issues Scenario plans Publicity and marketing materials
Post project phase	Agreement on public briefing Training in the use of *Imagine*	Public briefing Training of Cypriots in the use of *Imagine* at future events.

An outcome of the *Imagine* approach would not just relate to the empowerment of local people however – important as that is. It could also provide suggestions on policy in planning and sustainable development issues. This could provide gains in many spheres including the:

- Reduction of ignorance in local decision making,
- Cooperative engagement of 'expert' and community views,
- Development of a non-cynical attitude to planning and change,
- Democratization of the planning process.

5.2.5 Conclusions

Public participation in any area of civil life is problematic. To achieve consistent and judicious participation on a nation-wide basis requires clear definition of terms and an agreed format for inclusion in national affairs. An excellent example of the rigours of this – in terms of inclusivity and legal completeness are shown in The Sustainable Development Act of Manitoba. This act clearly defines the terms of sustainability, sets out a framework for implementing sustainable development and indicates the status and responsibilities of public bodies in delivering the sustainability agenda.

In France the 'Barnier' Law, originally presented in 1995 and updated in 2002 – Law no. 2002-276, imposed the need for public participation in the process of planning or infrastructure projects. Similar Laws exist in other European countries including the UK and Denmark. In elaboration of this, in the UK, as an initial means to improve public participation in sustainable community development issues including planning and construction projects, it has been proposed that the *Imagine* approach be adopted as the primary means. The Academy for Sustainable Communities (ASC) was set up in April 2005 by the Department for Communities and Local Government and is a key part of the Governments drive to create local communities fit for the 21st century. The mandate for the ASC is to:

- Create, lead and drive a consensus on the definition on what makes sustainable communities and why they are needed;
- Make a leading contribution to the sustainable communities policy agenda and raise awareness of its importance;

- Drive sustainable communities skills and knowledge policy at national and international level;
- Build capacity and capability in the sustainable communities sector;
- Commission new materials directly; and
- Influence the education and training programmes of others and to improve skills and knowledge on sustainable communities.

The ASC is leading in a process which intends to drive the public participation in sustainability agenda. The key means to operationalise this agenda is to provide Imagine as a facilitating device for communities both as an academic form of analysis and as a local means to achieve grass-roots input to issues pertaining to planning and development. The ASC process established in the UK might be a model for the Cyprus context.

As has already been noted, and as re-enforced by Cypriot experts, public participation is very complex and demanding activity. Its effectiveness presupposes three major 'resources':

- Broad awareness of the state of the environment and the consequences of degradation through excess or wrong development;

- Specific awareness of present conditions and possible future trends; and,

- Exposure to the perspective, views and objectives held by other involved social, economic and policy-making stakeholders.

In light of the above the following key points may be emphasized:

1. To establish within the Town Planning Law *Imagine and related tools and methods* as a de facto means to improve local participation in sustainability issues;

The intention of such a legal requirement would be to place the emphasis necessary on public bodies to include participation in sustainable development at the requisite level of priority across national life in Cyprus. Such a legal requirement would both embody participation as a sine qua non for planning and related processes and encourage the adoption of these and related methods in a variety of civic processes.

2. This would require the development of a national effort for promulgation and training;

The National effort would embody the participation ideal and act as a focal point for both Cypriot and wider Mediterranean and EU projects in sustainable development. Such a centre could set Cyprus as a leading innovator in the promulgation of sustainable livelihoods and encourage investment from a variety of international agencies.

3. And the development of a Cyprus generic version of *Imagine;*

The versions of *Imagine* described in this document and discussed over the three workshops with Cypriot colleagues have all been innovated in the light of local contingencies. The version of *Imagine* now being developed and rolled out in the UK via the Academy for Sustainable Communities in turn reflects the stringencies of UK planning and built environment concerns. It is envisaged that *Imagine* would evolve and adapt with the innovations which would emerge from the National Centre.

4. Allowing a cohort of *Imagine* practitioners to service the delivery of *Imagine* facilities;

Following on from the establishment of the requisite energy to innovate the participatory approach to sustainable development embodied in Law and supported by the National Centre, it is expected that Cypriot professionals would provide a long-term and sustainable cohort of practitioners to provide domestic and international facilitation in the use of the *Imagine* and related approaches.

5. Establishing an effective linkage to other users of *Imagine* across Europe (for example in Slovenia and the UK) in order to share best practice;

The national effort would provide an ideal focus point for the establishment of international links in the wider sustainable development debate. Such a Centre could link domestic and international practice, act as an advocate and champion for best practice, provide leadership in bringing together diverse and well-intended initiatives in a co-learning experience and give guidance in setting standards across Europe.

6. Such an effort would need to have its remit supported in Planning Law.

An outcome of the *Imagine* approach would not just relate to the empowerment of local people however – important as that is. It could also provide suggestions on policy in planning and sustainable development issues. This could provide gains in many spheres including the:

- Reduction of ignorance in local decision making,
- Cooperative engagement of ‘expert’ and community views,
- Development of a non-cynical attitude to planning and change,
- Democratization of the planning process.

5.3 Biodiversity Concerns implemented by SPA/RAC

The implementation of this Activity involved the following main substantive activities:

- Two 3-day Workshops / Missions by the SPA/RAC Consultants Professor Alfonso Ramos and Andreas Demetropoulos for presentation of the key issues in marine and coastal biodiversity and research in the Larnaca coastal area, discussion with the Activity Team Leader and Team Members and the National Expert.
  - The first workshop was held on 29 November 2006 at the Environment Service.
  - The second workshop was held on 2 November 2007 at the Environment Service.

- Preparation of a National Report on Biodiversity Policy by the Activity National Expert mainly on coastal and terrestrial biodiversity.

- Preparation of a Case Study by the Consultants on coastal and marine biodiversity in the Larnaca coastal area, presenting issues, problems and policy-related shortcomings and management guidelines.

- Activity Final Report.

The effective protection of coastal and marine biodiversity, and broader biodiversity concerns in ICAM, are the core issues underlying this Activity. This Activity aims to identify and propose a series of Policies and Actions that can be used in order to promote the protection and management of the biodiversity of the coastal regions of Cyprus. It has focused on two related aspects of biodiversity: Terrestrial Biodiversity and Marine Biodiversity, implemented at the pilot area of the ICAM has been the Southern sector of the Larnaca area.

Two workshops have been held for this activity at the presence of the International and National Consultants and the team leader and members:

5.3.1 Terrestrial Biodiversity

Although the Development Plans prepared and implemented under the Town and Country Planning Law contain provisions for environmental protection, those provisions relate to protection of biodiversity through restrictions on building development as expressed in zoning regulations. The Environment Service is the responsible authority for implementing the Law on the Protection and management of nature and wildlife 153(I)/2003. (92/43/EEC Habitats Directive for the conservation of habitats and the wild fauna and flora), which at present the main biodiversity protection mechanism within spatial planning policy, whose application is however limited to the Natura 2000 sites, excluding at present the protection of biodiversity over the whole coastal or inner regions of the island.

A broader set of measures for biodiversity protection is operating within the framework of the EIAs carried out for proposed developments under Law 140(I)2005 providing for an assessment of the impacts on the environment and designation of mitigation measures to which development projects should comply.

This Activity proposes a series of policy measures and actions to improve biodiversity protection including:

Policies

- Preparation of a Biodiversity development Strategy
- The incorporation of a Biodiversity Policy in all Development Plans
- Establishments of an Integrated Biodiversity Database System
- Preparation of biannual Biodiversity Status Review

Actions

- Ecological Characterisation and mapping of coastal areas
- Monitoring and assessment - Biodiversity Status Review
- Updating of the foreshore protection zone
- Mapping of the projected coastline considering sea level rise
- Defining Buffer zones and corridors
- Preparation and application of 'good practice' guidelines
- Control of alien species

5.3.2 Marine Biodiversity

For the protection of Marine Biodiversity proposals are made under an extension of the scope of ICAM to include marine biodiversity Integrated **Marine** and Coastal Area Management (IMCAM) applying this perspective to the South Larnaca Area. According to IMCAM the Southern Larnaca Area is distinguished into two sub-zones: (A) Larnaca harbour to Dades Point; (B) Dades Point to Cape Kiti.

Sub-Zone A

(a) Environmental Features

- Littoral rock: Rocky reef at the south of the fishing shelter (0-2m depth)
- Fine sand (0-8m depth)
- *Cymodocea nodosa* meadows (3-11m depth)
- *Posidonia oceanica* meadows and dead matter (10-27m depth)
- Muddy sand with *Caulerpa* spp. (21-35m depth)

(b) Uses: A variety of coastal and marine uses are developed in sub-zone A

- Tourism/recreation: beaching, sunbathing, bathing, scuba diving ('Zenobia' wreck)
- Fisheries: small-scale (trammel, long-lines) and sport fisheries, fishing trawl,
- Coastal works: Larnaca port and marina, fishing shelter, breakwater against coastal erosion, littoral road.
- Urban development: spread area fro Larnaca city, important tourist places, sewage treatment.
- Industry and commercial activity: Maritime traffic and mooring area; airport, desalination plant.

Impacts

- Losing the dunes (coastal works and buildings), beach erosion
- Losing the *Posidonia* meadows, desalination brine, mooring area, trawl fishing
- Anarchical urban development, some buildings very near the shore

Prevention, mitigation and/or restoration measures

- Avoid building 100-200m from the shore. Take into account the sea level rise.
- Enhance the beach protection with the *Posidonia* dead leaves (do not pick up, I strictly necessary, only in the summer period and replace them afterwards).
- Emergency treated water overflow by submarine pipeline in his sub-zone (high slope ≈ 2.4% between 0 and 50m depth) and outfall located ›30m depth outside Posidonia meadows (on muddy sand with *Caulerpa* spp). The length of the pipeline between 1500 to 2000m

- Desalination brine outfall situated at 0m level, dilution of the brine with 2 parts of seawater (the salinity lows to 48-50 psu) to enhance the mixing, previous treatment of the cleaning substance from osmosis membranes.
- Deterrent artificial reef, if needed, against trawling, situated between 20-35m depth. The recovery of Posidonia must be natural, by free shoots.

Sub-zone B

(a) Environmental features
- Littoral rocks: Rocky reefs in all the sub-zone (0-6m depth)
- Fine sand (0-9m depth)
- Cymodocea nodosa meadows (4-18m depth)
- Posidonia oceanica meadows and dead matter (12-24m depth), free shoots (24-32m depth)
- Muddy sand with Caulerpa spp. (22-35m depth)

(b) Uses: A variety of coastal amd marine uses are developed in the sub-zone B
- Tourist/recreation: beaching, sunning, bathing, snorkeling
- Fisheries: small-scale (trammel, long-line), and sport fisheries, fishing trawl (now ceased)
- Coastal works: breakwaters against coastal erosion, littoral road
- Urban development: important tourist places, sewage treatment

(c) Impacts:
- Losing of dunes (coastal works and buildings), beach erosion
- Losing of Posidonia meadows, trawl fishing
- Anarchical urban development, some buildings very near the shore

(d) Prevention, mitigation and/or restoration measures
- Avoid building 100-200m from the shore. Take into account the sea level rise
- Enhance beach protection with the Posidonia dead leaves (do not pick up, if necessary, only in the summer period)
- Deterrent artificial reefs, if needed, against trawling, situated between 20-35m depth. The recovery of Posidonia must be natural, by free shoots.

5.3.3 Cape Kiti and the Larnaca Salt Lakes

Particular attention is given to the protection of two sensitive marine areas: **Cape Kiti and the Larnaca Salt Lakes**

Cape Kiti presents an interesting area (rocky reefs, Cymodocea and Posidonia meadows) and in good health. It is also an important nursery area for commercial fish. According to that, it is recommended to create a **marine protected area** to enhance the fishery stock and the small-scale fisheries in the Larnaca zone.

The Larnaca Salt Lake Complex is one of the two main wetlands in Cyprus which are of international ecological significance. It consists of four main lakes, the main Salt Lake (Aliki), Orphani, Soros and the small Airport Lake. Smaller lakes are also formed near the coast to the east of Orphani. The wetland area also includes the extensive halophytic communities on the shores of the lakes and in the area between the lakes and the sea. Two small forests, one by the Tekke and the other on the east bank of Aliki add diversity to the area. The lakes of the Larnaca Salt Lake Complex are interrelated lakes, which, however, very significantly among them from an ecological point of view. Aliki, the main Salt Lake, has a very high salinity regime. The area that forms the basis of the food chain here is Dunaliella salina. On this alga feeds Artemia salina, the brine shrimp. This shrimp can withstand very large salinity fluctuations (from 15‰ – 300‰) but usually thrives at salinity of about 100‰. Branchinella spinosa, the Fairy

Shrimp, a close relative of Artemia salina, lives in the other Larnaca lakes, which are less saline. The brine shrimp cysts start hatching when the salinity of the lake drops to about 25‰. (Demetropoulos, 1998 and Demetropoulos and Hadjichristoforou 2003).

These shrimp are the main food of the Flamingo and of other birds in these lakes. On average about 1,000-2,000 Flamingo overwinter here each year. In peak years, such as 1995 and 2005, there may be as many as 7,000. The inflow of an adequate quantity of fresh water into the lakes is critical, as without this water the salinity of the lakes will not drop enough for the Artemia cysts to hatch and the Flamingo and the other birds will not have food. The main source of water for the lakes is rainfall. It is important to safeguard that the hydrological balance of the lakes is not interfered with.

In 1997 the Council of Ministers approved the Programme for the Conservation and Management of the Larnaca Salt Lakes and the adjacent area. The aims are the protection and conservation of the salt lakes ecosystem, including the protection of the area from pollution and degradation, as wells as its wise use, for environmental education and environmentally friendly forms of recreation. In 2001 Cyprus ratified the RAMSAR Convention for the Protection of Wetlands and the main Larnaca Salt Lake (Aliki) was included in the RAMSAR List as the 1081st Wetland of International Importance. In 2005 the Larnanca Salt Lakes and the area surrounding them were proposed by Government to the European Commission as one of the Natura 2000 SAC sites (PSCI) in Cyprus. It was also proposed as a Special Protected Area site with the same boundaries. This was on the basis of Laws 153(I) of 2003 and 152(I) of 2003 which are the two Laws transposing the provisions of the Habitat and Bird Directive into national legislation.

The main threats and their sources and possible impacts are outlined in the table below:

Sources	**Threats**	**Impacts / effects**
Sewage treatment plant	Leakage of secondary treated effluent into the lakes (from split lining and storage ponds). Mainly in Orphani lake and Spyros coastal lagoons	Eutrophication
Coastal development at the east of the lakes	Sewage from incomplete sewage system enters Orphani and Glossa (Soros)	Eutrophication
Airport	Oil etc from runway, parking storage area. Water balance	Contamination / ecosystem change (oxygen transfer reduction). Salinity cycle impact
Access / natural trails	Disturbance of birds	Energy loss – birds move away from Larnaca lakes
Urban development at Kamares area, north and east of main lake mainly	Freshwater inflow reduction	Ecosystem cycle changes – hatching of Artemia etc
Agriculture west and north west and around Orphani and Soros	Inflow of fertilizers	Eurtophication
Diving in lakes	Impact on ecosystem – sediment disturbance	Suspended solids increase (turbidity increases) filter feeders impacted
Tekke picnic area (including cross-country driving)	Too many people and driving in sensitive area for flora /	Trampling of halophytes – picking of flowers (Orchids in

	vegetation	particular)
Inadequate management of the area	Canal bringing water to the Airport lake (feeding the main salt lake) partly blocked	Lake deprived of freshwater needed for ecosystem cycle of brine shrimps

It is proposed that the above threats/sources/impacts framework is used to guide decisions for the management of the Salt Lakes. Furthermore, two major potential problems are stressed:

1. Airport extension, especially the new runway foreseen for the future (evidently not the immediate future) needs to be carefully evaluated as it can directly impact physically the wetland habitats as well as the water regime.

2. The planned expansion of the sewage treatment plant and the foreseen emergency outfall, need to be carefully planned as they could seriously impact on the Salt Lakes and the marine biodiversity in the coastal waters of the area.

5.4 Strategic Environmental Assessment implemented by PAP/RAC

The implementation of this Activity involved the following main substantive activities:

- Three 2-day Workshops conducted by the PAP/RAC Consultant Dr. Jiri Duski performing successively the elaboration of the SEA Guidelines which he had already sent previously for review, presentation of the methodology and key issues of SEA and development of the Case Study on the Southern Larnaca Coastal Area with the assistance of the Activity National Expert, the Activity Team leader and Team Members.
    - The first workshop was held on 4 July 2007 at the Environment Service, where the guidelines were presented.
    - The second workshop was held on 20 September 2007 at the Environment Service, where the draft SEA report was presented to fill in the gabs and introduce missing items.
    - The third workshop was held on 20 December 2007 at the Environment Service, where the draft final SEA report was presented for final comments.

- Several informal meetings with the Activity Team Members on particular aspects and data involved in the Case Study.

- Activity Final Report on the Pilot Application Case Study in the Southern Larnaca Coastal Area, including strategic proposals for the use of SEA in Cyprus.

The Strategic Environmental Assessment of Plans and Programmes is a legally binding requirement in Cyprus according to the Directive 2001/42/EC which has been transposed into national legislation N(102(I)/2005) and has come into force in July 2007. The implementation of this Activity has produced two sequential outputs:

- The Guidelines of SEA, and
- The Pilot Application Case Study in the Southern Larnaca Coastal Area which demonstrates the application of the Guidelines.

In essence, the Case Study shows the principles, the data and the steps taken to implement the EU Directive and the national level legislation. In addition it contains guidance with regard to further inputs for actually running a SEA to the Plans for this area. This Pilot SEA analyzes the impacts of two different plans: one being the Larnaca Local Plan and the second one being the

Policy Statement for the Countryside in the CAMP Pilot Case Study Area (the southern half of the Larnaca town to Cape Kiti. Both plans - the Larnaca Local Plan and the Policy Statement for the Countryside - generally define thematic policies that stipulate the overall developments objectives for the study area, including: Housing, tourism, transport, shopping / commercial development, industry, agriculture, environment, conservation and landscape.

5.4.1 Pilot Case Study

The implementation of this Activity included three Workshops that served to engage the Activity Team in dialogue and constructive interaction on the methodology and principles of SEA and the use of data and national professional inputs into the elaboration of the Case Study.

The Pilot Case Study Report is not a full SEA on the Development Plans. It is rather an application of the Guidelines showing how SEA can be applied in Cyprus for further use in other areas. It also does not replace any formal EIA required under the EIA directive.

The SEA Pilot Case Study employed the following analytical steps:

(i) Identification of approximately 40 specific environmental concerns considered by the local stakeholders as important for the development of the study area;

(ii) Consolidation of issues list into 11 key environmental issues, including Biodiversity, Water resources, Soil and geology, Landscape, Population and human health, Cultural Architecture, Archaeological Heritage, Air and Climatic Change, Material assets / installations,

(iii) Outline of the past and future trends in 11 environmental issues in the study area **without** the relevant plans

(iv) Outline of the expected future trends in 11 key environmental issues **with** the proposed plans; (plan policies include, Housing, Transport / mobility, Industry, Commercial development, Agriculture, Environment, Conservation, Landscape, tourism, other spatial issues).

(v) Formulation of a comprehensive set of recommended measures for preventing, reducing or off-setting negative impacts of the proposed hydropower plan and for enhancing any expected positive impacts.

Summary of key impacts and of proposed mitigation and enhancement measures

Issues	**Impacts**	**Proposed mitigation and enhancement measures**
WATER RESOURCES Full development of the housing and tourist areas with a central sewage system	Allowing tourism development close to the shore involves the risk of polluting the coastal waters from accidental spills (sewage, fuels lubricants, detergents, etc.). implementation of the plan WILL have positive affects on coastal waters, agricultural activities that release nutrients and pesticides will be minimized.	Expedite the implementation of the central sewerage system in the area before full development occurs Avoid using a sea outfall for the Larnaca Wastewater Treatment Plant
Full development of the housing and tourist areas without a central sewage system	Major negative impacts will be observed in the area if the planned central sewerage system is not implemented or delayed. The impacts will be mostly in the form of polluting the coastal water with sewage components like	

	nutrients, and coliform bacteria.	
Full development of the housing and tourist areas	The runoff in the area will increase with more concrete and asphalt surfaces. Quality of runoff will worsen by pollutants from human activities. Allowing more tourist activities close to the river will involve the risk of polluting the river from accidental spills will increase.	Construction of a drainage system that will help remove pollutants before they enter the river bed (use of screening facilities, use of detention ponds)
Development of the Housing Zones according to the Proposed Plan	No negative impacts are anticipated from this development if a central sewerage system is implemented. Positive impact is expected: agricultural activities will be reduced/eliminated thus the quantity of pumped ground water from local wells will be eliminated and therefore ground water level will rise and nitrates pollution will be also minimized.	Implement a central sewerage system in the area to protect the aquifer from releases of sewage in absorption pits.
LANDSCAPE No landscape protection, planning and management are currently incorporated in the proposed plan	Negative impacts anticipated since there will be a continuation of visual and aesthetics destruction which will be based on individuals' needs and likings.	Incorporate landscaping protection, planning and management in the proposed plan. Actions to be taken to conserve and maintain the significant or characteristic features of landscape through landscape planning and management to enhance, restore or create landscapes. Increase awareness among professionals, civil society, private organizations and public authorities; Promote training programs on landscape protection, management and planning in private and public sector.
Construction of housing units and other facilities by the shoreline	Negative impacts are expected if new regulations with regards to building design and sitting are not enforced.	Enforce and update local regulations on the protection and provision of public access to the public beaches and the shoreline. Protect, expand, improve and maximize opportunities for public coastal access
POPULATION AND HUMAN HEALTH Expansion of the use of Larnaca International Airport and at the same	The planes flight corridor is expected to be extended and more planes will flight in and out of the airport with the expansion of this activity. Therefore the effected area might remain the same but	Explore the possibility of limiting the use of the airport during the night hours. Limit the permits on housing units in the affected area.

time continuation of construction activity for housing units	the noise levels will increase and more people will be affected by higher noise levels.	
SOIL AND GEOLOGY Rapid increase in development (residential and tourism) along the coast	Negative impacts anticipated since there will be increase in development and construction along the coast. The associated impacts include: - Sediment trapping due to construction - Decrease in the quality of the beach and soil - Loss of vegetation along the coast - Increase in beach quarrying to satisfy construction industry - Increase of impermeable areas along the coast therefore increasing water runoff and erosion - Possible increase in illegal breakwaters or groynes	- Assign strict permit licenses for coastal development. - Assign coastal protection areas - Monitor erosion along the coast
Increase in residential and tourist and use within the study area	The increased development within the study area will increased risk of damage in case of seismic events	Improve/update the Seismic Code for Reinforced Concrete Structures in Cyprus
BIODIVERSITY Construction of new housing units and tourist facilities	No major impacts are anticipated if the Management Plan is implemented. However there is a risk that pressures from various groups might influence future decisions and promote the development of areas that are now protected or are with in the protected zone of the lake.	Implementation of the Management Plan. Implementation of a detailed monitoring program for the protection of the area. Supplement protection measures when the quality of the environment of the Lake is negatively affected.

5.4.2 Overall conclusions and policy recommendations

1. SEA is a process, not a mere report. Planning and assessment are two sides of proper planning. Meaningful SEA therefore needs to be integrated into the planning process and should be used to inform deliberations of the planning team. The annexed table 1 shows the possibilities for integration of SEA into the planning process.

2. Hire a consultant who knows the planning process and has time to get engaged in the discussions within the planning team. If such person is not available, do the SEA in-house in close consultation with relevant environmental authorities (inputs throughout the process) or environmental experts (on ad hoc inputs on specific issues as and when the need arises).

3. The CAMP confirmed significant similarities between the SEA process and the proposed approach to conducting carrying capacity assessments in Cyprus. Both tools use very similar methodologies and SEA can be seen as a formalized process for carrying capacity

assessment. This conclusion is valid especially for SEAs of plans with clear spatial implications.

4. When doing SEA, use simple assessment approaches based on trend analysis which has the capacity:
   - to analyze the past and future trends in study area and their drivers; and
   - to show the expected changes in these trends based on the changes in their drivers and other factors brought by the plan.

   SEA should use simple and robust tools – story lines, maps and data sets that outline and analyze trends in the focus areas. Avoid complicated assessment methods – rather use available resources for organizing proper consultations among the relevant authorities and invited experts.

5. Expect difficulties in gathering information about the longer term trends and their drivers as well as inconsistencies between various data sets. This is normal and such situations can be only managed by a series of workshops/meetings with the relevant authorities that check the completeness and accuracy of data used and review the preliminary and final conclusions formulated by the SEA experts. Such consultations strengthen inter-departmental cooperation and improve quality of governance and this is, after all, one of the key functions of the SEA processes.

5.5 Carrying Capacity Assessment implemented by PAP/RAC

The implementation of this Activity involved the following main substantive activities:

- Two 2-day Workshops, combined with research, conducted by the PAP/RAC Consultant Dr Zoran Klaric, assisted by the Activity National Expert, the Activity Team Leader and Team Members.
  - o The first workshop was held on 21 May 2007 at the Cyprus Tourism Organisation, where the PAP/RAC Document on "Guidelines for carrying capacity assessment for tourism in Mediterranean coastal areas" was presented.
  - o The second workshop was held on 12 November 2007 at the Cyprus Tourism Organisation, where the draft final report was presented for final comments by the team leader and members.

- Data and policy research on tourism and spatial development in Cyprus assisted by the Activity National Expert, the Activity Team Leader and Team Members.
- Development of Carrying Capacity Assessment Scenarios with particular emphasis on tourism.
- Preparation of the Activity Final Report on the Pilot Application Case Study for the Southern Larnaca Coastal Area, including strategic proposals for the use of Carrying Capacity Assessment in Cyprus.

5.5.1 Methodology

The Implementation of this Activity included five phases and work stages:

1. Elaboration of the established and evolving methodologies and practices of CCA in the Mediterranean and the EU, and their achievements and problems.
2. Collection and codification of all available information from the relevant governmental bodies setting out the current practices used, within the framework of decision-making on tourism, land use planning, environmental management and infrastructure development in Cyprus. This is needed in order to assess the carrying capacity of the coastal resources involved in

such development, and, based on that, review of the main deficiencies in the assessment of the carrying capacity of coastal resources in the legal framework in Cyprus.
3. Formulation of CCA Guidelines brief suitable to address existing and future environmental assessment issues in coastal development in Cyprus.
4. Implementation of a CCA Pilot Application Case Study in Larnaca District with special accent on southern Larnaca coastal area.
5. Formulation of proposals for the incorporation and operation of CCA within the Cyprus policy framework to support sustainable use of coastal resources in Cyprus.

Three Workshops were organized to review data, elaborate on the methodology and discuss alternative development scenarios from the point of view of Carrying Capacity implications.

5.5.2 Sustainable tourism development option

Sustainable tourism development option can be considered as closer to an integrated approach, which takes into account positive aspects of the above mentioned scenarios, and reduced as much as possible the negative ones. Such option should therefore care about the ratio between hotels & similar establishments and secondary residences, in order to ensure enough work places in the area for the future and avoid high concentrations of hotels approaching saturation like in Agia Napa – Paralimni area.

The distribution of those two types of development should also care about the physical characteristics of the coastline and preferences of the local population. Therefore zones with nice beaches (especially near villages with shortage of attractive working places) should be more suitable for tourism based on hotels and similar establishments and less attractive areas far from the coastline for secondary residences.

For the alternative option it should be proposed to keep the already protected zone near the airport as a zone restricted from any kind of building and a part of a green belt of the town of Larnaca. It can be recommended to include some other small coastal zones under protection status, since they have positive impact on the complete image of a destination. That can be justified as a tool which can increase the income from tourism industry and the selling price of secondary residences. Possible forms of village-based tourism should be introduced where it is possible in order to regenerate local communities and produce more jobs in tourism.

In this sense sustainable development has to be seen as:

- A development modality that considers carefully a regions need to use properly its natural resources for promoting a viable economic growth and socio-economic development, and
- A process that involves management and regulatory interventions to limit negative impacts of human activities on the environment and ensure that those damages incurred to the general good and welfare are not irreversible.

The basic premise underlying the sustainable tourism development option outlined below is based on the assumption that there exists an alternative mode of tourism development, different from the predominant tendency of building only secondary residences in the coastal area. Therefore it is necessary to promote a type of development mode through which tourism as an essential component of economic development and contributes to continuous economic growth without environmental deterioration or destruction.

Among the principles and goals of tourism's sustainable development the following most relevant ones to the study area are to:

- Select and promote tourist products and specific development objectives which are conducive to the diversity of the tourist product in the whole Cyprus,
- Maximise the economic benefits of tourism by providing the best interlinkages of coastal tourism to other sectors of the economy; and
- Secure and promote a symbiotic relationship between economic and ecological development parameters by enhancing the entire range of environmental assets.

The proposed structural diversity of the tourist product corresponds to a supply which differs from the existing absolutely dominant development patterns of secondary residences. This type should include more all inclusive tourism hotel development like in newly opened tourism resort near Alaminos[5] and only few small "classic" hotels. The proposed three product lines are strongly interrelated and their development depends on the primary resources needed and the correct timing and coordination of various policy measures in tourism. The sustainability of the proposed tourist product is therefore dependent on the parallel development of an appropriate tourist product.

With regard to a preliminary delineation of carrying capacity of the study area regarding physical - natural resources, its capacity assessment seems easier due to the generally fixed attributes of the elements constituting the parameter. Those results are even more important since the socio-cultural parameters are found not to present any serious obstacle to tourism development due to the position and overall development level in this area at the outskirts of Larnaca town.

The total physical carrying capacity broadly estimated on the basis of existing limited information[6] and assumed standards with regard to beach capacity and coastal visitors capacity in the South Larnaca Study Area is about 20.000 people (beach users). With some physical interventions in the coastal area (construction of artificial beaches) and changes in tourism product (through the implementation of attractions which can draw away people from the beaches area) it is possible, notwithstanding some reservations, to lift it to 30.000, but probably not any more.

So, the main issue is what kind of beach users will put a pressure on the coastal area or whether it will be a more free area for anybody if this maximum will be filled only with secondary residences. Therefore it is important to mention that potential users of the beach area are not only the people in secondary residences and tourists of various types of accommodation capacities, but also the inhabitants of nearby town of Larnaca and its environs.

Therefore the key issues are political – economic (planning) parameters/indicators or a decision on the extent to which further development of secondary residences will be allowed. This problem is especially sensitive because in Cyprus "tourism" objectives in land use planning is covering both the development of hotels and similar establishments and the development of secondary residences. Considering actual negative trends in the number of guest nights and enormous one time profits from the construction of houses only for summer use it is logical that investors are oriented almost only towards secondary residences.

Considering the actual tendencies in issuing licenses for secondary residences putting limits on such development is a prerequisite for achieving sustainable development option. For the Southern Larnaca Coastal Area therefore is necessary to stop further building of secondary residences in the narrow coastal area as soon as possible and to put a limit on a total number of them to 3.000 in total (meaning about 12.000 persons with usual ratio 4 for one housing unit). If those measures will

[5] It is acknowledged here that this tourist establishment still has to obtain the necessary permissions from the authorities.

[6] Based on the CTO Carrying Capacity Study for the beaches of Larnaca District, 1986. It is noted that some of the physical characteristics of the beaches may have changed since then but reference is made here to this Study as no further more recent study has been made.

not be carried out it is expected that the number of secondary residences will continue to grow to about 5.000 (or 20.000 persons) in the whole area before the year 2010. After that there will be probably no more room (and interest) for development of hotels and similar establishments and the coastal resource will be spent forever.

Although the approach taken in this Report is to concentrate primarily on the qualitative assessment of Carrying Capacity rather than on the quantitative (as emphasized in the PAP/RAC Guidelines and other recent Studies in the Mediterranean), the above figure of 3,000 is presented as a scenario to illustrate how this Study could facilitate further analysis and utilize the potential Carrying Capacity Assessment. Carrying Capacity Assessment is essentially a management tool and not a numerical exercise aiming at pointing to a number. This might be misinterpreted as a fixed figure and lead to wrong planning decisions. Planning should focus on carrying capacity assessment as a process of taking into account ALL the parameters comprising the effort towards sustainability. This should be clear.

A related point here is the issue of looking much more closely at the infrastructure and resource capacity implications when a range of quantitative magnitudes are considered. Issues like roads, solid waste disposal facilities, water, etc. should be regarded as part of follow up study having first done a qualitative assessment and having shown the process of thinking in Carrying Capacity terms as done in this Case Study. To pursue a little further the scenario of the 3,000 mark, the following line of thinking elaborates the issues a little more.

In such circumstances sustainable (and realistic solution) for carrying capacity is 12.000 persons in secondary residences (3.000 units) and about 6.000 - 8.000 in hotels and similar establishments. The distribution should be left to potential investors, if we consider this figure as a capacity framework to guide the planning authority. But it is recommended to offer plots west from Kiti peninsula to potential all inclusive tourism hotel development as a type of development suitable for those relatively isolated areas and actually more successful than standard hotel business operations. At the same time it is recommended to stimulate building of few traditional hotels in the free area northeast from Kiti peninsula in order to develop a sort of “central” zone with necessary catering and entertainment facilities for the whole zone.

A proposal was finally developed which includes the following main aspects:

The tourism development and management entails land uses issues which should be fully integrated within broader land uses management strategy. In particular, issues of site planning (e.g. resort types of tourism development) at the detailed design level should come be under particular regulations enforced through specific legislative acts.

The basic function of CCA is to provide parameters for the assessment of both tourism development plans as well as tourism strategies more widely. Having in mind that Carrying Capacity Assessment (CCA) should be the integral part of any tourism planning document, it should also function as a tool of Integrated Coastal Area management (ICAM).

In this regard, Carrying Capacity Assessment should precede the designation of land use zones and this tool should be incorporated in the Planning System. The Development Plans prepared and implemented under the Town and Country Planning Law of 1990 will benefit from this tool in that development provisions will be in line and harmonized with resource, infrastructure, cultural/social and human capacities.

If CAMP is initiated before preparation of CCA, when undertaking preparatory activities relative to the planning in CAMP and making a basic analysis in the tourism plan, it is necessary to make a rough assessment of a possible carrying capacity span according to the generally assumed

development options. It is therefore desirable to proceed with the assessment of CCA parameters, values and approaches which are intended to set the upper limit of the overall carrying capacity.

Along with the preparation of detailed analyses within the CAMP and tourism plan, it is also necessary to develop possible **tourism development options** as the basis of formulating carrying capacity. It is stressed that capacity issues are related to the development options considered. Along with the forecasts necessary for defining the objectives and strategies of CAMP, a synthesis of CCA should be made in a way that it becomes a component of the objectives and strategies of CAMP.

Since the CCA, thus defined, is a component of CAMP and the proposed ICAM Framework, the evaluation of effects and monitoring of CCA in future tourism and land use plans should become integrated into the planning process. When formulating various phases of work care should be taken in order to avoid overlapping, because most of the data needed for CCA may be common to other tools for ensuring sustainable development.

CCA should also be used in the context of the preparation of the Island Plan proposed in the Strategic Development Plan for Cyprus 2007-13. In that case within the preparatory activities it is necessary to study the existing CCA as the basis for formulating further phases of the work. Therefore the data to be used for the preparation of CCA can with appropriate adjustments be used to assess physical, human and economic capacity on an island-wide basis for the purposes of the Island Plan.

5.6 Environmental Economics implemented by PAP/RAC

The implementation of this Activity involved the following main substantive activities:

- An introductory Workshop at the Planning Bureau (May 2007) conducted by the PAP/RAC Consultant Mr. Glafkos Constantinides, on the presentation of the main principles, problems and scope of Environmental Economics, assisted by the Activity National Expert, the Activity Team Leader and Team Members.

- Preparation and discussion on Environmental Economics Guidelines, designed to guide the preparation of the Pilot Application Case Study in the Southern Larnaca Coastal Area (June 2007).

- Intensive cooperation with the Activity National Expert, the Activity Team Leader and Team Members on data and coastal and wider policy issues in Cyprus.

- Preparation of the Pilot Application Case Study in the Southern Larnaca Coastal Area in close cooperation with the Activity National Expert.

- Presentation of the Pilot Application Case Study in the Southern Larnaca Coastal Area (December 2007).

- Preparation of a brief Document including the main strategic proposals for the use of Environmental Economics in Cyprus (December 2007).

5.6.1 Background

This activity has focused on the main challenges and the main results of applying economics within an Integrated Coastal Area Management perspective to generate planning information and an analytical approach to the identification and evaluation of the benefits of coastal resource conservation and development.

The implementation of this Activity materialized through the production of the following four main outputs:

- The **Workshop** conducted at the Planning Bureau in May 2007 on the main principles, methodologies and issues of *Environmental Economics* with particular emphasis on coastal areas.
- The **Guidelines** on *Environmental Economics* prepared and distributed in June 2007.
- The ***Pilot Application Case Study*** of the Southern Larnanca Coastal Area completed in December 2007.
- The **Workshop** at the Planning Bureau on the presentation of the *Pilot Application Case Study* conducted in December 2007.

5.6.2 Key challenges

In Cyprus, at present, the protection of coastal areas against over-development, and eventual degradation, relies on two main mechanisms: *Regulation* and e*nvironmental awareness*. Both mechanisms prove insufficient, by themselves, to provide sustainable protection. *Regulation* is a negative measure; it is typically perceived as 'anti-development' and is often resisted by the private sector which is particularly dynamic and well organized in Cyprus. Besides, its effectiveness depends on enforcement which is often crippled by administrative procedures. *Environmental awareness*, potentially a more powerful protection mechanism, is in practice a long term process and takes a long time to become effective in influencing policy and actions. Both measures are unable to define and justify options concerning degrees of coastal protection. To bring into policy focus the question of gains from various degrees of environmental protection, information is needed on three issues:

- The benefits of coastal resource conservation;
- The timeframe of benefits (short term and longer term); and
- The distribution of benefits to various groups in society.

Benefits While information on the benefits of development are obvious and easily measured in terms of income and employment, information on the benefits of conserving / protecting coastal resources is missing. This 'missing' information leads to gaps in the policy framework within which environmental regulation decisions (zoning, quality standards, etc) are taken and enforced.

Long term While development opportunities are perceived and acted upon within a short term horizon, environmental quality losses / damages often manifest themselves over the long term which, among other things, undermine the long term *productivity* of coastal economic activities (like tourism) that depend on the quality of environmental resources. Adopting a short term perspective on development / conservation benefits creates a bias towards development.

Stakeholders / society Development and conservation usually have different beneficiaries. The beneficiaries of development are usually and primarily the investors and the income earners from development, while the beneficiaries of conservation are the wider public (society) and future generations whose interests also have to be considered.

5.6.3 Key results

The main results achieved relate to the outputs of the Case Study conducted in the Southern Larnaca Coastal Area, covering the coastal communities of Pervolia, Meneou and Kiti, and for useful comparisons the community of Dromolaxia.

The Case Study has been prepared with the following objectives in mind:

- To show how the core principles and methods of Environmental Economics are applied in practice at the local level, the kind of data required, the policy issues involved and the lessons learned in order to promote the incorporation of tools of environmental economics in the planning process. Within this overall objective the Case Study focused attention to:

- The identification and assessment of the interactions of the coastal environment with the coastal economy and, specifically, the valuation of the multiple economic and social benefits of an integrated approach to coastal management.

- The importance of addressing, in addition to the generation of benefits, the distribution of benefits across various interested parties involved in coastal management.

- The framework for assessing the need for applying Economic Instruments for correcting distributional effects (externalities) arising from planning actions and in parallel raising revenues for increasing environmental investment.

The valuation approach applied to this Case Study is *partial,* in the sense that it attempts to capture the most important benefits of the coastal environment and those benefits for which numerical data have been obtained and considered important to analyze. This is common in most such studies.

The benefits of the coastal environment are classified in three main categories:

- **Economic benefits**, those reflected in production / consumption in a market context,
- **Social benefits**, those reflected in preferences for the enjoyment and recreation services offered by the coastal environment, and
- **Environmental benefits**, those which refer to the general quality of the environment on which, usually, a qualitative and quantitative assessment is attempted.

Two important valuation techniques have been applied:

- **For the valuation of the economic benefits** use is made of the *differences* in the productivity of the housing and agricultural sectors in market prices, attributed to the coastal environment. This is a particular application of the more widely used economic appraisal technique of considering *'with' and 'without'* situations.

- **For the valuation of social and environmental benefits** the technique of *Willingness to Pay* has been applied, through the use of a questionnaire design (on a sample of 113 respondent), to deduce the 'demand' of the public for environmental services either for enjoyment or for the existence / preservation of specific parts of the coastal environment (such as the open natural beach, the agricultural landscape, the Salt Lakes, etc.). Local community benefits are also taken into account in this Study to assess the extent to which coastal development benefits reach the local communities.

The Case Study summary results on the estimated value of the benefits of the coastal environment (in million Cyprus Pounds)

Category of benefits	**Estimated value (Million Pounds)**
Economic benefits	14.0
Social benefits (Local Social benefits)	1.0
Total Estimated Value of Local Benefits (Economic and Social)	15.0
Wider Environmental Benefits	15.0
Total Benefits per year	30.0

Of the total estimated benefits of 30.0 million Pounds, 14.0 million are local economic benefits (of which 7.5 million accrue to the housing market), 1.0 million are local social benefits and another 15.0 million are wider social benefits. The magnitude of the local social benefits of 1.0 million reflect the low local population level to which they apply (16.000), while the larger magnitude of the wider social benefits from the same environmental assets accrue to a larger population.

This brings into a policy context the following key issues:

A. The uses of Resource Valuation

- The coastal environment is a major factor in the production sector in the local costal area, particularly holiday housing and agriculture.

- The coastal environment has a value greater than its direct contribution to the productivity of holiday housing and coastal agriculture when consideration is given to the social value attached by *the public* to the quality of existing resources for enjoyment and recreation.

B. The uses of Economic Instruments

- In the absence of appropriate financial / fiscal instruments associated with development / conservation decisions, the economic value generated by the coastal environment is not translated into financial flows to the local communities and the Government budget needed to increase coastal management expenditure for protecting, improving and managing coastal environmental quality.

- In areas such as that covered by the Case Study, which does not create tourism spending cycles within the local economy and economic linkages across sectors, there is concern and justification for considering the establishments of new sources of income for the local communities.

- The disparity between short term and longer term interests in spatial planning cannot be resolved by zoning expansion. Instead, analysis should include the interests of all stakeholders by defining who is gaining and who is losing from land use changes. To address d*istributional issues* appropriate economic instruments need to be used to balance the interests of the land owners, of society as a whole and of the future generations.

5.6.4 Proposals in outline

A. Introducing Resource Valuation in the planning process

- **A *Resource Valuation Statement* should be prepared as part of the analysis leading to the preparation of the Development Plans.** *This Statement should constitute a review of the existing and potential threats to the coastal environment, the benefits of policy options and the limits to development envisaged by the Development Plans.*

- **An *Implementation Requirements Statement* should be included in all Development Plans when presented to the Joint Boards and the Planning Board.** *This Statement should present the interventions proposed for the implementation of the Development Plans and their likely investment cost, the Economic Instruments to be used and the correcting and revenue raising effects they aim to address.*

- **An *Outline Economic Summary Annex* should be included in the Development Plans when presented to the Minister of Interior and the Council of Ministers for approval.** *This Annex should present all the major economic and financial parameters and repercussions of the Development Plan, including social and economic benefits, and the likely environmental costs if the plan, or specific policies, are not implemented.*

B. Proposed Instruments

- **Transferable Development Rights** To promote and implement effective coastal resource management, and to the extent that conservation will be pursued through prohibition of further development in any particular coastal area, the issue of money compensation for proven loss of any existing development rights in the conservation areas will arise. Compensation entails budgetary expenditure. An alternative to compensation is the use of **transferable development rights** allowing the disaffected owners to use or sell or transfer the development rights in approved and properly planned areas elsewhere without financial burden on the budget.

- **Betterment levy/tax** Coastal development / conservation decisions create direct financial benefits to the land and property owners whose land is included in a development zone, and indirect environmental benefit to the land and house owners adjacent to a conservation zone who, by default, will be granted continued environmental amenity by restricting development 'next door'. Both represent 'unearned economic benefits' and would justify the imposition of tax or levy.

- **Environmental Fund** Linked to taxation is the question of the 'appropriation' of revenues, in other words where will the money go. The revenues should be deposited in a local **Environmental Fund** for **reinvestment in the area from which revenues are raised** for environmental improvement expenditure. This will not only increase the acceptability of the instruments but also channel finance to the local communities which are presently financially stricken and entirely dependent on central government transfers. The establishment and management of Environmental Fund will require administrative / legislative action.

The changes proposed and their integration into the policy framework are presented below in summary:

Proposed changes	Policy framework
Resource Valuation analysis • Resource Valuation Statement • Implementation Requirement Statement • Economic Summary Annex to Development Plans	Existing plan development and approval process under the Town & Country Planning Law (T&CPL)
Instruments	
• Betterment Tax	Section 80 of the T&CPL
• Transfer of Development Rights	Proposed in the Akamas Management Plan and recent references to its application in the dialogue of the Government with the Akamas communities
• Property Tax	Existing Immovable Property Tax
• Environmental Fund	Requires management structure/regulations

6.0 SUCCESS FACTORS AND LESSONS LEARNT

6.1 The valuable results produced by CAMP Cyprus are attributed to the following important 'success factors':

6.1.1 ***Close and constructive cooperation with the national authorities***. The implementation of CAMP Cyprus has been a collaborative effort between PAP/RAC on behalf of UNEP/MAP and the Environment Service of the Ministry of Agriculture, Natural Resources and Environment on behalf of the Cyprus Government. The Environment Service has extended continuous and close cooperation and support to the Programme and has made available its expertise throughout its implementation period. Most importantly, the Environment Service has acted in a coordination capacity to liaise with all the Ministries / Departments engaged in CAMP Cyprus, a role crucial for enabling the Programme to work **within** the framework of the Cyprus authorities taking into account the country's needs and views for the future. CAMP Cyprus has drawn upon the financial and in-kind support of the Government of Cyprus through the Environment Service, which is acknowledged with thanks.

6.1.2 ***High level of professional competency***. CAMP Cyprus has benefited from the very high professional standards of the experts in the various involved Ministries / Departments whose contributions have been extremely valuable and constructive.

6.1.3 ***Good project management***. There has been very close and constructive cooperation between the National Project Coordinator acting on a daily basis on behalf of the Environment Service and the CAMP Cyprus Task Manager acting on behalf of PAP/RAC.

6.1.4 ***High level International Consultants***. An important factor in the achievement of the results of CAMP Cyprus has been the high quality and experience of the International Consultants provided by the relevant UNEP/MAP Regional Centres (PAP/RAC, Blue Plan/RAC and SPA/RAC). Their wide international and Mediterranean experience in their relevant fields has been transferred to Cyprus to contribute to aspects which needed improvement in light of Cyprus' own objectives for coastal management and sustainable development.

6.1.5 ***Strong support from PAP/RAC***. The implementation of UNEP/MAP's CAMP Programme has from its inception in 1988 been entrusted to the PAP/RAC which acted as the institution for supporting national, regional and local authorities across the Mediterranean to prepare for and

implement CAMP Programmes. This accumulated professional and administrative experience has been placed behind CAMP Cyprus. Special mention should be made of the financial support provided by PAP/RAC to CAMP Cyprus which is acknowledged with thanks.

6.1.6 ***High level National experts***. The implementation of CAMP Cyprus has utilized the expertise of two groups of national experts: The commissioned National Consultants/Experts who supported the work of the International Consultants, and the National Experts/Advisers who acted as Team Leaders and Team Members in the respective Activities, all high level professionals attached to the various relevant Ministries / Departments. Their role and active contribution played a major part in the achievement of the results of CAMP Cyprus.

6.2 Several lessons have been learnt through the implementing CAMP Cyprus which should be highlighted for improving even further the design of future activities:

6.2.1 ***Strengthen strategic thinking***. CAMP Cyprus, with its underlying concern for policy level issues, has, in all its Activities, directed attention to the problems and achievements of spatial planning and environmental management which affect coastal development. The concern for policy level issues includes but nevertheless transcends site-specific and particular cases and cut across the boundaries of the specific responsibilities of individual Ministries / Departments. Maintaining the focus on strategic thinking and how such a 'strategic approach' can lead to a clearer understanding of the causes of existing problems and possible solutions needed repeated elaboration and demonstration. Without emphasis on strategic level approaches it would have been difficult to appreciate the linkages between policies, resources and administrative responsibilities and formulate proposals for changes to existing policies and practices. CAMP Cyprus has offered opportunities for stressing the need for promoting further a strategic thinking on coastal management.

6.2.2 ***Fragmented database***. All the Activities in CAMP Cyprus have made use of all available national information concerning the state of coastal areas and the resources involved in coastal development. Despite the good quality of information, a certain degree of difficulty has been encountered in putting together information tied to the activities of separate Ministries / Departments and form an integrated database shared by all or most Ministries / Departments. The fragmented information base combined with the lack of a common definition of 'the coastal zone', are issues for further work.

6.2.3 ***Gaps between routine work and long term vision***. Cyprus has an efficient and competent public administration and highly qualified body of experts. There is generally a heavy load of current work carried out on a daily basis keeping experts constantly busy. However, there tends to be a certain difficulty in addressing sufficient attention to a long term vision on coastal management within which to relate specific important planning issues to a forward perspective.

6.2.4 ***Local level awareness***. Local level institutions are rather weak in resources and technical capacities. This makes for a dependency on national level actions. Local participation in the formation of policies is formalized and rather imbalanced partly due to resources and partly due to limited local level environmental awareness. This tends to cripple the development of local visions on environment and development necessary to temper over-concentration on property and development rights essential for local/national communication on spatial planning interventions and environmental management measures.

7.0 CAMP CYPRUS KEY PROPOSALS

In this last section of this Summary Report, the main recommendations of the CAMP Cyprus to the Government of Cyprus are presented in a summary form.

Proposal	**Existing coastal pressures and policy deficiencies**	**Policy responses and changes**
Activity: ICAM Adoption and application of the proposed ICAMSF, within the context of the Island Plan, to guide an on-going process of coastal area management (As elaborated in the Individual Activity Report on ICAM)	Existing development pressures in coastal areas arouse concerns for emerging risks to the quality of coastal and marine resource and to the future productivity of coastal activities. Existing multiple sectoral policies and measures form a fragmented framework without a unified approach / vision to the challenges and needs of reconciling development and environmental objectives on a long term basis.	Establishment of a Strategic Framework to guide the harmonization of objectives and the integrated implementation of plans, priorities and decisions within all major sectors involved in the management of coastal resources. Making the operation of the ICAMSF responsibility of an Inter-Ministerial Committee assisted by a Technical Committee including mainly the CAMP Cyprus Steering Committee.

Main expected results include:

- Moving towards sustainable management of coastal and marine resources.
- Protection of coastal and marine biodiversity and enhancement of the productivity of coastal activities (tourism, agriculture, water management, foreshore protection, recreation, etc.).
- Strengthening the policy framework of Cyprus to fulfill and contribute to objectives of national, EU and Mediterranean policies / agreements, including those under the ICZM Protocol.

The following achievement indicators are cited for guidance:

- Adoption, or otherwise improvement, of the ICAMSF under initiatives by the Inter-Ministerial Committee, assisted by the ICAMSF Technical Committee.
- Preparation of the Island Plan under initiative by the Planning Bureau including within it the ICAMSF.
- On-going elaboration of the ICAMSF in light of future circumstances under joint initiatives by all competent Ministries / Departments / Organizations, reporting to the Inter-Ministerial Committee.

Proposal	Existing coastal pressures and policy deficiencies	Policy responses and changes
Activity: Public Awareness and Participation Use of methods suggested by or similar to *Imagine* by the Departments involved in coastal management to improve environmental awareness and strengthen a shared vision of sustainability among public and private sector stakeholders	Coastal resources, in Cyprus and elsewhere, are subject to strong competition for different and often conflicting uses and activities pursued by diverse groups with different points of view and interests. National / local dialogue and public participation procedures pursued by the competent authorities to ensure sustainable management of coastal resources and related policy implementation actions are often abortive or at best difficult due to divergent objectives, priorities and interests clouding awareness of environmental sustainability risks.	Introduction of an environmental sustainability awareness Programme across policy fields to inform, reform and strengthen the public participation process currently used in spatial planning and in other related policies, drawing upon the *Imagine* methodology. The Programme should start in selected clusters of coastal communities. For the success of the Programme it is essential to include active participation of representatives of public and private sector bodies.

Main expected results include:

- Effective public participation process.
- Reducing friction in public participation efforts and delays in Development Plan implementation.
- Improving the social responsiveness of the planning process and the social value of the outcomes envisaged in the Development Plans, and other Plans / actions more widely.
- Ensuring the inclusion of local concerns, which following exposure to the Programme will ultimately develop shared responsibility for achieving sustainable development.

The following achievement indicators are cited for guidance:

- Within the scope and goals of the ICAMSF, taking decision on the Programme.
- Organizing Programme activities / workshops in selected coastal communities decided upon by the authorities concerned.

Proposal	Existing coastal pressures and policy deficiencies	Policy responses and changes
Activity: Biodiversity concerns in ICAM Development and application of a coastal and marine Biodiversity Strategy in Cyprus as part of the ICAMSF	Biodiversity, as a complex of interrelated natural elements, is threatened by development pressures but also by the lack of a commonly used Biodiversity Strategy cutting across development sector. Biodiversity protection is currently inadequate due to the fact that going initiatives are separately confined to the main 'environmental Departments' (the Environment	Through cooperation of the Environment Service with the Department of Fisheries and marine Research and the Department of Town Planning and Housing: (a) Introduction of a coastal and marine biodiversity strategy in all Development Plans, (b) Initiation of a biannual Biodiversity Status Review and an integrated biodiversity database also covering marine management guidelines.

(As elaborated in the Individual Activity Reports on Biodiversity Concerns in ICAM)	Service, the Fisheries and Marine Research Department and the Forestry Department), while biodiversity protection measures are a weak element in the Spatial Development Plans.	(c) Preparation of an ecological mapping of coastal areas, including sea level rise prospects, definition of 'buffer zones and 'biodiversity corridors', and redesign of the foreshore protection zone. (d) Preparation and application of 'good practice' guidelines and measures for the control of alien species in the marine environment.

Main expected results include:

- Effective protection and management of coastal and marine biodiversity.
- Greater cohesion between development priorities and biodiversity management.
- Integration of biodiversity management concerns within the ICAMSF.

The following achievement indicators are cited for guidance:

- Within the scope and goals of the ICAMSF, preparation of a Biodiversity Strategy under initiative by the Environment Service, Fisheries and Marine Research Department, Department of Town Planning and Housing.
- Incorporation of biodiversity strategy in the Spatial Development Plans
- Preparation of Biodiversity Status Review, biodiversity maps etc.

Proposal	**Existing coastal pressures and policy deficiencies**	**Policy responses and changes**
Activity: Strategic Environmental Assessment Incorporation of the SEA process in the spatial planning system as demonstrated by the SEA Report and the application of the SEA Guidelines to the Pilot Case Study	Strategic Environmental Assessment of Plans and Programmes is a legal requirement in Cyprus on the basis of national legislation according to the relevant EU Directive. So far only a few programmes have been reviewed, while the revision of the currently applied Development Plans of 2006, scheduled during 2009, will need to incorporate the proposals of the SEA concerning policy level changes. Experience in the applications of SEA is understandably limited and needs further strengthening.	Incorporation of SEA in the spatial planning process according to the proposals put forward by the SEA Activity Report. Setting up a SEA Unit within the Department of Town Planning and Housing to monitor and debate and include the recommendations of SEA Reviews relating to the Development Plans.

The main expected results include:

- Ensuring greater environmental soundness in Development Plans and conformity with the relevant national legislation.

- Strengthening a capacity for proactive responses of Spatial Development Plans and their policies to possible strategic environmental impacts.

The following achievement indicators are cited for guidance:

- Within the scope and goals of the ICAMSF, review and possible elaboration of the SEA Guidelines and their application to the Pilot Case Study in the Southern Larnaca Coastal Area by the Environment Service in cooperation with the Department of Town Planning and Housing and other related authorities.
- Taking action to improve the availability and coherence of the database needed for SEA.

Proposal	**Existing coastal pressures and policy deficiencies**	**Policy responses and changes**
Activity: Carrying Capacity Assessment Incorporation of the tool of CCA in the spatial planning system and tourism policies /strategies as demonstrated by the CCA Individual Activity Report on the CCA Pilot Application Case Study	Development policies, plans and measures in land use planning, tourism and infrastructure are made with only a vague reference to the capacity of physical, human, socio-economic and cultural / heritage resources. Carrying Capacity Assessment (CCA) is an important tool of ICAM guiding decisions according to sustainable resource management. An organized CCA process is missing in Cyprus.	Introduction of CCA in land use planning, tourism plans and strategies and infrastructure development projects. Setting up a CCA Team including experts from the Cyprus Tourism Organization and the Department of Town Planning and Housing to pursue analysis, exchange information and monitor CCAs.

The main expected results include:

- Improvement of the scope of land use planning, tourism plans/strategies and infrastructure projects to assess and act upon information on resource capacity limitations necessary for ensuring sound coastal, marine, landscape and heritage protection and management.

The following achievement indicators are cited for guidance:

- Within the scope and goals of the ICAMSF, the PAP/RAC methodological guidelines and conclusions of the CCA Pilot Application Case Study in the Southern Larnaca Case Study should be adopted, or improved / elaborated, by the competent authorities (Department of Town Planning and Housing, Cyprus Tourism Organization and Public Works Department).
- Use of CCA in the next revision of Plans / Strategies.

Proposal	Existing coastal pressures and policy deficiencies	Policy responses and changes
Activity: Environmental Economics Incorporation of tools of Environmental Economics (Resource Valuation and Economic Instruments) in the spatial planning process, tourism measures and environmental policy as demonstrated by the EE Guidelines Report, the Individual Activity Report on the Pilot Application Case Study Report on EE and the Summary Proposals Report	Coastal resources generate multiple socio-economic benefits accrued to a number of economic sectors (tourism, agriculture, coastal summer housing, etc.) and society at large (recreation and enjoyment of the natural heritage). Unsustainable uses of coastal resources impose costs and reduce these benefits. The *value* of these benefits of coastal resources is not assessed leading to underestimation of social and economic losses incurred in coastal development and insufficient information for the pursuit of coastal management actions. Existing Economic Instruments for assessing and capturing the benefits of coastal resource management are inadequate.	Incorporation of EE tools (Resource Valuation and Economic Instruments) in the existing legal framework of spatial planning and tourism development policies and measures. It is specifically proposed: (a) Introduction of Resource Valuation Statement, an Implementation Requirements Statement and an Outline Economic Summary Annex as parts in the Development Plans. (b) Application of three Economic Instruments in the spatial planning and tourism development policy process: -Transfer of Development Rights. -Betterment Levy -Environmental Fund

The main expected results include:

- The use of market-based approaches and the cost/benefit type information they provide will supplement the effectiveness of the conventional regulatory and presently low-key awareness raising measures in coastal resource management.
- EE tools will strengthen the ICAMSF, increase the integration of planning and environmental management actions and enable greater attention to be given to coastal area management measures by the Ministry of Finance and the Planning Bureau which take economic and budgetary decisions on coastal area management.

The following achievement indicators are cited for guidance:

- Within the scope and goals of the ICAMSF, the Planning Bureau, the Environment Service and the Department of Town Planning and Housing, to review and endorse, or otherwise elaborate, the proposed EE tools.
- Inform and discuss with the Planning Board the procedure for the application of the proposed tools.
- Set time targets for the administrative and legal requirements for the establishment and operation of the Environmental Fund.

8.0 Proposals for follow up actions

8.1 Strengthening local participation and awareness

Community level environmental awareness and effective local-central level communication is rather weak. Due to this weakness competent authorities proposing national level plans, measures and projects encounter local level reactions and long drawn out opposition, while, at the local level, affected communities are ill-informed and without financial and manpower resources to define and put forward locally developed and appropriate proposals to competent authorities.

CAMP Cyprus identified this issue and during its implementation has reached out to the local communities but within the time and resources available it was not possible to put in place a final comprehensive strategy for strengthening local awareness and more detailed proposals for improvements or changes to the present public participation arrangements.

A follow up action is needed to develop a strategy for local level awareness and participation in the planning and environmental management process. The Activity will address the following broad key issues:

- Review the work done under CAMP Cyprus in this field and identify points / proposals which should be further developed.

- Conduct working meetings with a group of communities (such as the Southern Larnaca coastal communities, and other coastal communities) as well as with Government Departments (such as Department of Town Planning and Housing, Environment Service, and others).

- Produce and propose a public awareness and participation strategy including ways of incorporation in the planning system.

The duration of the Activity will be for 6 months.

Consulting services: Engagement of an International Consultant to be supported by a team of national experts from the key competent Departments (such as Department of Town Planning and Housing, Environment Service).

8.2 Strengthening integrated management of shoreline biodiversity and land-sea uses

The implementation of the ICZM Protocol Recommendations requires, among other things, increased protection of the foreshore zone, defined as the area of at least 100m from the shore. This zone presents particular challenges for spatial planning and environmental management due to a number of factors including: The vulnerability of the marine and terrestrial biodiversity to encroaching building development, the growing problem of coastal erosion, and the multiple responsibilities for reviewing and approving planning and other related permissions for onshore and offshore developments / activities (Council of Ministers, District Officer, Department of Town Planning, Department of Fisheries and Marine Research, Environment Service, Department of Public Works and Ports Authority).

The objectives of Integrated Coastal Area Management Strategy Framework aim at harmonization of sectoral activities and decision making at all levels of administration in the implementation of construction, protection measures and approval of land and sea uses.

CAMP Cyprus has identified the need for greater cooperation among the various authorities with specific responsibilities for near-shore activities and particularly the need to ensure adequate attention to biodiversity concerns and rationalization of decision making. To succeed in this a new approach consistent with ICAMSF needs to be adopted running across and combining all key sectors involved in CAMP Cyprus, such as marine and coastal biodiversity, coastal erosion concerns, spatial planning, foreshore protection and the environmental impact assessment process.

A follow up cross-sectoral activity is proposed to develop a *locally focused* integrated strategy for coastal protection within the framework of ICZM Protocol Recommendations and the overall ICAMSF developed under CAMP Cyprus.

The Activity will address the following broad key issues:

- Review the conflicting practices affecting the integrity of biodiversity in the 100m wide foreshore zone.

- Conduct working meetings with all responsible authorities and engage professional expertise in these authorities towards establishing a common approach to the management of the near-shore zone.

- Produce and propose a local level strategy for integrated near-shore zone management.

The duration of the Activity will be for 6 months.

Consulting services: Engagement of an International Consultant to be supported by a team of national experts from the key competent Departments (such as Department of Fisheries and Marine Research, Environment Service, Department of Town Planning and Housing, Department of Public Works and Ports Authority).

8.3 Streamlining ICAMSF in the Island Plan

The incorporation of policy changes necessary for establishing an ICAMSF within the Cyprus policy context is the major objective of CAMP Cyprus and its materialization will be an important contribution of CAMP Cyprus to the CAMP Programme.

A series of proposals have been developed by all the CAMP Activities on their respective fields and their synthesis has formed the basis of the proposed ICAMSF producing a new vision for costal management. This is a challenging effort as it requires the engagement and active cooperation of all relevant authorities for streamlining ICAMSF into the Island Plan process.

Particular attention needs to be addressed to combining socioeconomic and spatial objectives within the Island Plan and especially integrating the tools of coastal area management within the ICAMSF, particularly Strategic Environmental Assessment, Carrying Capacity Assessment, Environmental Economics and Public Participation.

The implementation of CAMP Cyprus has identified both the high level of awareness of the need for, as well as the gaps in, promoting and applying strategic thinking on coastal management in policy making and actions. Although ultimately the long term results of the application of ICAMSF will be manifested in local level conditions, the ICAMSF being initially a process of change and adaptation at the national level, needs further elaboration to establish a coastal management vision to guide the actions of all responsible authorities.

To support the establishment of the ICAMSF and its integration in the Island Plan a follow-up Activity is proposed to focus on the following:

- Review the content of the ICAMSF and the proposed changes to the existing practice of coastal management.

- Conduct working meetings with all responsible authorities, particularly the Planning Bureau of the Ministry of Finance, and engage professional expertise in the authorities and organizations comprising the CAMP Cyprus Steering Committee towards establishing a common approach ICAMSF as an input into the Island Plan.

- Produce and propose an operational action plan for the ICAMSF process within the Island Plan formulation and revision.

- Set time targets for the administrative and legal requirements for the establishment and operation of the Environmental Fund.

ANNEX I – CAMP Cyprus Management

Cyprus Programme Director

Mr Nicos Georgiades, Director of Environment Service (until December 2006)
Mr Antonis Antoniou, Director of Environment Service (since January 2007)

UNEP/MAP PAP/RAC Programme Director

Mr Ivica Trumbic, Director, Priority Actions Programme

UNEP/MAP PAP/RAC Programme Coordinator

Mr Aleksandar Bjelika, Priority Actions Programme

UNEP/MAP CAMP Cyprus Programme Officer

Ms Tatiana Hema, Programme Officer, UNEP-MAP

CAMP Cyprus National Project Coordinator

Ms Joanna Constaninides

CAMP Cyprus Task Manager

Mr Glafkos Constantinides

CAMP Cyprus Programme Steering Committee

Union of Municipalities (Mr A Germanos)
Union of Rural Communities (Mr P. Damianos)
Scientific Technical Chamber (Dr Antonis Toumazis)
Municipality of Larnaca (Mr Lefteris Embedoklis and Mr Andreas Karakatsanis)
Federation of Environmental and Ecological Organizations (Mr S. Perdios)
Ministry of Interior (Mr Andreas Ashiotis and Mr Marios Kitromilides)
Planning Bureau – Ministry of Finance (Ms Georgia Christofidou)
Cyprus Tourism Organization (Ms Athena Metaxa)
Department of Town Planning and Housing (Ms Alexia Geogiadou)
Department of Public Works (Ms Stavrini Theodosiou)
Department of Agriculture (Ms Chrystalla Costa)
Department of Merchant Shipping (Mr Andreas Chrysostomou and Yiannis Evstratiou)
Department of Lands & Surveys (Mr Michalis Savvides and Varnavas Pashioulis)
Department of Forestry (Mr Takis Tsindidis, Mr Thomas Kyriakou and Mr Andreas Antoniou)
Department of Fisheries and Marine Research (Ms Myroulla Hadjichrystoforou and Ms Marina Argyrou)
Department of Water Development (Mr Spyros Stephnou and Ms Panayiota Hadjigeorgiou)
Department of Geological Survey (Mr Chistodoulos Hadjigeorgiou)

ANNEX II - Activity Teams

Activity 1: ICAM METHODOLOGY

UNEP-MAP–PAP/RAC Consultant: Dr Harry Coccossis
National Specialist: Mr Panicos Nicolaides
Team Leaders – Advisers
Mr George Hadjimichael, DTPH
Ms Alexia Georgiadou DTPH
Ms Joanna Constantinidou, ES
Team Experts
Ms Georgia Christofidou, PB
Mr Andreas Assiotis, MI
Mr Stelios Zervos, CU/PWD
Ms Stavrini Theodosiou, CU/PWD
Mr Andreas Chrysostomou, DMS
Mr Spyros Stefanou, WDD
Ms Panagiota Hadjigeorgiou, WDD
Mr Christos Hadjiantonis, DA
Mr Michael Savvides, LSD
Ms Athena Metaxa, CTO
Dr Antonis Toumazis, ETEK
Activity duration: October 2006 – December 2007

Activity 2: SUSTAINABILITY ANALYSIS ('*imagine*')

MAP – BLUE PLAN/RAC Consultants: Ms Elisabeth Coudert and Dr Simon Bell
National Specialists: Ms Anna Karamontani and Mr Achilleas Kalopedis
Team Leaders – Advisers: Ms Nasia Dikigoropoullou, ES and Mr Charalambos Hadjipakos, ES
Team Experts
Ms Alexia Georgiades DTPH
Mr Christos Hadjigiangos, UCM
Mr Lefteris Embedoklis LM
Dr Antonis Toumazis, ETEK
Ms Stavrini Theodosiou, DPW
Mr Spyros Stephanou, WWD
Ms Panayiota Hadjigeorgiou, WDD
Mr George Phaedonos, CAP –SYPOK
Mr Patroclos Apostolides, CAP-SYPOK
Mr Pambos Ioannou, UCC
Mr Stavros Perdios, FEEO
Mr Yiannakis Mallourides, UCC
Ms Stavrini Theodosiou, CU/PWD
Ms Nana Asmeni-Pavlou, ACTE
Mr Michael Ierides, CYMEPA
Activity duration: October 2006 – April 2007

Activity 3: BIODIVERSITY CONCERNS IN ICAM

MAP – SPA/RAC Consultants: Dr Alfonso Ramos, Mr Andreas Demetropoulos, Mr Daniel Cebrian
National Specialist: Mr Charalambos Panayiotou
Team leader – Adviser
Ms Myroula Hadjichristoforou DFMR
Mr Antonis Antoniou, ES
Team Experts
Ms Marina Argyrou DFMR
Mr Thomas Kyriakou DF
Ms Stavrini Theodosiou, CU/PWD
Mr Demetris Koutroukides, ES
Activity duration: October 2006 – April 2007

Activity 4: CARRYING CAPACITY ASSESSMENT

MAP – PAP/RAC Consultant: Dr Zoran Klaric
National Specialist: Mr Panicos Nicolaides
Team Leader: Ms Athena Metaxa, CT0
Team Experts
Mr Michael Kareklas, DTPH
Mr Spyros Stephanou, WWD
Mr Panayiota Hadjigeorgiou, WDD
Mr Christos Hadjiantonis, DA
Ms Stavrini Theodosiou, CU/PWD
Mr Andreas Chrysostomou, DMS
Mr Varnavas Pasioulis, LSD
Ms Despo Pilidou, DA
Ms Nana Asmeni-Pavlou, ACTE
Activity duration: April 2007 – December 2007

Activity 5: STRATEGIC ENVIRONMENTAL ASSESSMENT

MAP – PAP/RAC Consultant: Dr Jiri Dusik
National Specialist: Mr Panicos Nicolaides
Team leader – Adviser: Ms Christina Pandazi, ES
Team Experts
Ms Georgia Christofidou, PB
Ms Panayiota Hadjigeorgiou, WDD
Ms Spyros Stephanou, WWD
Ms Stavrini Theodosiou, CU/PWD
Mr Andreas Chrysostomou, DMS
Ms Myroula Hadjichristoforou, DFMR
Mr Christodoulos Hadjigeorgiou, GSD
Mr Takis Tsintides, FD
Activity duration: April 2007 – December 2007

Activity 6: ENVIRONMENTAL ECONOMICS

MAP – PAP/RAC Consultant: Mr Glafkos Constantinides
National Specialist: Mr Savvas Maliotis
Team Leaders – Advisers: Ms Egli Pandelaki, PB, Ms Georgia Christofidou, PB
Team Experts
Mr Yiannis Gregoriou, PB
Ms Stavrini Theodosiou, CU/PWD
Andreas Chrysostomou, DMS
Ms Panayiota Hadjigeorgiou, WDD
Ms Spyros Stephanou, WWD
Ms Chrystalla Costa, DA
Marilena Kythreotou, DSS
Mr Varnavas Pasioulis, LSD
Ms Alexia Georgiadou, DTPH
Ms Athena Metaxa, CTO
Mr Michael Savvides, LSD
Mr Thomas Kyriakou, DF
Irini Georgalla, PB
Anna Stavrinou, PB
Loukia Bakalouri, PB
Activity duration: April 2007 – December 2007

Activity 7: MAPPING SUPPORT

National Specialist: Mr Michalis Savvides DLS
Team Leader – Adviser: Mr Andreas Antoniou, NRIRSC
Team Experts
Mr Charalambos Hadjipakkos, ES
Ms Stavrini Theodosiou, CU/PWD
Mr Nicos Shamarias, NRIRSC

ANNEX III - Individual Activity Reports prepared under CAMP Cyprus

Activity: ICAM Methodology

- *Integrated Coastal Area Management Strategic Framework Report,* Dr Harris Coccossis, Mr Glafkos Constantinides, Mr Panicos Nicolaides

Activity: Sustainability Analysis Imagine and Public Participation

- *Sustainability Imagine Report,* Ms Elisabeth Coudert and Dr Simon Bell
- *Public Participation in Cyprus,* Ms Anna Karamondani and Dr Achilleas Kalopedis

Activity: Biodiversity Concerns in ICAM

- *Biodiversity Concerns in ICAM Report*, Dr Alfonso Ramos and Mr Andreas Demetropoulos
- *Biodiversity Issues Report*, Mr Charalambos Panayiotou

Activity: Carrying Capacity Assessment

- *Carrying Capacity Assessment Case Study Repor*t, Dr Zoran Klaric

Activity: Strategic Environmental Assessment

- *Strategic Environmental Assessment Case Study Report*, Mr Jiri Dusik

Activity: Environmental Economics

- *Environmental Economics Guidelines Report*, Mr Glafkos Constantinides
- *Environmental Economics Case Study Report*, Mr Glafkos Constantinides and Mr Savvas Maliotis
- *Environmental Economics Proposal Report*, Mr Glafkos Constantinides

CAMP Cyprus Presentation Conference Summary Report
Mr Glafkos Constantinides