MAP

Mediterranean Action Plan

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PRIORITY ACTIONS PROGRAMME

MAP Coastal Area Management Programme (CAMP)

Slovenia: Final Integrated Report

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The thematic structure of the MAP Technical Series is as follows:

- Curbing Pollution
- Safeguarding Natural and Cultural Resources
- Managing Coastal Areas
- Integrating the Environment and Development

La Série des rapports techniques du PAM est présentée avec la structure suivante:

- Maîtriser la pollution
- Sauvegarder le patrimoine naturel et culturel
- Gérer les zones côtières de manière durable
- Intégrer l'environnement et le développement

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List of Acronyms

ADT	Average Daily Traffic
AT	Aerial Triangulation
B&B	Bed & Breakfast
BoE	Band of Equilibrium
BOK	Brkini, Coast and Kras (also an acronym for Better Environment and Quality in Slovene language)
BP/RAC	Blue Plan Regional Activity Centre
CAMP	Coastal Area Management Programme
CCA	Carrying Capacity Assessment
CERO	Regional waste management centres (in Slovene language)
CPVO	Integrated Environmental Impact Assessment (in Slovene language)
CSD	Conception of Spatial Development of South Primorska
DMO	Destination Management Organisation
DOF	Digital Ortho Photographs
DOPPS	Bird Watching and Bird Study Association of Slovenia
DSP	Diarrhoeic Shellfish Poisoning
DRM	Digital Relief Model
EIA	Environmental Impact Assessment
EMAS	Eco-Management Audit Scheme
ERS/RAC	Regional Activity Centre for Environment Remote Sensing
EU	European Union
GDP	Gross Domestic Product
GEF	Global Environment Facility
GIS	Geographic Information Systems
HNS	Harmful and Noxious Substances
ICAM	Integrated Coastal Area Management
ICARM	Integrated Coastal Area and River Basin Management
ICT	Information Communication Technology
IRSNC	Institute of the Republic of Slovenia for Nature Conservation
ISO	International Standards Organisation
LIFE	EU Financial Instrument for the Environment
LNG	Liquid Natural Gas
MAP	Mediterranean Action Plan
MCSD	Mediterranean Commission for Sustainable Development
MED POL	Mediterranean Pollution Programme
MEDU	MAP Co-ordinating Unit
MESP- EA	Ministry of the Environment and Spatial Planning – Environmental Agency
MESP	Ministry of the Environment and Spatial Planning
MESP-OSD	Ministry of the Environment and Spatial Planning – Office for Spatial Development
NARD	National Agency for Regional Development
NDP	National Development Plan
NEAP	National Environmental Action Programme
NGO	Non-Governmental Organisation
PAP/RAC	Priority Actions Programme/Regional Activity Centre
PE	Population Equivalent
PSP	Paralytic Shellfish Poisoning
RAC	Regional Activity Centre
RCSD	Regional Conception of Spatial Development
RDA	Regional Development Agency
RDP	Regional Development Programme
REIS	Regional Environmental Information System
REMPEC	Regional Marine Pollution Emergency Response Centre
RNUST	Development Plan and Policies of the Slovenian Tourism
RRC	Regional Development Centre (Koper)
RS	Republic of Slovenia
RSIS	Regional Spatial Information System
RTO	Regional Tourism Organisation
SI	Sustainability Indicators
SOM	Spatial Order of Municipality
SOPS	Agreement on Border Traffic and Co-operation
SOS	Spatial Order of Slovenia
SPA	Specially Protected Areas
SPA/RAC	Regional Activity Centre for Specially Protected Areas
SPSA	Imagine – Systemic Prospective Sustainability Analysis
SVOM	Service for the Protection of the Coastal Sea
SWOT	Strengths, Weaknesses, Opportunities and Threats
TC	Telecommunications
TIC	Tourist Information Centre
TOR	Terms of Reference
TP	Treatment Plan
UN CSD	United Nations Commission for Sustainable Development
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organisation
WMC	Waste Management Centre
WSS	Water Supply System
WWTP	Wastewater Treatment Plant
ZON	National Nature Protection Law
ZRS	Science and Research Centre of the Republic of Slovenia

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Slavko Mezek,

Project Co-ordinator

EXECUTIVE SUMMARY

The Coastal Area Management Programme (CAMP) is carried out within the Mediterranean Action Plan (MAP). The Programme is directed to the sustainable development of coastal areas, integrating the environmental protection and development planning.

The **CAMP Slovenia** is a project implemented by the Mediterranean Action Plan (MAP), the Republic of Slovenia and the Municipalities of South Primorska. The latter established a closer co-operation, i.e. a "planning region" while preparing the Regional Development Programme for the period 2002–2006.

The CAMP Slovenia is based on the MAP priorities (including the Mediterranean Strategy for Sustainable Development adopted at Portorož, in November 2005, at the 14th Meeting of the Contracting Parties to the Barcelona Convention); it observes the principles and provisions of the new MAP ICAM Protocol, the Sixth Environment Action Programme of the European Community and its issue-related strategies, as well as the adopted national strategic documents (especially the Spatial Development Strategy of Slovenia and the National Environmental Action Programme 2005–2012).

The Regional Development Programme of South Primorska for the period 2007–2013 was drawn up during the implementation of the CAMP Slovenia project. A close integration was established between the two processes, since both projects' contents are complementary: the CAMP Slovenia upgrades and defines in greater detail a part of the Regional Development Programme referring to the environment and spatial development. Thus, it exploits all institutional infrastructure and implementation (particularly financial) instruments, which strengthens its implementation capacity.

Two types of projects were carried out in the framework of the CAMP Slovenia: individual projects dealing with the selected issues; and horizontal projects with the objective to connect all activities into an integrated process:

Individual projects:

- Conception of Spatial Development of South Primorska;
- Detailed Conception of Coastal Strip Spatial Arrangements;
- Management of Protected Areas;
- Regional Strategy of Sustainable Tourism Development;
- Regional Programme of Environmental and Water Resources Protection; and
- Sensitivity Maps of the Slovenian Coast.

Horizontal projects:

- Systemic and Prospective Sustainability Analysis;
- Programme of Public Participation, Training and Promotion; and
- Regional Spatial Information System.

The CAMP Slovenia is above all focused on spatial planning and the issues related to spatial planning. The main programme within the framework of the CAMP Slovenia project is the Conception of Spatial Development of South Primorska, a basic spatial strategic document of the region, which will direct the future (spatial) development and thus also the sustainable development of the region.

The Conception of Spatial Development of South Primorska defines spatial integration of important strategies and programmes adopted on the national and regional levels. A special attention was given to the spatial arrangements of the coastal strip, the management of protected areas and the protection of water resources. Moreover, modern methodologies and tools for spatial planning (including strategic Environmental Impact Assessment - EIA, scenario planning and Carrying Capacity Assessment - CCA for tourism development) were presented within the project. An adequate emphasis was given to public participation and promotion of the project to the public.

Different alternative management models for protected areas were defined and compared between themselves in the framework of the individual project on **Management of Protected Areas** to encourage new partnerships in the management of protected areas. Furthermore, a training workshop was held, intended for present and potential managers.

On the basis of the analysis of different aspects of tourism development, a vision, goals and a strategy of tourism development in the region were defined within the project on **Regional Strategy of Sustainable Tourism Development**. These were also harmonised with the sustainable development principles and the environment carrying capacity, assessed on the basis of selected indicators. A programme of the key measures was also drawn up for the coming programming period, which refers to: the regional destination organisation; improvement of tourist infrastructure; development and marketing of new tourist products and improvement of the existing products and services; promotion of the quality in tourism; reduction of the environmental impacts of tourism activities; and strengthening of the broad partnership for sustainable development. The project results were integrated in the Regional Development Programme for the period 2007–2013.

The project on **Regional Programme of Environmental and Water Resources Protection** involves one of the most important instruments of coastal areas management arising from the Water Framework Directive. The project contributed a computerised model, which will help the participating municipalities to assess the financial feasibility of the adopted operative programmes of drainage and treatment of wastewater until 2017. Integration of data collected from municipalities and their analysis was carried out, indicating that there is a considerable gap between the tasks defined in the operative programmes and the financial capacities of individual municipalities, in particular the Kras ones. Finally, several measures for more effective implementation of the operative programmes were proposed within this project.

The project on **Sensitivity Maps of the Slovenian Coast** contributed a tool for the preparation of the action plan within the context of the National Contingency Plan for spills of oil and other harmful and noxious substances (HNS). Within this project, biological, meteorological, oceanographic and other relevant data were collected, which are needed for the assessment of the ecological vulnerability of the coast and marine environment. Moreover, the project defined the areas of economically significant resources (from the point of view of fishery, mariculture, tourism, recreation, marinas, ports, etc.), ecologically and biodiversity significant area and the areas of cultural heritage. The compiled data was integrated into the Geographic Information Systems (GIS), and a set of sensitivity maps was drawn up for the Slovenian territorial sea, the inner waters and the coast.

The project on **Systemic and Prospective Sustainability Analysis** (the *Imagine* project) was intended to integrate all project activities into the Coastal Area Management Programme (CAMP). More than 50 different local and national experts, the representatives of institutions, state bodies, municipalities and non-governmental organisations took part in the project. Five workshops were organised, within which the participants evaluated the situation in the region in the light of sustainable development, refined the key sustainable development indicators, prepared the scenarios of future development – the possible and desired future, participated in the preparation of the action plan and, finally, prepared a marketing plan for the promotion of the overall Coastal Area Management Programme (CAMP) for Slovenia.

The project on **Regional Spatial Information System** (RSIS) integrated all data and information resulting from the project. The RSIS will provide for collection, application and exchange of data in a user-friendly manner.

The **Programme of Public Participation, Training and Public Promotion** promoted active public participation of the public in the preparation of the CAMP project and sensitised the public to the issues of sustainable development in coastal areas and their hinterlands, placing a special emphasis on sustainable spatial planning. Several training seminars were organised within the project (about the Strategic Environmental Impact Assessment - SEA, and spatial planning within the Integrated Coastal Area Management – ICAM). A website was created, through which the participants and general public were informed about the course of the project, and information on the project was published in various media.

The priority areas, programmes and actions defined within the Coastal Area Management Programme (CAMP) for Slovenia are:

Priority Area 1: Strengthening the sustainability of key economic activities – tourism and transport

Programme 1: Sustainable tourism development
Programme 2: Sustainable mobility in the region
Programme 3: Environmental protection and maritime activities

Priority Area 2: Reduction of environmental pressures (water, air)

Programme 4: Protection of water resources and reduction of water pollution loads
Programme 5: System of integrated waste management in the region
Programme 6: Protection against natural and other disasters, including the climate change

Priority Area 3: Efficient protection of cultural heritage and valuable natural features, preservation of biodiversity

Programme 7: Management of cultural heritage, valuable natural features and biodiversity, and their integration in development processes

Priority Area 4: Ensuring the sustainable spatial development for greater competitiveness and higher quality of life in the region

Programme 8: Guidance of spatial development in support of greater competitiveness of the region
Programme 9: Improved quality of life in the region
Programme 10: Spatial planning for the sustainable coastal area development

Implementation of the Coastal Area Management Programme (CAMP) for Slovenia within the framework of the Regional Development Programme of South Primorska 2007–2013

During the course of the CAMP project implementation, the preparation of the Regional Development Programme of South Primorska 2007–2013 took place on the basis of close integration of both processes, because the substance of both projects was complementary. The CAMP Slovenia upgrades and defines in detail the Regional Development Programme in its part relating to the environment and spatial development.

Therefore, the process of Coastal Area Management Programme (CAMP) avails of the institutional infrastructure and the implementation (in particular financial) instruments available within the framework of the Promotion of Balanced Regional Development Act, which all strengthens its implementation capacity.

The projects defined within the Regional Development Programme will have priority in financing from budgets as well as from the EU Cohesion and Structural Funds. By integrating the CAMP process into development programming, a proposal was formed (approved by the Project and Programme Councils) that the concern for programme implementation and other follow-up activities should be taken over by the already established and operating institutional structure, i.e. the Regional Council, Regional Development Council and Regional Development Agency as their secretariat. The above structure should be strengthened for specific tasks, particularly for the purposes of a more structured partnership reflecting specific stakeholders in the field of coastal area management.

Already during the course of the CAMP Slovenia process, the implementation of some new projects was initiated, supporting the coastal area management. The MAPSHARING Project is carried out within the INTERREG Programme Slovenia-Italy. This project is implemented by the Italian Region of Friuli-Venezia Giulia and the Municipalities of South Primorska. The project will offer an expert support in implementation of the cross-border Strategic Environmental Impacts Assessments (SEA). It is directed towards defining common goals and indicators, comparing the available spatial data and regulations regarding the Strategic Environmental Impact Assessment – SEA (pursuant to the Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment).

The PlanCoast is the INTERREG IIIB NP CADSES project with the aim to develop tools and capacities for an effective integrated planning in coastal zones and maritime areas. The project introduces a new spatial planning instrument called “marine spatial planning”, integrating the ICAM process and spatial planning, promoting the application of the up-to-date GIS systems and, at the same time, contributing to the implementation of the European policies and national strategies concerning the coastal areas and the sea. This is the most direct way to continue the processes initiated by the CAMP Slovenia project.

The highest value of the CAMP Slovenia project derives from its strengthening the process of Integrated Coastal Area Management (ICAM) and including it in the process of regional development programming, thus offering an innovative answer to the questions of process organisation, funding the follow-up activities on the regional/local level and, finally, showing, already during the time of its implementation, that the project may further develop within the proposed organisation.

RESUME EXECUTIF

Le PAC Slovénie est un projet mis en œuvre par le Plan d'Action Méditerranéen (PAM), la République de Slovénie et les municipalités du sud de Primorska.

Le PAC Slovénie revalorise et définit en détail le Programme de Développement Régional dans sa composante relative à l'environnement et à l'aménagement de l'espace.

Le principal apport du PAC Slovénie est qu'il a renforcé le processus de Gestion Intégrée de la Région Côtière (GIRC) et qu'il l'a inclus dans le processus de programmation régionale du développement, proposant ainsi une réponse innovante aux questions concernant l'organisation du processus, finançant les activités de suivi au niveau régional/local et, enfin, démontrant, et cela dès sa mise en œuvre, que le projet pourrait être poursuivi dans le cadre de l'organisation proposée.

Le PAC Slovénie a été élaboré en tenant compte des priorités du PAM (y compris la Stratégie Méditerranéenne pour le Développement Durable adoptée à Portoroz en novembre 2005 lors de la 14ème Réunion des Parties Contractantes à la Convention de Barcelone) ; il respecte les principes et les dispositions indiquées par le nouveau Protocole de GIZC du PAM, par le Sixième Programme d'Action pour l'Environnement de la Communauté Européenne et par les stratégies en rapport avec ce sujet ainsi que ceux des documents stratégiques nationaux adoptés (particulièrement la Stratégie d'Aménagement de l'Espace slovène et le Programme National d'Action pour l'Environnement 2005-2012).

Deux types de projet ont été mis en œuvre dans le cadre du PAC Slovénie :

PROJETS INDIVIDUELS :

- Conception de l'Aménagement de l'Espace de Primorska Sud
- Conception détaillée des Arrangements Spatiaux du Littoral
- Gestion des Zones Protégées
- Stratégie Régionale de Développement du Tourisme Durable
- Programme Régional de Protection de l'Environnement et des Ressources en Eau ; et
- Cartes de Vulnérabilité de la Côte Slovène.

PROJETS HORIZONTAUX :

- Analyses Systémiques et Prévisionnelles de Durabilité ;
- Programme de Participation du Public, de Formation et de Promotion ; et
- Système d'Information Spatiale Régionale.

Les zones, programmes et actions prioritaires définis dans le Programme d'Aménagement Côtier (PAC) slovène sont :

Zone Prioritaire 1 : Améliorer la durabilité des activités économiques clés – tourisme et transport.

PROGRAMME 1 : Développement du tourisme durable

PROGRAMME 2 : Mobilité durable dans la région

PROGRAMME 3 : Protection de l'environnement et activités maritimes

Zone Prioritaire 2 : Réduction des pressions environnementales (eau, air)

PROGRAMME 4 : Protection des ressources en eau et réduction de la charge de polluants dans l'eau

PROGRAMME 5 : Système de gestion intégrée des déchets dans la région

PROGRAMME 6 : Protection contre les catastrophes naturelles et autres, y compris le changement climatique

Zone Prioritaire 3 : Protection efficace du patrimoine et des caractéristiques naturelles de valeur, protection de la biodiversité

PROGRAMME 7 : Gestion du patrimoine, des caractéristiques naturelles de valeur et de la biodiversité et intégration de ces aspects dans le processus de développement

Zone Prioritaire 4 : Garantir l'aménagement spatial durable pour une plus grande compétitivité et une meilleure qualité de vie dans la région

PROGRAMME 8 : Conseils en matière d'aménagement de l'espace en tant qu'atout pour une plus grande compétitivité de la région

PROGRAMME 9 : Amélioration de la qualité de vie dans la région

PROGRAMME 10 : Aménagement de l'espace pour le développement durable de la zone côtière

Lors de la mise en œuvre du PAC slovène, la préparation du Programme de Développement Régional de Primorska Sud 2007-2013 a été basée sur une intégration étroite des deux processus dans la mesure où la substance des deux projets était complémentaire.

Part 1:

Coastal Area
Management Programme
(CAMP) for Slovenia

FINAL REPORT

1. Introduction

The present report gives the conclusions and results of the CAMP Slovenia project, which has been implemented since summer 2004 to date. The contracting authorities are the Mediterranean Action Plan (MAP), the Ministry of the Environment and Spatial Planning of the Republic of Slovenia and eight municipalities of the South Primorska region. The first part of the report represents a synthesis of results of the eight sub-projects constituting the CAMP Slovenia project. The second part summarises conclusions and results of sub-projects. The report is intended for the sub-contracting authorities, the participants in the CAMP Slovenia project and the interested public, including the population and economic actors. The document represents the basis for the implementation of various activities on the municipal and national levels, the activities by economic actors and institutions, as well as non-governmental organisations dealing with the issues of sustainable development of the coastal area in Slovenia and cross-border regions.

1.1 Slovenia and the Mediterranean Action Plan (MAP)

The Mediterranean Action Plan (MAP) was adopted in 1975 as the first Regional Seas Programme within the framework of the United Nations Environment Programme (UNEP). A year later, in 1976, the Convention for the Protection of the Mediterranean Sea Against Pollution (Barcelona Convention) was adopted, constituting – together with its Six Protocols – the so-called "Barcelona System". In 1995, the Convention changed its name into Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean. The Barcelona Convention and its Six Protocols represent the legal and substantive basis for the operation of the UNEP-MAP. At present, the Contracting Parties to the Barcelona Convention are: Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libya, Malta, Monaco, Morocco, Montenegro, Slovenia, Spain, Syria, Tunisia, Turkey and the European Union as a whole.

The main objectives of the Mediterranean Action Plan (MAP) are:

- to ensure sustainable management of natural marine and land resources through the integration of the environment in social and economic development and land-use policies;
- to protect marine environment and coastal areas through the prevention of pollution and reduction or elimination of the input of harmful substances into the sea;
- to protect nature and enhance sites and landscapes or cultural value;
- to enhance solidarity among the Mediterranean countries in management of common heritage and resources for the well-being of the present end next generations; and
- to contribute to the improvement of the quality of life.

To this end, the UNEP-MAP mainly focuses on the following key fields: combating land-based pollution, preventing maritime accidents, managing coastal areas, preserving marine and coastal biodiversity, promoting sustainable development and raising the awareness through modern information and communication technologies.

The MAP operation is co-ordinated by the Barcelona Convention Secretariat, the Co-ordinating Unit (MEDU). Six Regional Activity Centres (RACs) and the Mediterranean Pollution Programme (MED POL) are responsible for the implementation of respective MAP components. The Contracting Parties to the Barcelona Convention (the Mediterranean States and the European Union) meet every two years on a ministerial level, to deliberate on general policy, strategy and political issues relevant to their co-operation as well as to decide on the MAP programme and budget.

As an independent country, Slovenia has been participating actively in the Mediterranean Action Plan (MAP) since 1993. In November 2005, Portorož hosted the 14th Conference of the Contracting Parties to the Barcelona Convention, which coincided with the 30th anniversary of UNEP-MAP. The Conference set up a new milestone in ensuring the sustainable development of the Mediterranean area and gave an impetus to fulfilment of the

obligations related to the prevention of pollution of the Mediterranean Sea, since the Conference adopted the Mediterranean Strategy for Sustainable Development, which sets out a new level of efforts towards sustainable development. In the period from November 2005 to November 2007, Slovenia chairs the Mediterranean Action Plan (MAP). The key objective of its presidency is to strengthen the synergy between the regional activities of the UNEP/MAP programme and the activities of the European Union, leading to the establishment of the EU Marine Strategy. The Marine Strategy introduces an ecosystem approach to the development planning of coastal and marine areas.

1.2 Mediterranean Strategy for Sustainable Development

The Mediterranean Strategy for Sustainable Development calls for action to pursue towards sustainable development goals so as to strengthen peace, stability, and prosperity. It takes into account the weaknesses of the region and the threats it faces, but also its strengths and opportunities. It also considers the reality of the gaps between the developed and developing countries, and lays the stress on the necessity to help the transition of the Mediterranean countries of the East Adriatic, the South and the East. The challenge for all the Mediterranean countries is jointly to benefit from the Strategy in terms of human and economic development, environmental protection and culture protection.

The Mediterranean Strategy is structured around four objectives and seven interlinked priority fields action. The four main objectives are:

- to contribute to economic development by enhancing Mediterranean assets;
- to reduce social disparities by implementing the UN Millennium Development Goals and improve cultural integration;
- to change unsustainable production and consumption patterns and ensure the sustainable management of natural resources; and
- to improve governance at the local, national, and regional levels.

The seven priority fields of action are:

- better management of water resources and demand;
- improved rational use of energy, increased renewable energy use and mitigation of and adaptation to climate change;
- sustainable mobility through appropriate transport management;
- sustainable tourism as a leading economic sector;
- sustainable agriculture and rural development;
- sustainable urban development; and
- sustainable management of the sea, coastal areas and marine resources.

The CAMP project contributes to the implementation of the Mediterranean Strategy for Sustainable Development.

1.3 Coastal Area Management Programme (CAMP) Slovenia

The MAP Coastal Area Management Programme (CAMP) is a form of advanced collaboration between the MAP, national and local authorities and institutions, as well as international financial institutions. It is based on the principles of sustainable development, and integrated planning and management of Mediterranean coastal areas. Besides CAMP Slovenia, several CAMP projects have been or are being implemented since 1989 in various parts of the Mediterranean region, namely: Izmir Bay (Turkey), Kastela Bay (Croatia), Rhodes Island (Greece), Syrian Coastal Region, Fuka-Matrouh (Egypt), Sfax (Tunisia), Albanian Coastal Region, Israel, Malta, Lebanon, Algeria and Cyprus. CAMPs for Italy, Montenegro, Morocco and Spain are in preparation.

The objectives of CAMP are:

- to develop strategies and procedures for a sustainable development in project areas;
- to identify and apply the relevant methodologies and tools;
- to contribute to the capacity building at local, national and regional levels; and
- to secure a wider use of the results achieved, in the region and wider.

The major outputs of the CAMP project are: Diagnostic Analysis (Feasibility Study); the Project Agreement and Terms of Reference (TOR); Inception Report; Technical Specifications for individual activities of the project; Project Database and GIS; Systemic Sustainability Analysis; Participatory Programme; Final Reports of individual activities; Final Integrated Report; Follow-up Proposals and Urgent Investment Portfolio; Presentation Conference Report; and the Report of the Presentation Meeting at the host-country high governmental level.

The CAMP project includes a number of individual activities, to be integrated at the project level, as follows: a) database and GIS; the participatory programme; Systemic Sustainability Analysis; integration of project results; and b) a limited number of specific individual sectoral or multi-sectoral activities, according to project objectives and problems dominant in the project area.

The CAMP is of a multi-level nature, being oriented at:

- the local level – by implementing projects oriented at solving priority environment and development-related problems in selected areas;
- the national level – by contributing to the formulation and implementation of relevant national policies and strategies with project results and solutions proposed and, indirectly, by offering methodologies and procedures tested under specific national and local conditions;
- the regional level – by disseminating the results and experience achieved, contributing to the formulation and implementation of relevant regional policies and strategies; and
- at a wider international level – by co-operating, exchanging experience, and offering results, methodologies and procedures to other regions, potentially those within the UNEP Regional Seas Programme.

2. Preparation of the CAMP Slovenia Project

The decision on the implementation of the CAMP Slovenia project was adopted at the Extraordinary Meeting of the Contracting Parties to the Barcelona Convention at Montpellier, 1-4 July 1996, following a request presented by the Government of Slovenia.

The Agreement on project implementation was signed in Ljubljana, in September 2003 by Mr. Lucien Chabasson (former MAP Co-ordinator, for the United Nations Environment Programme), Mr. Janez Kopač (former Minister of the Environment and Spatial Planning, for the Government of the Republic of Slovenia) and Mr. Rajko Vojtkovszky (former Mayor of Divača Municipality as the representative of Municipalities of South Primorska planning region).

The Inception Report was prepared on the basis of the Feasibility Study. It defined the details on project implementation and it was presented and discussed at the Inception Workshop, held in Koper, on 18 and 19 March 2004. The amendments and recommendations proposed by the Workshop were included in the Report, as appropriate.

The Inception Report was the first integrated basic document of the project, which aimed at securing integration and provided detailed instructions for the implementation of the project, both at the project level as well as at the level of each individual project activity. On the basis of the Logical Framework Analysis, the Inception Report defined in detail the project objectives, preparation of the Terms of Reference for specific project activities, methodologies, tools and techniques, work plan and timetable of each envisaged activity, a detailed budget breakdown, institutional arrangements, organisation and monitoring procedure.

2.1 Project Objectives

The general objective of the project is to contribute to national efforts towards sustainable spatial development, management and environmental protection in Slovenia.

The immediate objectives of the project are:

- to contribute to sustainable spatial planning and management in the coastal area and the Adriatic river basin in Slovenia;
- to contribute to the upgrading of relevant institutions for sustainable development and management at the regional level;
- to contribute to the development of human capacities at the regional and national levels;
- to raise the environmental and sustainable development awareness at the regional level;
- to reinforce public participation in development planning and management processes;
- to apply methodologies, tools and practices of sustainable development, Integrated Coastal and Marine Areas Management (ICAM) and Integrated Coastal Areas and River Basin Management (ICARM);
- to apply methodologies and tools for Strategic Environmental Impact Assessment (SEA) and Scenario Planning;
- to generate project results and experience to be used in defining and implementing the project follow-up activities as envisaged by the Project Agreement; and
- to develop planning, management and implementation approaches at regional and municipal levels, applicable to other areas.

The key expected result of the project has been a programme of coastal area management in Slovenia, serving as a basis for the implementation of priority activities and projects in the 2007-2013 programming period, in co-operation with the State, the Municipalities and other key actors in the South Primorska region. The programme will contribute to the application of sustainable principles in the development of the region in the said programming period.

2.2 Project Strategy

The strategy of the project is based on the principles of sustainable development, applying the ICAM methodology in the context of regional development planning and programming, as well as spatial planning at the regional and municipal levels. The CAMP Slovenia is understood as a support to current activities within the implementation of sustainable development strategy and projects within the regional (and sub-regional) development programme.

In this context, the emphasis is laid on:

- the protection of habitats in connection with the protected areas management;
- sustainable tourism development; and
- protection of waters.

The project was implemented by national project teams, assisted by the MAP experts, if needed.

Individual activities and the final integrated project results were directed towards:

- spatial development issues;
- environmental protection, sustainable tourism development, protection of waters and related issues; and
- follow-up activities.

2.3 Project Structure

In accordance with the rules applying to CAMP projects, the CAMP Slovenia project comprises the following segments:

- horizontal project activities supporting the overall implementation and integrating the project;
- individual projects dealing in detail with specific issues; and
- integration of project results on the basis of executed individual and horizontal projects.

The CAMP Slovenia includes the following horizontal projects:

- Systemic and Prospective Sustainability Analysis;
- Programme of Public Participation, Training and Promotion;
- Regional Spatial Information System;

and individual projects:

- Conception of Spatial Development of South Primorska;
- Detailed Conception of Coastal Strip Spatial Arrangements;
- Management of Protected Areas;
- Regional Strategy of Sustainable Tourism Development;
- Regional Programme of Environmental and Water Resources Protection; and
- Sensitivity Maps of the Slovenian Coast.

2.4 Phases of Project Implementation

Phasing of project implementation followed the standard ICAM procedure (UNEP, 1995), and the detailed description presented in the Formulation and Implementation of CAMP Projects: Operational Manual (MAP-PAP/RAC, 1999):

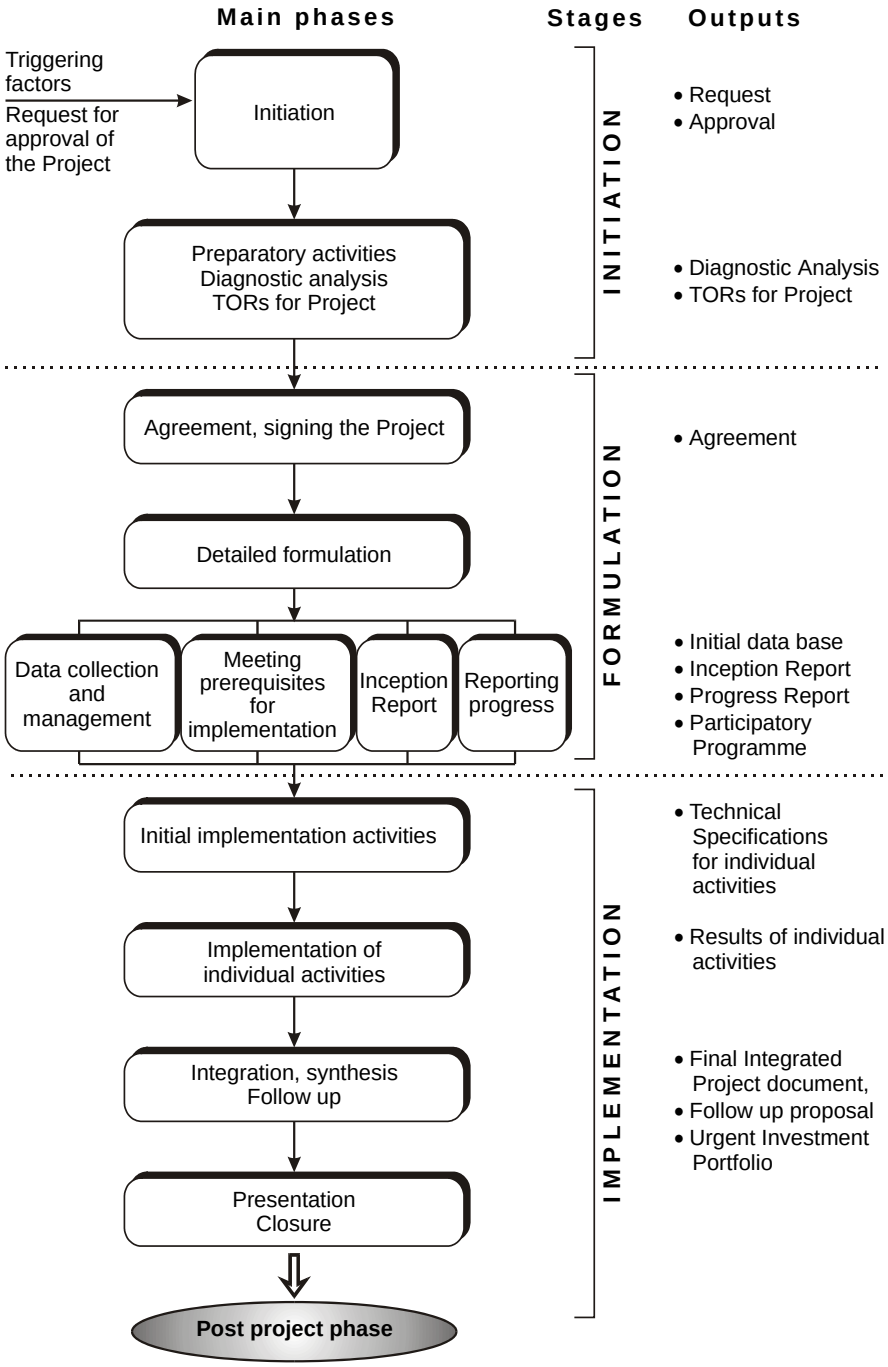


Figure 1: *Phasing of the project*
Source: *MAP-PAP/RAC: Formulation and implementation of CAMP projects*

2.5 Institutional Project Structure

The institutional structure of the project follows the scheme usually considered in the implementation of CAMP projects. It integrates the MAP actors and the Slovenian partners at the national and local levels, as well as the representatives of the interested public and non-governmental organisations.

Institutional arrangements of the project are established at two levels:

- at the project level; and
- at the level of each individual project activity.

The institutional arrangements at the project level, as defined by the Project Agreement and the Terms of Reference (TOR), are as follows:

The MAP part:

- the Co-ordinating Unit of MAP, as the overall Project Co-ordinator;
- PAP/RAC as the MAP Project Implementing Centre;
- BP/RAC for Systemic and Prospective Sustainability Analysis;
- ERS/RAC (now Info/RAC) for Regional Spatial Information System;
- REMPEC for sensitivity maps (Regional Spatial Information System);
- SPA/RAC for management of protected areas;
- PAP/RAC for co-ordination and integration of project results, the participatory programme, the conception of spatial development, remediation of non-point water pollution sources in the basin of the Reka River, and for reporting to the MAP on the results of follow-up activities;
- MAP Project Co-ordinator;
- MAP Team Leaders for each individual activity; and
- MAP experts and consultants.

The host country part:

- Ministry of the Environment and Spatial Planning (MESP) is responsible, in its role of the MAP National Focal Point, for the overall co-ordination and supervision of project activities in the country, and in the role of the National Project Lead Agency, for project management and supervision of the work performed by national participants;
- National Project Steering Committee;
- National Project Advisory Board;
- National Project Co-ordinator;
- National Project Secretariat (Regional Development Agency of South Primorska);
- National Team Leaders; and
- national authorities/institutions primarily responsible for the implementation of individual activities.

The role, competencies and tasks of all participating parties are defined in detail in the project Terms of Reference and the Rules of Procedure.

The institutional arrangements at the level of each individual project activity are as follows:

The MAP part:

- MAP Project Co-ordinator; and
- MAP experts and consultants involved in the implementation of the activity, if and as required.

The host country part:

- National Project Co-ordinator and National Project Secretariat;
- National Team Leaders; and
- National Project Team composed of experts and professionals.

National authorities/institutions primarily responsible for implementation of individual activities:

- MESP: overall project co-ordination, management of protected areas; regional programme of environmental and water resources protection;
- MESP-EA: systemic and prospective sustainability analysis;
- MESP-OSP: regional spatial information system; public participation, training and promotion; conception of spatial development; detailed conception of coastal strip spatial arrangements; and
- Municipalities of the South Primorska region: regional sustainable tourism development strategy.

The Rules of Procedure for the operation of the Project Steering Committee and the Advisory Board were adopted at the 1st Session of the Steering Committee. The document defines the institutions and their representatives participating in the Steering Committee, the Advisory Board and the Project Secretariat, as well as their tasks. The organisational structure was

determined at two levels: for the purpose of the CAMP Slovenia project implementation and for the extended purpose of the implementation of the Regional Conception of Spatial Development, in accordance with the Spatial Planning Act (no longer valid).

In line with the amendments to the spatial planning legislation (in the course of the project, changes occurred after elections in the staffing of the Ministry of the Environment and Spatial Planning, as well as changes in the view of spatial planning at the regional level and a new Spatial Planning Act was adopted). The Ministry of the Environment and Spatial Planning considered that the implementation of the regional conception of spatial development in its original form, as stipulated by former legislation, was no longer appropriate. Therefore, the composition of the Steering Committee and the Advisory Board adapted to the new situation.

During the course of project implementation, local elections brought about administrative changes also on the local level. These changes influenced the structure of the Steering Committee and the Advisory Board and affected the actors' familiarity with the project and their motivation for participation in the implementation of the project.

For that reason, the Steering Committee decided to hand over the CAMP Slovenia project implementation and in particular the follow-up activities to the regional structure entrusted with the preparation and implementation of the regional development programme, while adapting it properly, so that the process included all most significant actors of integrated coastal area management. Moreover, this is also a priority to be tackled in the period after the conclusion of the CAMP Slovenia project.

3. Project Developments and Public Participation

The CAMP Slovenia project began in September 2004 with the first spatial conference and ended in June 2007 with the final conference. According to original plans the project was supposed to end in June 2006, but its time limit was prolonged due to changes in the preparation of the Conception of Spatial Development of South Primorska. Preparation of the latter needed to be harmonised with the new legislation. Content of the third and fourth phase of the mentioned sub-project was redefined in 2006.

The public actively participated at the implementation of all CAMP sub-projects. Target public had an opportunity to attend workshops or public representations. Information about the course of the project and individual sub-projects was done via press conferences, articles published in printed media, and appearances of the project co-ordinator on the radio and television. Events and prepared material were regularly published on the project's website.

Contractors of individual CAMP projects prepared several workshops for a wider or expert public. Their aim was to obtain information directly from local actors on the basis of which they could prepare region's development guidelines.

The Conception of Spatial Development (CSD) of South Primorska project contractor convened three workshops at the end of 2004 and in the first half of 2005, with topics on most important spatial problems and their future plans, analysis of the situation in the region, and vulnerability studies and determination of region's future spatial development. There were four workshops in November 2005 on the development of four main fields, which greatly influence spatial development. Those were as follows: transport, infrastructure, and protection of cultural and natural heritage; agriculture; mineral resources; and water management. A foreign expert from Great Britain advised how to adapt the content of CSD to the new legislation and proposed to representatives of municipalities some changes. The purpose of last two workshops, at the end of 2006, was to create a vision, objectives and spatial development strategies.

The professional public learned about the content of the sub-project Detailed Conception of Coastal Strip Spatial Arrangements at a workshop in August 2005. Its aim was to examine the methodological approach and the content of proposed solutions. The contractors presented scenarios of coastal zone spatial development, evaluation criteria, and priority areas of treatment and development models. In February 2006, there was a consultation about Slovenia and the Mediterranean Strategy for Sustainable Development as a development opportunity for Slovenia.

The contractor of the Regional Strategy of Sustainable Tourism Development project prepared workshops for the expert public in March and May 2005. At workshops, they prepared an SWOT analysis, collected information on existing tourism projects, they discussed about suggestions for the most appropriate tourism destination management and ways on region's tourism promotion. The following workshops, held in November 2005, were intended for representatives of the public, private, and civil sector in the field of tourism. First, the participants got acquainted with the content of the project, the draft strategy and proposed development policies. Those present gave their opinion regarding the presented material.

In October 2005, the workshop of the Management of Protected Areas sub-project was attended by representatives of local communities, protected areas, non-governmental organisations and interested individuals. They got acquainted with the legislation in this area, and work and responsibilities of the nature protection supervisory agencies. They listened about concrete management problems during a visit in the Sečovlje Saltpan Landscape Park.

Representatives of municipalities and public utility services (public utilities) got familiar with the model for monitoring and analysis of municipal programmes for drainage and treatment of municipal wastewater and rainwater, at a workshop organised in December 2005 in the context of the Regional Programme of Environmental and Water Resources.

Information obtained within CAMP sub-projects were, in 2006, used for the preparation of the Regional Development Programme (RDP) of South Primorska 2007-2013, a fundamental region's development document for the coming programming period. Members of four committees (economy, infrastructure, environment and spatial planning, and rural development) learned about results of sub-projects, findings of implemented studies and proposed development guidelines. Gained information was integrated into the Regional Development Programme and on their basis they gave proposals for priority regional projects, which are to be implemented until 2013.

There were five two-day workshops within the framework of the horizontal Imagine – SPSA. They were attended by the representatives of local, regional and national bodies, non-governmental organisations, contractors of individual CAMP projects, and other representatives of the public. First workshop, in January 2005, defined the main problems in the region, determined the priorities and future. In February 2005, there was a second workshop where indicators of sustainable development were selected and subsequently AMOEBA graphs were corrected. The working groups presented the outcomes to a wider circle of stakeholders (representatives of investors, societies, and local communities). Participants of the third and fourth workshop, which were held in April and May 2005, defined different scenarios of future development and presented them to the general public. The aim of the fifth workshop, in June 2005, was to gain marketing skills. The final results of workshops were future development scenarios and development guidelines.

The target public, within the framework of project CAMP Slovenia was introduced with modern tools and approaches of spatial planning, which include an Integrated Environmental Impact Assessment. Experiences with the latter were presented by representatives of Slovenian institutions and an expert from Great Britain. Representatives of the Ministry of the Environment and Spatial Planning presented the legislation from this field. Two workshops on this topic, in June 2005, were attended by representatives of ministries, municipalities, education and development institutions, regional development agencies, institutes engaged in protection of natural and cultural heritage, local communities, non-governmental organisations, and companies engaged in environmental protection.

The wider public was able to track the course of the project via a website and also through various representations. The Co-ordinator presented the CAMP Slovenia programme, in September 2005, to a group of representatives of ministries, governmental organisations and municipalities from Montenegro, who visited Slovenian Istra. Participants of the 14th Ordinary Meeting of the Contracting Parties to the Convention for the Protection of the Sea Bed and Mediterranean Coastal Areas and Its Protocols (the Barcelona Convention) were also informed about the programme, in Portorož, in November 2005. The latter was presented by the Project Co-ordinator who participated in the round table at the regional RTV centre Koper–Capodistra. In February 2006, representatives of the Portorož Local Community were informed about possibility of using the SPSA/Imagine method. The project was presented at an international expert consultation on spatial and developmental planning in Celje, in May 2006. An opportunity to present CAMP Slovenia was also an international expert meeting on Conservation of Biodiversity in the North Adriatic, which was held in Strunjan, in May 2006. In June 2006, there was an international conference "Sustainable Development Strategy for the Adriatic" in Portorož, where the CAMP Slovenia programme was also presented.

During the course of the project there were two press conferences and there were six articles published in local and national printed media. In November 2005, a bilingual (Slovenian-English) presentation booklet of the CAMP Slovenia project was published.

4. Analysis of the Situation and Trends in the Region

4.1 Size and Position of the South Primorska Region

The region of South Primorska covers the area of 1,524 km^2, which is 7.5% of the Slovenian territory and its inhabitants account for 6% of the country's total population. The region comprises the municipalities of Slovenian Istra – Koper, Izola and Piran, and the municipalities of Kras and Brkini – Sežana, Divača, Hrpelje-Kozina, Komen and Ilirska Bistrica.

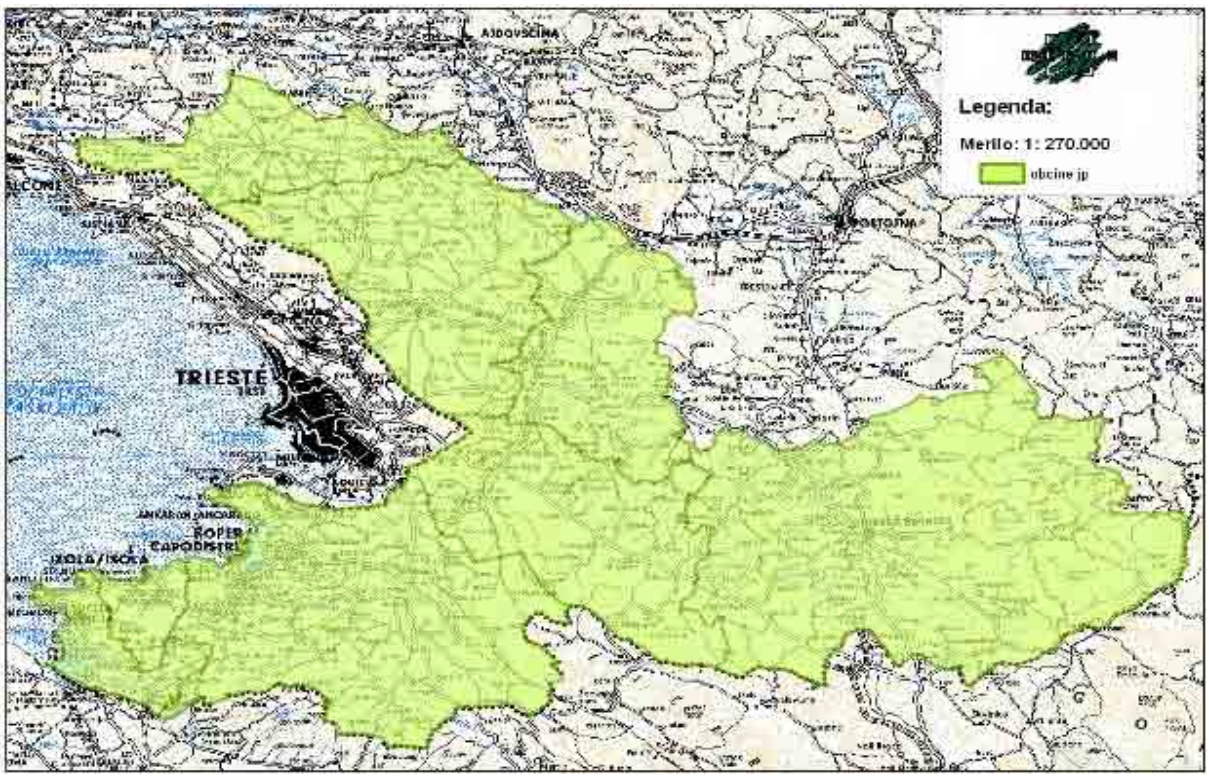


Figure 2: ***The South Primorska Region***

The main natural characteristics of the region are the alternation of flysch and limestone landscapes, the sub-Mediterranean climate and, in particular, its maritime position. Namely, it is the only Slovenian region lying by the sea and with its 46 km of coast it represents a certain “window to the world”. But, despite the short length of the coast, the coastal zone is of enormous national value and it is of great strategic importance from economic, natural and cultural point of view.

The region is divided into three parts: the coastal part or the Slovenian Istra, Kras and Brkini. These areas differ from each other in their natural, social and environmental features, which will be pointed out where necessary hereafter.

During the last decades, littoralization – a process of concentration of the population and economic activities in the coastal strip – is becoming an increasingly distinctive trend.

4.2 Present Situation

Over the last sixty years, the coastal area, which is now part of the Republic of Slovenia, has undergone extensive transformations: political (it was a constituent part of Italy, the Free Trieste Territory, Yugoslavia and now Slovenia, a member of the EU), socio-economic and environmental. In the independent Slovenia, the region has become of strategic importance for the country’s economy. The strategic importance of the area has strengthened after

Slovenia's accession to the EU as the borders with the neighbouring Italy have lost their meaning and thus additionally encouraged the development dynamics of the whole North Adriatic cross-border area.

The significance of traditional activities, such as agriculture and fishery, has essentially decreased within the mentioned period, first in favour of industry and in the last decade of service activities, which employ almost 75% of employees already. The coastal part of the region is facing littoralization; in spite of worrying demographic trends, which Slovenia and also South Primorska are encountering (especially the ageing of the population), it displays an above average population growth.

The past development has triggered some environmental, social and economic imbalances. It concerns the relatively manageable imbalances, which still demands orientation towards sustainable development within the framework of integrated area management.

In the continuation, some key factors and problems in the whole region of South Primorska are given and specific coastal problems are set out. The material is divided into three separate categories: demography, socio-economic situation, spatial development, environment and legal/administrative aspects.

4.3 Key Demographic Trends

The population of the region is 119,475 (30 June 2005), which is 5.97% of the total population in Slovenia. The average density is 78 inhabitants per km^2, which is below the national average. The coastal part of the region is populated more densely (213 inhabitants per km^2), while the Kras hinterland and the Municipality of Ilirska Bistrica have lower population density (33 inhabitants per km^2 and 30 inhabitants per km^2, respectively).

The biggest municipality of the Slovenian Istra is Koper with 49,272 inhabitants, followed by Piran with 17,486 and Izola with 15,074 inhabitants. Sežana is the largest municipality in the Kras part with 11,972 inhabitants and Ilirska Bistrica in Brkini has 14,162 inhabitants.

The population growth in the region is above the Slovenian average (6.4%, Slovenia 4.6% in the period 1991–2005), which is mainly the result of extensive immigration. However, the natural growth is constantly negative, which is not favourable. The number of population increases faster in the coastal part of South Primorska than in the hinterland areas, which confirms the littoralization phenomenon – settlement pressure on coastal areas.

The ageing of the population is characteristic of all Slovenia; however, South Primorska has an even less favourable age structure. In this region, the ageing index is among the highest and it exceeds the Slovenian average by about 30%. The situation is even worse in the Kras hinterland where in some municipalities (Komen, Ilirska Bistrica, Hrpelje-Kozina) the number of population has been falling constantly.

Based on the demographic rate forecasts for the Coastal-Kras region, further decrease in population can be expected as well as the unfavourable age structure and the ageing of the population. The gap between the coastal and the Kras parts of the region will deepen.

The educational level of economically active population is improving and the number of students is growing constantly. The Coastal-Kras statistical region has an above average number of undergraduate students. From 1991 to 2000, the share of students in the generation of 20- to 24-year olds grew the fastest in Slovenia.

4.4 Key Socio-economic Trends

As regards the gross domestic product (GDP) per capita, the Coastal-Kras region ranks second among the statistical regions. With EUR 12,541 per capita in 2003, it exceeded the Slovenian average by 3.4 indexed points. In comparison with the EU average, the region reached 79% of the EU-25 average.

About 75% of the gross value added in the Coastal-Kras region, exceeding all other statistical regions, was generated through service activities, amongst which the most

important were trade, transport, real estate, leasing and business services. The other quarter of gross value added in the region was generated by industry (17.6%), construction (6.0%) and agriculture (1.3%). In 2000, the structure of gross value added changed slightly in favour of service activities and agriculture.

The rate of formal (registered) employment, as also the numbers of jobs, is growing faster than the country's average. Employment is strengthening in the service sector (particularly in the coastal municipalities) and it can be expected that employment in service will grow faster while falling in agriculture, especially in the area of Kras and Ilirska Bistrica.

The region of South Primorska has a below-average rate of registered unemployment (7.7% or 75.5% of the Slovenian average in 2005). Structural unemployment has also decreased a little after 2001. The coastal part has a slightly higher registered unemployment rate (7.9%) than the Kras hinterland (7.2%).

However, there is a lack of jobs for highly educated job seekers. The share of women among the unemployed population has fallen below the Slovenian average and is still falling. The percentage of young job seekers (up to 25 years of age) is falling at a lower pace than on average in Slovenia and the share of the unemployed over 40 years of age is still above the average.

The economic power of the population of South Primorska, measured on the basis of income tax per inhabitant, exceeds the Slovenian average and is growing. The amount of the gross basis for income tax per inhabitant is above the average; however, the difference with the Slovenian average is tending to reduce.

4.5 Economic Activities

From the aspect of ensuring sustainable development of the coastal strip, the following activities are particularly important: tourism with marinas, transport (Port of Koper), fishery and mariculture.

Tourism

Tourism is a very important activity in the region. Today, it is mainly developed in the municipalities of the Slovenian Istra (particularly in the Municipality of Piran) and a lot less in the Kras and Brkini regions, despite the tourism potential of the mentioned sub-regions.

According to the data of the Statistical Office of the Republic of Slovenia from 2004, the following may be established: tourism is the most important activity on the coast and also of national importance because almost one third of accommodation capacities of the Slovenian tourist offer are located there. The total number of beds in the area is 22,289, of which over 13,000 are in the Municipality of Piran, approximately 5,000 in the Municipality of Koper, and a bit less than 3,800 in the Municipality of Izola. More than 525,000 tourists visit Slovenian Istra every year; more than half are foreign tourists. Around 2,000,000 overnight stays are realised yearly in the area of Slovenian Istra. Most overnight stays are realised in the period from June to September. In the primetime of the summer season, the Slovenian Istra and especially the coastal strip are visited also by many daily visitors.

The tourist offer is concentrated in the coastal strip; except for few exceptions, tourism in the hinterland is not developed. The coastal strip has mostly classic holiday tourism, wellness and spa offer, business tourism, gaming and nautical tourism along with various sport and recreation offer (water sports like swimming, sailing, surfing, scuba-diving, hunting, fishing, also walking, cycling, aviation and other sport and recreation activities like tennis, beach volleyball, basketball and carting). Some tourist infrastructure (walking, bicycle and wine trails) and, in particular, restaurants (also some tourist farms) are located mainly in the hinterland.

The Kras region is touristically less developed, although it has specific natural phenomena, distinctive Kras architecture, rich cultural heritage and culinary, which represents a sound basis for the creation of unique ("boutique") and various tourist offer. The overall number of beds is 930. A number of 47,000 tourists visit Kras every year, 87% of those are foreign tourists. Around 85,000 overnight stays are realised every year in the Kras region.

Key problems:

- Investments in tourism (hotels, marinas) are planned almost exclusively on the coastal strip, while complementary infrastructure is lacking (e.g., arrangement of coastal footpaths, the level of bathing sites regulation, etc.).
- Problems related to public infrastructure, the level of water pollution and the overpopulation of the coast; such trends are already reducing the natural potential of the coastal part of the region.
- Failure to exercise integrated spatial planning, which manifests in unsuitable arrangements and land use and poor exploitation of the existing potentials, particularly in Kras and Brkini sub-regions.
- Unsuitable organisation of tourist destination at the regional level to provide for the development of common products and integrated marketing through the liaison of local public, private and non-governmental sectors in tourism.
- Poor tourist infrastructure (Istrian hinterlands, Kras, Brkini) and the lack of complementary tourist services.
- Human resource problems: unadjusted educational structure, lack of highly qualified and specialised personnel in tourism (management), need for personnel from other national and foreign regions and sectors, unattractiveness of jobs in tourism, seasonal orientation of jobs, and inflexible models as a result of rigid employment legislation.
- Unused opportunities for the development of tourism and service activities in the facilities of cultural heritage and public cultural infrastructure.
- Poor commitment of tourist actors to the objectives of sustainable development within the integrated high-quality tourist destination and their weak role in sustainable development partnerships.

Tourism is very poorly developed in the sub-region of Brkini. The official statistics and the data collected on the field show that there are less than 200 beds in the Brkini region. The tourist offer is based mainly on natural resources of the Brkini region and the Snežnik mountain chain, the valley of the Reka River and dwelling heritage. The main tourism activities in this area include walking (Snežnik), winter sports (Sviščaki) and water sports (along the Klivnik and Mola accumulations).

Within the CAMP Slovenia, a Carrying Capacity Assessment (CCA) for Tourism was prepared (author: Dr. Igor Jurinčič, Turistica – College of Tourism, University of Primorska) for the coastal strip being the most threatened area, primarily due to its attractiveness, development aspirations and the volume of tourist visits.

The CCA was made on the basis of the following indicators: spatial-ecological indicators (carrying capacity of beaches, quality of bathing water, extent of green areas and green plots), infrastructural indicators (consumption of drinking water, public passenger transport, accommodation facilities) and socio-economic indicators (occupancy of beds, satisfaction of the population with the effects of tourism).

Spatial-ecological indicators: The norms for space needed per bather vary considerably in literature; they range from 3 m^2 to 33 m^2 per bather. For sand and shingle beaches (prevailing on the Slovenian coast) intended for tourists expecting higher comfort and lower density of bathers, the norm is 6 m^2 to 10 m^2 per bather (Jeršič, 1999). The carrying capacity of beaches was assessed as unsustainable because the upper threshold of 10 m^2 per bather has long been exceeded, while the lower threshold of 6 m^2 per bather will not be exceeded even by a 30% increase in accommodation facilities by 2020. The carrying capacity in relation to the quality of bathing water was also assessed as unsustainable. Although the quality of seawater is still within the established bathing water criteria, it periodically fails to comply with the criteria or is close to limit values at some sampling points. It should be emphasised in this connection that the capacity of wastewater treatment has already been exceeded in the region, which indirectly has a significant impact on the quality of bathing water. Also, the carrying capacity of green areas and green plots was assessed as unsustainable due to poor regulation, insufficiency and the lack of connection between them.

Infrastructural indicators: The carrying capacity in relation to the available quantity of drinking water was assessed as unsustainable. At normal hydrologic conditions, the present capacity has not been exceeded, however, it may be jeopardised at the height of the tourist season in the event of long drought and possible interruption of supply from Croatia. It is, therefore, important to ensure additional quantities, which should be sufficient for a 30% increase in accommodation facilities, taking into account also unregistered tourists and one-day visitors. The carrying capacity of public passenger transport has been exceeded. Namely, the road traffic conditions are critical in the summer season, and on holidays and during weekends before and after the tourist season.

Socio-economic indicators: As regards the bed occupancy, the carrying capacity has not been exceeded (low annual occupancy). Based on the population survey on their satisfaction with tourism effects, the carrying capacity was assessed as unsustainable. The residents' negative attitude to tourism arises from unsuitable infrastructure in the tourist season, which affects significantly the quality of living, as well as negative impacts of mass tourism at large and in particular if there are not enough possibilities to express the local identity and culture, too weak involvement of local population in the development of tourist offer and earning opportunities. Construction of better infrastructure, resulting in improved quality of life of local population, will indirectly enhance also a co-operative approach of residents to the development of tourism.

Nautical Tourism – Marinas

The Northern Adriatic coastline boasts with a favourable geographical position, which gravitates to the area of the developed Central Europe. Favourable conditions on the Slovenian coast also dictated the development of nautical tourism and the construction of modern tourist harbours – marinas. The beginnings of Marina Portorož and nautical tourism go back to the year 1979.

Table 1: ***Capacity of marinas on the Slovenian coast***

	Aquatorium (m^2)	Area on land (m^2)	Number of moorings	Capacity on land (number of vessels)
Marina Koper d.o.o.	8,374	10,077	75	45
Marina Izola, Porting d.o.o.	80,000	9,000	705	40
Marina Portorož, d.d.	95,500	25,800 (3,200 in two halls)	659	274 (34 in halls)
Laguna Bernardin	3,200	0	50	0
Total	187,074	48,077	1,489	359

Source: *Data provided by marinas, 2006*

The Marina Portorož was awarded the European eco-label – the Blue Flag, already in 1995, and the Marina Izola in 2000.

Development plans: Construction of a new marina with the capacity of 650 commercial moorings and 200 municipal moorings is being prepared in Koper, the enlargement of the Marina Portorož is under preparation, and also the possibilities of constructing a marina along the town of Piran are being examined.

Key problems:

- The problems of nautical tourism and marinas are linked mainly to spatial conflicts with other users, as the competition for coastal land is strong, and to overcrowding at the sea.
- Marinas occupy the coastal strip and hinder the access to the seashore and the general use of the inshore belt.
- Marine pollution.
- The problem of dredged material depositing.

The Port of Koper and Maritime Transport

Thanks also to its port, Koper is becoming an increasingly important development centre of the country and the wider region. The port, which is situated on the trans-European traffic corridor V, is an intersection point of maritime and land traffic routes. It represents an entry and exit point for EU countries and enables transport links with all continents.

In fifty years of development, it has grown to an important international port in Central Europe. There is a continuous growth over the last decades with good prospects also for the future. In 1970, the quantity of handled goods reached 2 million tons, in 1980 it came close to 3 million tons, and in 1990 to 6 million tons. The growth was particularly intense in the recent decade, which is evident from the Table 2.

Table 2: ***The quantity of goods handled, 1996–2006 (in tons)***

	1996	1998	2000	2002	2004	2006
General cargoes	668,584	597988	699,031	1,145,414	927,222	1,180,924
Containers	698,550	717,863	915,575	1,206,114	1,593,434	2,120,807
Vehicles	209,553	345,837	331,299	221,960	472,568	570,214
Dry bulk cargoes	3,521,650	5,339,124	5,441,298	4,966,066	7,411,224	8,106,467
Liquid bulk cargoes	1,444,168	1,607,260	1,934,630	1,891,942	1,998,159	2,052,321
Total	6.542.502	8,608,072	9,321,832	9,431,497	12,402,607	14,030,732

Source: *http://www.luka-kp.si/vsebina.asp?IDpm=3*

The Port of Koper, as a manager of the port, pays a lot of attention to environmental protection. In 2000, the Port established a system of dealing with the environment in accordance with the ISO 14001 standard for all harbour activities among the first in Europe and the only Adriatic port. In May 2006, the system was upgraded to ISO 14001:2004. They regularly monitor and control the environmental impacts of port activities in co-operation with relevant professional institutions.

Key problems:

- Maritime traffic in the Northern Adriatic is increasing and thus aggravating the problem of navigational safety; the whole area needs a modern information system to ensure maritime traffic safety.
- Spatial conflicts (with local community) related to further expansion of the Port of Koper: due to a specific location – in the immediate vicinity of the town of Koper and the tourist centre of Ankaran - its spatial development is complicated.
- Despite investments into environmental protection infrastructure, there are some acute problems regarding the environmental pollution (e.g., air pollution from dumping areas of dry bulk cargoes).
- The Service for the Protection of Coastal Waters is not adequately regulated and equipped; a new organisational and technological concept should be developed and investments in equipment are needed (ecological vessel and other equipment).
- The Port is faced with the problem of treating and depositing the dredged material.

Fishery and Mariculture

The fishery sector in Slovenia comprises fishery economic activities (fishing and aquaculture) and the production of fish products.

Slovenian maritime fishing zone has drastically decreased after gaining independence in 1991 (approximately to 180 km^2) due to the establishment of the maritime national border with the Republic of Croatia and several protected maritime areas. This resulted in a drop in the sea fishing quantity, which is affected also by obvious depletion of fishery resources in the Northern Adriatic.

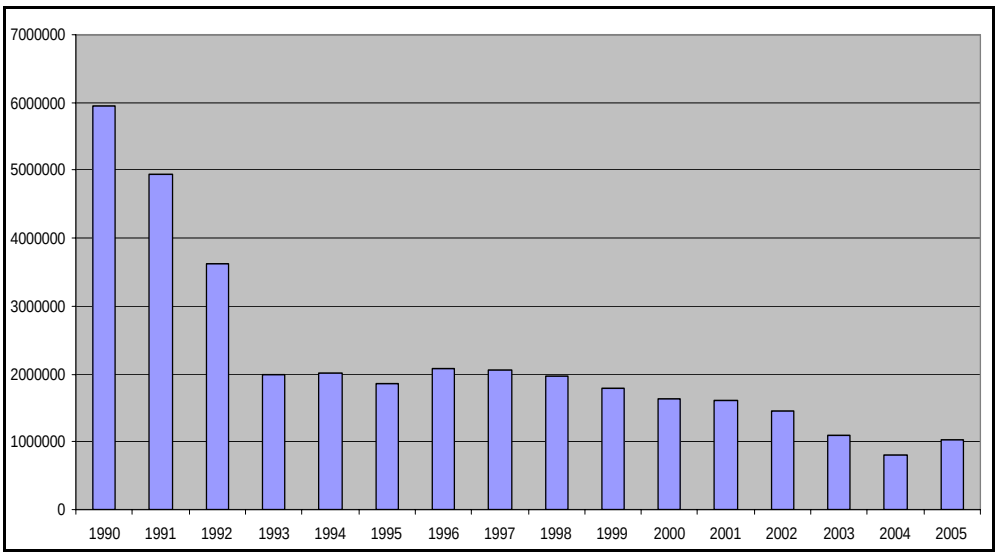


Figure 3: ***Marine fishery in kilograms, by years***
Source: Statistical Office of the Republic of Slovenia

On average, the annual quantity of sea fishing in the period 1993–2004 was about 1,700 tons, while in 1990 it was almost 6,000 tons. The catch of pelagic fish, mainly sardines, represents the biggest share (in the period 1990–2004, the share was about 86% of the whole maritime catch, in 2004 only 46% or 373 tons).

The GDP contribution of fisheries was around 0.016% in the period 1995–2003 or approximately 3.3 million euros. However, the importance of fishery is greater due to the fishery-related activities and the economic and traditional role of commercial fishing activities.

The estimated value of fish and fish products supply intended for human consumption is from 5 kg (in 2000) to around 6 kg per habitant annually (in 2004). These estimates are merely of indicative nature, because there is not enough data for drawing up a standardised balance of production and the consumption of fish and fish products in Slovenia. Aquaculture is becoming increasingly important, however, there is a problem of restricted space for its development.

In accordance with the Marine Fisheries Act, two fishery reserves were established for the protection of fishing resources and aquaculture: Portorož fishery reserve comprising the inner part of the Piran Bay and the saltpans, and Strunjan fishery reserve comprising the coastal sea at the Strunjan Cape, the inner part of the Strunjan Bay, the lagoon and saltpans.

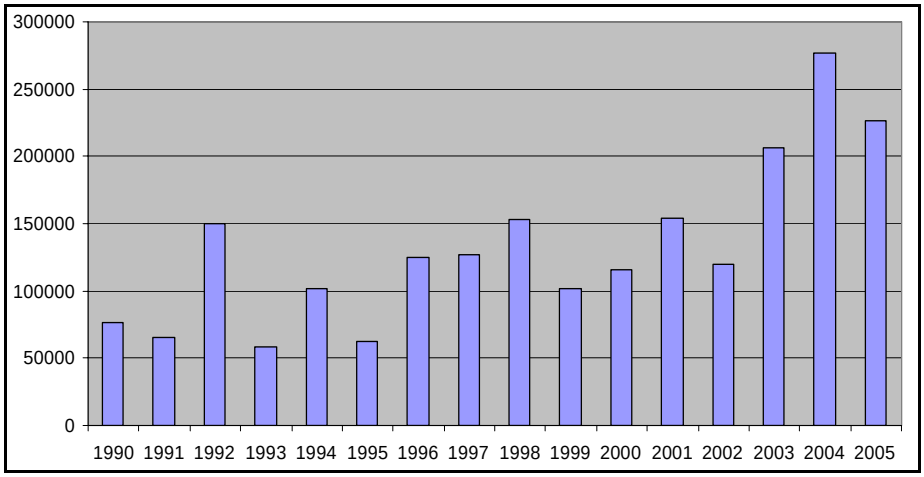


Figure 4: ***Aquaculture – breeding of water animals in kilograms, by years***
Source: Statistical Office of the Republic of Slovenia

Key problems:

- Reduction of the territorial sea with Slovenia's independence, undefined border with Croatia and failure to implement the Agreement on Border Traffic and Co-operation (SOPS).
- Seasonality of fishing; non-familiarity with the conditions of resources and unpredictability.
- Deficient infrastructure for fishery (warehouses, premises for boat repairs and storage of fishing gear), locations for unloading of fish are not arranged; there is no place of first sale (fish markets).
- Danger of ecological catastrophes (ballast waste, fuel discharges, construction of gas terminals).
- Complicated transport routes to ports – priority of navigation of merchant ships; danger of accidents due to large shipping (ecological accidents), sea pollution, decline of fishing resources.
- Spatial conflicts with other marine users.

4.6 Infrastructure

Transport

Due to the geographical situation and the location on the 5th European Traffic Corridor, South Primorska is affected by strong traffic flows. The present traffic infrastructure, consisting of the road and railway network, the Port of Koper and the Airport of Sečovlje, is in general well developed.

In the last decade, the motorway network was completed to a large extent and connected to Italian network; in the following period, within the framework of the National Programme for the Construction of Motorways, the system will be finished. Despite the well-developed road network, there are still some pockets in the region where the road network is underdeveloped.

Passenger transport is based chiefly on the use of personal vehicles, as suggested by the number of cars per 1,000 inhabitants by which the region is ranked first in Slovenia. The road network is especially congested in the coastal part; during the summer period and at weekends, road congestions occur very often, as the average daily traffic (ADT) in some sections is 30,000 vehicles/day.

Public passenger transport: Due to ever greater motorisation, the number of public transport users is falling and consequently the prices of public transport rise for the users as well as for the state and local communities, which subsidise it indirectly or directly. Public passenger transport is poorly developed and does not represent an attractive alternative; the system is not connected, transport is slow, uncomfortable and unreliable. Promotion of public transport is essential also from the environmental (noise, air pollution) and spatial (increasingly demanding transport infrastructure threatens especially the potentials of the coastal strip and the historical town centres) points of view.

The existing **railway lines** no longer meet the modern transport requirements as regards higher speed, higher frequency of trains, improved reliability and predictability and higher quality of services in passenger and freight transport. Unsuitability of the present railway lines reflects also in frequent level crossings as well as their capacity and other parameters. The main railway line leading to the coast finishes in two dead ends, in the city of Koper and the Port of Koper.

Cycling connections in the region are also poorly arranged. Cycle paths are partly regulated in the Kras area, along the existing roads with less traffic loading. In some parts of the region cycling infrastructure exists, particularly on the narrow coastal strip, the hinterlands and the Snežnik mountain range.

The opportunities for the development of **maritime transport**, especially the maritime passenger transport, are underexploited. In order to promote the public maritime passenger transport in Izola, Piran and Portorož, the harbours should be developed and upgraded. The network of marinas, servicing arrangements and more appropriate connections of maritime infrastructure to other transport networks has not been clearly defined. A maritime passenger terminal, which is becoming an important element of tourism development in the region, is being established in Koper.

Key problems:

- The prevalence of automobile passenger transport prompts the unsustainable pattern of spatial development – dispersed settlement.
- Poorly developed public passenger transport.
- Deficient infrastructure for sustainable mobility.
- Endangered preservation of biodiversity, valuable natural features, cultural heritage – degradation of historical sites.
- Environmental problems (air pollution, noise).
- Pressure of transport on the coastal strip (transport infrastructure, including parking lots), which threatens the nature, landscape and recreational potentials.
- Poorly developed public passenger transport impairs the mobility of the elder (which gains significance due to the increasing number of elderly people in the communities) and the school children.
- Increasing cost of traffic regulation in towns (construction of underground parking facilities).
- Conflicts between the development of the Portorož Airport at Sečovlje and the Sečovlje Saltpan Landscape Park.
- Underexploited railway transport for transit cargo.

The present passenger terminal of the Portorož Airport at Sečovlje and the airport infrastructure should be progressively upgraded, but within the existing airport limits and in accordance with the restrictions arising from the requirements of nature conservation and the protection of cultural heritage of the Sečovlje Saltpans.

Wastewater Collection and Treatment

In South Primorska, the most important factor of water pollution is urban wastewater. The level of water pollution is especially high in the coastal part due to the high settlement density (residential buildings, holiday and tourist facilities, economic zones) and infrastructure (the Port of Koper, marinas). Most watercourses in the region are not polluted; however, the downstream sections of the Dragonja, Rižana and Reka rivers fall within a lower quality class, which is the result of dense settlement and inadequate wastewater management as well as the traffic infrastructure. There is a very clear trend of improving biological and chemical parameters (with the exception of nitrates) in hydrographical basins of Adriatic rivers.

The entire South Primorska has been defined as a vulnerable area and, therefore, stricter criteria apply to urban wastewater treatment systems in agglomerations.

Settlement areas in vulnerable areas, loaded with more than 10,000 PE, should be equipped with a sewage system and a wastewater treatment plant by 31 December 2008. By then, at least 95% of load generated by wastewater in such areas should be connected to sewage system. There are three such agglomerations in South Primorska: the coastal towns of Koper, Piran and Izola. As shown in Table 3, the level of agglomerations equipment with suitable sewage systems is quite high, while at present the adequacy of wastewater treatment plants is quite low, as there is no treatment plant in the agglomeration of Izola and the wastewater is released into the sea through an underwater discharge, and the wastewater treatment plant in Koper does not meet adequate level of treatment. Therefore, an investment plan has been prepared for the construction of a new, common wastewater treatment plant for the Koper agglomeration with a simultaneous construction of sewage systems.

Settlement areas with 2,000 PE to 10,000 PE, should be equipped with a sewage system and a wastewater treatment plant by 31 December 2015 and by 1017 at least 95% of load generated by wastewater in such areas should be connected to sewage system. Smaller agglomerations in the region in question are quite adequately equipped with wastewater treatment plants, however, a fairly low level of equipment with sewage network still presents a problem.

Table 3: ***Settlement areas with more than 10,000 PE***

Agglomeration ID	Agglomeration Name	PE	PE Industry	PE Total	Percent of Sewage System
20018	Koper	24,471	7,341	31,812	100
538	Piran	14,369	4,311	18,680	64
2091	Izola	12,445	3,734	16,179	95

Source: *Primož Banovec, Regional Programme of Environmental and Water Resources Protection, CAMP Slovenia, 2005*

The municipalities have adopted operative programmes for wastewater treatment, but their consistent implementation is questionable due to the lack of financial resources.

The emissions from settlement areas in the territory covered by the CAMP Slovenia project will be almost wholly eliminated by 2017 by the planned action programme. This will have a positive effect on the quality of surface waters (watercourses and the Adriatic Sea) and underground rivers.

Key problems:

- The municipalities with lower population density are faced with a high cost of municipal infrastructure, because large investments will be needed due to the location of agglomerations in vulnerable areas, which is true also for the municipalities with a relatively low financial capability. Implementation of wastewater collection and treatment in Kras agglomerations is very cost demanding due to expensive excavations in limestone and unfavourable terrain configuration (no constant declines), which dictates a larger number of pumping stations and small treatment plants.
- Problematic is also the complexity of national operative programmes; therefore, the obligations and financial burdens should not be transferred to municipalities, but the funds should be provided by the Republic of Slovenia (the municipalities' opinion).
- The lack of financial resources in municipalities: the municipalities should be urgently provided with direct permanent source from the water/environment pollution tax.
- The Municipalities of Sežana, Hrpelje-Kozina, Divača and Komen are particularly short of own funds to implement the programme.
- Uneven seasonal loads aggravate the planned investments: the problem results mainly from seasonal occupation of apartments and holiday houses, more than from hotel accommodation.
- The volume of wastewaters is increasing due to the increasing number of tourists and immigration.

Waste Management

The waste management is not fully resolved in the region and it represents one of the largest pollution sources. In general, the landfill sites are unsuitably located, technically inadequate (unsealed, not degasified, subject to inundation, within reach of groundwater, etc.) and all of them are mostly filled up. At present, all municipalities dispose of the waste at reconstructed landfills, which will be full in some years, or at landfills in the process of rehabilitation or the increase of capacity.

All inhabitants of the region are involved in waste disposal. The system of separate waste collection has been introduced in all municipalities but, according to the information obtained, it is not particularly successful. Due to irregular data collection, it is difficult to talk about the trends in the quantity of collected urban waste.

All municipalities in the region acceded to GOJUP South Primorska that was preparing a regional project covering the landfills for surplus waste in the Municipality of Sežana; however, the local community did not support the project and consequently, an initiative was adopted to find another location for a common regional landfill.

Key problems:

- Municipal landfill sites are filled up or will be shortly.
- An integrated waste management system has not been established yet in the region (separated waste collection at source, regulation of collection points and centres at the municipal level, two regional waste management centres).
- Illegal landfills represent a past threat, while new illegal landfills are appearing, which are mainly the result of low awareness of the local population. Highly scattered illegal landfills of very diverse structure endanger water source, karstic caves and sinkholes.
- Low awareness of the population of the significance of separated waste collection and consequent poor co-operation.
- The issue of stranded waste treatment has not been solved, as well as the collection of waste in moorings.
- The volume of waste increases.

Water Supply

Due to natural features of Kras and Slovenian Istra, the sources of drinking water are relatively scarce. The existing water resources in the Kras area are suitable, however, they are exposed to pollution because of Krasic characteristics and do not ensure adequate supply of the population with drinking water. The Rižana River, as a source of drinking water for Slovenian coastal region (in addition to the sources of the Dragonja River in Croatia), is not abundant enough and it is distinctly exposed to pollution.

Additional water resources should be ensured to cover the needs of the whole region. The proposed water resource of Padež-Suhorka has a potential to meet all needs for water in the region; however, the need to guarantee drinking water supply must be harmonised with the protective restrictions regarding the preservation of the Reka River regime and the state of the Škocjan Caves environment.

Protection of water resources has been formally implemented, but there is no control over the implementation of restrictions regarding the activities in these areas. For this reason, water resources are constantly exposed to pollution. The territories of some municipalities largely comprise water protection areas, resulting in considerable limitations to spatial and economic development. The principal activity in water protection areas is agriculture, which does not have enough regard to the protection requirements in water protection areas and for water resources.

The three main water systems ensure water supply for the major part of the region, while the areas of dispersed settlement (Brkini, rear areas of Slovenian Istra) are supplied through local water distribution systems of unsuitable quality and quantity, as well as inappropriate management. There is a distinctive disparity between the water supply of central settlements and their water consumption and the water supply and consumption of other, especially hinterland areas. It is characteristic of these areas that they lack water supply networks and facilities, the cost of water supply is high and the construction and technical state of distribution systems is inadequate.

Water consumption in Slovenian Istra is excessive, especially due to the need for water in summer because of tourism and the loss of water in pipes. The measures for reduction of water consumption are not implemented and are more the result of water shortage than planned measures. At present, water consumption is quite stabilised and water loss in pipes is less than one third (29%).

Considering that the Istra Water Supply System is in Croatia, there is yearly a 21% deficit of drinking water in the coastal area. The highest demand for additional drinking water occurs during the summer time.

In view of the total number of inhabitants and tourists, the consumption of drinking water changes and oscillates from 51 l/person/day in winter to 150 l/person/day in summer.

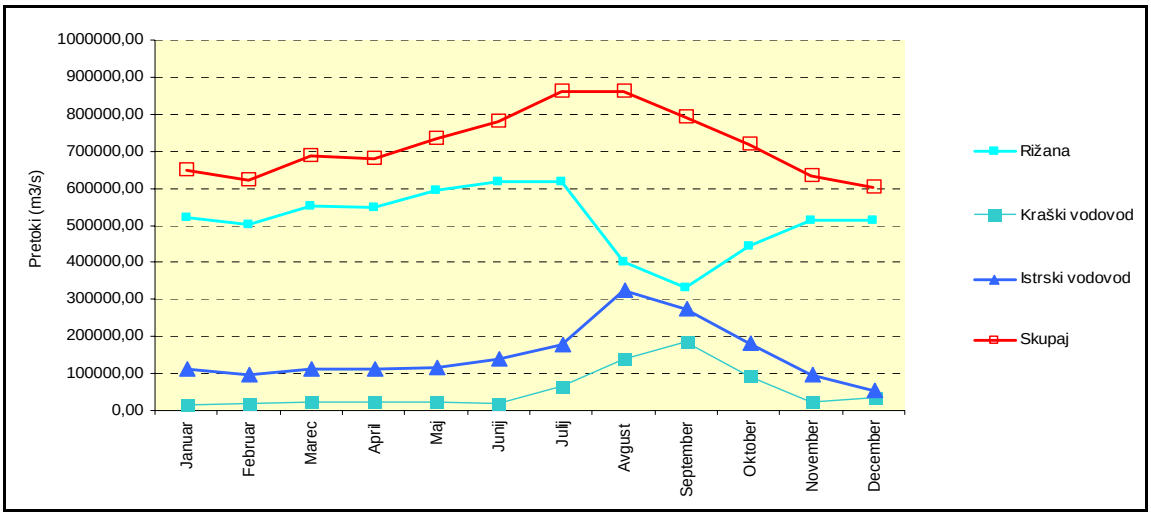


Figure 5: ***Water abstraction from Rižana, Kras and Istra Water Supply System in 2004***

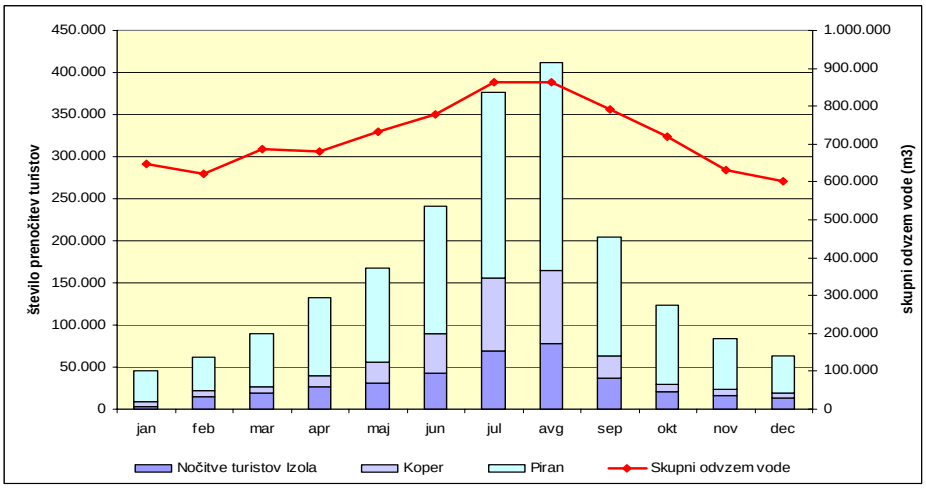


Figure 6: ***Increase in the consumption of water in relation to the number of overnight stays***

Key problems:

- The existing water sources are not adequate for safe drinking water supply; therefore, construction of infrastructure for the supply from the Padež-Suhorka source is needed.
- There is no efficient prevention of the pollution of water bodies, which are intended for public supply of drinking water (establishment of water protection areas).
- Local water sources are left to deterioration and pollution to a large extent, thus loosing their function of alternative water supply in the event of primary water supply system failure.
- Deficient water supply infrastructure in some parts of the region.
- The quality of water supply network is low; therefore, gradual replacement of asbestos-cement pipes is required.
- High consumption of water in summer period due to tourism, immigration, higher living standard.
- Unexploited alternative sources of drinking water.

4.7 Natural Resources

Biodiversity and Nature Protection

Ecologically significant areas in the coastal part of the region cover a large part of the coastal strip, the coast and the sea. There are 29 Natura 2000 areas and 36 ecologically important areas in South Primorska (Natural Science Guidelines for the Conception of Spatial Development of South Primorska, Institute of the Republic of Slovenia for Nature Conservation, May 2005). The Kras area is of particular significance due to its valuable natural features and from the point of view of the biodiversity preservation; as such it is defined as an ecologically significant area and the Natura 2000 area.

The major habitat types in the region of South Primorska are: maritime and coastal habitat types, dry grasslands and underground habitat types.

Maritime and coastal habitat types: Due to the shortness of its coast, Slovenia has only few coastal and maritime habitat types; however, they contribute significantly to the country's biotic diversity. In the last half a century, the size of coastal habitat types has reduced considerably and the pressure on them has increased. For example, only several hundred aquatic birds wintered at Škocjanski zatok in the end of the 90s, while in the second half of the 80s there were thousands of them. Great oscillation in conditions is characteristic of marine habitats, particularly due to the lack of oxygen in low water strata in summer, which causes the extinction of most species.

According to the Institute of the Republic of Slovenia for Nature Conservation, the maritime and coastal habitat types in this area include: seaweed meadows, posidonia meadows, estuaries, mudflats and sandflats without vegetation of higher plants but with annual halophytes, marine marshes and coastal lagoons, to mention only the most typical ones. Wetlands are vital for the survival of aquatic birds. They appear there in high density, which is certainly an indicator of wealth and diversity of these productive ecosystems. Most remaining coastal habitat types are now under legal protection.

Dry grasslands are mostly of anthropogenic origin and their size has reduced in the last 50 years. The grasslands in remote areas are overgrowing. The reduction in species range or populations in dry grasslands has been identified for some species (wood lark, diurnal butterflies, gentian, peony and some orchid species). A comparison of Slovenia with other European countries indicates that the rate of endangered species in dry and mesophile grasslands is even larger.

Underground habitat types: In underground habitats, there are many strictly endemic species, which are ecologically very vulnerable as they are extremely adapted to typical underground conditions and their ability to adapt is very limited. Thus, the interventions on the surface, which disturb the conditions in caves (e.g., reduced inflow of water and nutritious substances, increased inflow of pollutants, etc.) seriously affect these habitats. During part of the year, underground habitats offer shelter to some species (e.g., wintering area for bats); therefore, unsuitable actions (e.g., complete closure of cave entrances, disturbance caused by visitors) endanger also such species.

Protected areas: The national protected areas in South Primorska are Škocjanske jame, Škocjanski zatok, Sečovelje Saltpans, Strunjan, Debeli Rtič and Rt Madona.

The Škocjanske jame Regional Park was included in UNESCO's World Heritage List and it is protected by the Škocjanske jame Regional Park Act (OG RS, No. 57/96). Since 1996, the Regional Park has been managed by a public institution. The Park is situated on the margin of classical Kras, in the area of contact Kras where limestone contacts flysch and where researchers first discovered the karstic phenomena. The area was the first underground wetland put on the Ramsar List of Wetlands of International Importance and it is rich in archaeological heritage. The underground system of Škocjan Caves is a unique tourist destination.

The Škocjanski zatok Natural Reserve is managed by a non-governmental organisation (BirdLife Slovenia) on the basis of a concession. Škocjanski zatok comprises a large lagoon

with low water level and the Bertoki Bonifika. It is of special significance because of its location close to the urban tissue of the city of Koper.

The Strunjan Natural Reserve is a part of the Strunjan Landscape Park. It comprises a 4 km long northern coast of the Strunjan Peninsula and the associated 200 meters strip of coastal water. Due to its geological and geomorphologic features, a great biotic diversity and the fact that this is the longest part of uninterrupted natural coast in the whole Gulf of Trieste, the Natural Reserve is of exceptional importance from the point of view of valuable natural features protection. The Strunjan cliff (up to 80 m high) is the highest known coastal flysch wall on the entire Adriatic coast. In 2004, a broader area was protected by the Decree on the Strunjan Landscape Park.

The Sečovlje Saltpans were protected by the Decree on the Sečovlje Saltpan Landscape Park in 2001. The manager of the Landscape Park is the Soline d.o.o. company. Due to exceptional landscape and ecological features, the Sečovlje Saltpan was the only wetland in Slovenia listed among Ramsar localities in 1993. Being a rich treasure of flora and fauna, the area is one of the most important natural heritage locations in Slovenia. The sub-Mediterranean climate, higher salinity and the abandonment of saltpan activities in the major part of saltpans have created special ecological conditions where only highly adapted organisms survive.

Morphological modification of the coastal area increases, resulting in the loss of coastal habitats, destruction of nesting areas close to the shore line, disturbance or interruption of migration routes of animal species and the fragmentation of habitats not providing enough space for the survival of some species.

The results show that only 25% of the coast is left in its natural state (according to the Institute of the Republic of Slovenia for Nature Conservation, Regional Unit Piran, the share of natural coast does not exceed 20%). A large part (38%) is moderately altered, while the rest of the coast (37%) is considerably or extremely altered. These parts host harbours, marinas and urban areas, which intervene with the intertidal zone and the sea.

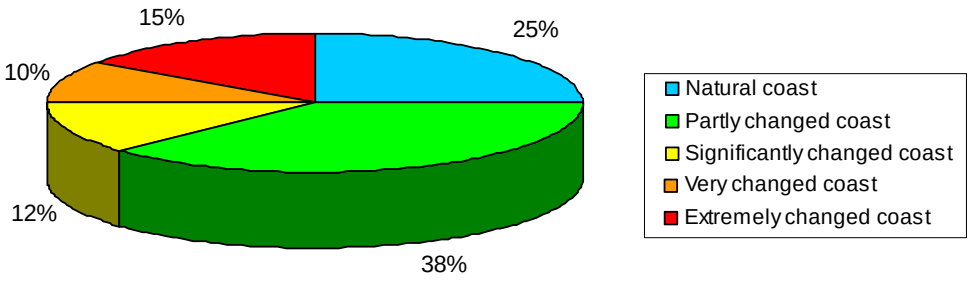


Figure 7: *Modification of the coastal area*
Source: Report on the state of the environment 2006, Ministry of the Environment and Spatial Planning of the Republic of Slovenia, not published

Key problems:

- In general, the biotic diversity has been reducing, as a rule due to the increased pressure on habitats and habitat types.
- The health of habitats and ecosystems depends on the quality of the sea and river water (sanitation, discharges from boats, marine transport), human actions affecting the seabed (fishing and pleasure boats), and the occupation and use of coastal areas.
- Strong urbanisation pressures and thus the ecosystems are subjected to deterioration.
- The system of nature protection has been established at national level, but it is deficient in some points: in some protected areas, management has not been regulated (Strunjan Landscape Park, Debeli Rtič, Madona Cape), the safeguards regime is not efficient enough, financing is not satisfactory, infrastructure is unregulated, etc.
- The tourist potential of protected areas is not exploited adequately and the co-operation between the managers of protected areas and tourist operators is too weak.

Flood Prevention

There is poor flood prevention in some parts of the region in consequence of inadequate regulation of certain torrential streams. In order to secure prevention against high water on agricultural land, regulation was carried out of some watercourses and retention basins built in the past (Mola, Klivnik, Pivol and Triban, and Vanganel Lake in Slovenian Istra).

With regard to the climatologists' forecasts and the trends in the past decade, droughts can be expected more frequently in the area of South Primorska.

Key problems:

- In some parts of the region, flood prevention is poor, which is the result of unsuitable regulation of some watercourses (in particular the Reka River and its tributaries, but also Dragonja, the downstream part of the Dragonja River Valley and the area of the Sečovlje Saltpan.
- Flood risk in lower parts of the coast is increasing.

4.8 Landscape, Historical and Cultural Resources

In major part of South Primorska there are important exceptional landscapes and areas of complex protection of cultural heritage. In addition to the areas of national identity, stated already in the Spatial Development Strategy of Slovenia (Lipica, Škocjan Caves, a part of Brkini and Matarsko podolje, a part of Bržanija and Movraška dolina; Prem and Suhorje, Kras, the area of Strunjan, Šavrini) and outstanding landscapes, there are some other significant areas defined as the areas of regional identity – Snežnik, Slavnik, Vremščica and the Kart Edge. Most of these areas are known also for exceptional natural qualities.

The landscape areas of special quality in South Primorska are: coastal landscapes with characteristic cliffs and settlement (town centres), distinctive settlement patterns (architecture and urbanism of villages and town centres in Kras and Slovenian Istra), natural elements of classical Kras (characteristic relief and microrelief with shallow soil, sinkholes, surface rocks and thermophile plants (Škocjan Caves, Kras Edge, Vrtača pod Čebulovico) and riparian landscape (the Dragonja River valley), and man-made environment (coherence of settlement with natural spatial structure of Kras and Slovenian Istra).

Key problems – protection of cultural heritage:

- The majority of cultural heritage, in particular settlement, ethnological and man-made landscapes, is left to deterioration.
- Disorder rules in the area, which is on the one hand the consequence of unregulated real estate ownership and on the other, the inconsistence of economic, social, cultural and environmental aspects of spatial development.
- There is a lot of illegal construction in settlement and other areas of cultural heritage and in man-made environment, which leads to additional deterioration.
- The inclusion of cultural heritage in local, regional and national development plans is inadequate.

Key problems – coastal landscape:

- Landscape changes result from the construction of large infrastructure facilities (Slovenian Istra and especially the coastal area – transport and tourist infrastructure, such as motorways, marinas, harbours) and settlement (increasing building density in the coastal area – tourist settlements and dispersed building of housing and holiday facilities and auxiliary facilities).
- Expanding dispersed settlement with largely unformed architectural character, which in most cases represents a significant and undesired visual impact in the coastal area and wider.
- Construction of exceedingly voluminous buildings creating a distinctive and undesired visual impact in the coastal area and wider.
- Intensive urbanisation and consequent alteration of the Mediterranean features of the coastal strip.
- Large extent of prefabricated architecture for catering and tourist facilities, unregulated and unplanned trailer storage areas, undersigned service facilities in marinas, unregulated parking lots, neglected parts of bathing sites, unarranged footpaths to the sea, which degrade the image of the coast.

4.9 Environmental Trends

- A sign of climate change is rising of the sea level along the Slovenian coast, estimated at 1 mm/year. In the next hundred years, greater risk may be expected and more frequent flooding of low-lying parts of coastal towns (Koper, Izola, Piran), particularly where flooding has already been occurring repeatedly every year.
- In the light of expected intensification of maritime transport and nautical tourism, an increasing trend in the content of hydrocarbons in sea sediments can be expected.
- Pollution of the sea with wastewaters will continue until the construction of sewage network and wastewater treatment plants.
- The situation of water quantity at characteristic flow rates of rivers with direct outflow into the Adriatic Sea indicates that medium flows are falling most markedly; however, the maximum flows are also decreasing. The present conditions point to a reduction of the available water in the region. Additional problems in the provision of adequate quantity of water may result from the change in flow timing observed in the past years, as the periods of high flow in watercourses with rain and rain-snow regimes move to the winter time, while the periods of low flow in summer time are getting longer, thus increasing the risk of long droughts.

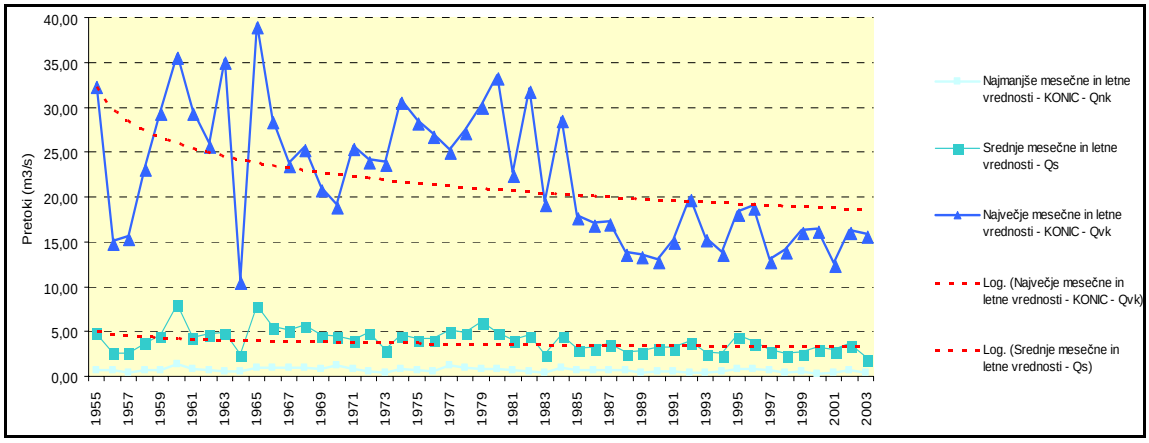


Figure 8: ***Rižana River: the lowest, medium and the highest monthly and annual flows***

- There is poor flood prevention in some parts of the region in consequence of inadequate regulation of certain torrential streams. In order to secure prevention against high water on agricultural land, regulation was carried out of some watercourses and retention basins built in the past (Mola, Klivnik, Pivol and Triban, and Vanganel Lake in Slovenian Istra).
- South Primorska falls within the air pollution level II. Periodically, the permissible values are exceeded, especially as regards the pollutants such as nitrogen oxide (NO_2), particles (PM10) and ozone (O_3). The main air pollution sources are industry, traffic and furnaces. The problem of pollution by ozone and NO_x is becoming increasingly acute and it can be expected that pollution will increase due to local sources (traffic) as well as cross-border pollution.
- In particular areas, significant negative environmental impacts include also high light pollution, which has to be taken into consideration in spatial planning of activities, especially in vulnerable areas from the point of view of the protection of wild animals.
- Traffic is the main source of noise, burdening especially urban and tourist centres.
- On the national scale, fire risk to the environment is exceptionally high in the Kras forest management area. The largest forest areas destroyed by fire are in this area.

4.10 Key Observations on Spatial Development

Land cover: The South Primorska region is covered mainly by forests (67%) and agricultural land (28%). The built-up areas represent 2.8% and roads 1.3% of the territory. The share of protected areas is 3%, the Natura 2000 areas occupy 48%, and according to this indicator, the region is ranked third in the country.

Although the region is prosperous and most residents enjoy a relatively high standard of living, many individuals and some of the region's communities experience relatively high levels of deprivation. The reduction of development disparities has been a long-term challenge for the region.

According to the analysis of selected indicators there are disparities between the coastal part and the hinterland (Kras, Brkini) of the region, which is characterised by the following:

1. the number of the population is stagnating, contrary to the coastal part, where the number of residents is rising due to immigration;
2. the gravity centre of urban and economic development is in the coastal part of the region;
3. lower basis for income tax/resident in the Kras hinterland in comparison with the coastal part, although the difference is decreasing;
4. higher rate of registered unemployment;
5. higher rate of employed in agriculture and industry;
6. worse business performance of companies;
7. rare settlement and worse equipment of settlements with supply and services;
8. worse equipment with transport infrastructure (especially the eastern part of the Municipality of Ilirska Bistrica, the central area of Brkini, the northern parts of the Municipalities of Sežana and Komen, and also the rear of the coast); and
9. relatively worse equipment with the infrastructure for environmental protection.

The centre of regional urban network is Koper, within the Koper–Izola–Piran conurbation. Other centres of regional significance are Sežana and Ilirska Bistrica. The network of urban centres consists also of other important local centres (most of them are in coastal municipalities) and smaller local centres. The urban network is adequately developed, however, there is some disparity in coastal municipalities because of the lack of significant local centres in the hinterland and Kras and Brkini hinterland where some centres should strengthen and thereby enhance the access to urban functions and reduce the pressure on the narrow coastal belt.

Littoralization: Over the last forty years, urban growth, economic activities and infrastructural development concentrate on the coastal strip. The demand for real estate is strengthening, particularly in Slovenian Istra, and recently also in Kras. The number of building permits issued is increasing. The real estate in South Primorska is among the most expensive in Slovenia, its price rising constantly due to the demand for holiday homes. The demand for and the prices of real estate vary significantly between Slovenian Istra and the Kras/Brkini part.

A high price of real estate aggravates the problem of housing accessibility, especially for young families. In spite of alarming demographic prognoses, further growth of population may be expected in the region, largely on the account of immigration. The share of old people will increase considerably. It is necessary to meet the accommodation needs of growing and aging population.

The region's cities and towns with their cultural, social and education offer, jobs and key services are crucial for present and future attractiveness of the region and for the quality of life of the residents; a continued enhancement of their offer needs to be supported through investment and environmental improvements.

Old town and settlement centres are faced with many problems: dilapidated housing stock and infrastructure, the problems of traffic accessibility and poor social structure (old and less wealthy people). The results of the aforementioned are the emptying of town centres and the flats are changing into holiday homes (the problem is particularly pressing in the city of Piran), which presents a strong pressure on urban infrastructure in summer time, while in winter, the town centre is deserted. Over the last thirty years, people have been moving to new neighbourhoods in city surroundings. The situation has been improving recently, particularly due to the establishment of the university and faculties, which brought about new life to city centres. The situation in village centres in the hinterland is similar. There, the renewal and proper use of buildings is often impossible due to the ownership problems that are hard to solve.

In the hinterland of large cities there is a distinctive trend of dispersed settlement expansion (urban sprawl), while there is unused space capacity within the settlements, which could be gained through the rehabilitation of degraded urban areas or re-urbanisation. Dispersed settlement implies a wasteful use of space. Low population density demands large investments into the public utility infrastructure, causes pressures on the nature, natural goods and the environment, endangers cultural heritage and landscape, it is energy-wasteful and an important generator of personal transport.

Dispersed settlement is encouraged by large public investment into road network and public utility infrastructure in peripheral areas, which facilitates rural development.

The traffic congestion, particularly evident in coastal cities and in summer, needs to be managed more effectively. Changes should be introduced in public transport provision to improve the accessibility for all residents.

Passenger transport is based chiefly on the use of personal vehicles, as suggested by the number of cars per 1,000 inhabitants by which the region is ranked first in Slovenia. The road network is especially congested in the coastal part; during the summer period and at weekends road congestions occur very often, as the average daily traffic (ADT) in some sections is 30,000 vehicles/day.

The main air pollution sources are traffic together with industry and furnaces. The problem of pollution by ozone and NO_x is becoming increasingly acute and it can be expected that pollution will increase due to local sources (traffic) as well as cross-border pollution. Traffic is the main source of noise, burdening especially the urban and tourist centres.

The countryside is one of the region's prime environmental assets. It is a major element of the quality of life of the residents, particularly those living in cities and towns.

The region has faced increasing pressures on its environment and this is set to intensify. Growing demands for construction, infrastructure, natural materials, energy, water, etc. must be managed in a way to mitigate negative impacts, so that the quality of living is maintained and enhanced. In the future, the climate change will affect the way of life in the region. Although the actual effects are as yet unclear, the assessment of flood risk needs to be featured more prominently in strategy development and development proposals must be robust in light of climate change.

Key problems:

- There is a well-organised urban network on the one side and unbalanced urban system with large concentration in the area of Slovenian Istra and a lack of suitable centres in the area of the Municipality of Ilirska Bistrica.
- In comparison with cross-border urban centres (Trieste, Rijeka, Gorizia), the urban settlements in the region are small and have more modest urban potentials.
- Littoralization: Various activities and infrastructural development heap up on the coastal strip of Slovenian Istra which is giving rise to an ever-greater inflow of population and the aspiration for the construction of residential and other buildings. With regard to the whole region, this part is really small in size. Other, significantly larger parts comprising the rear areas of the coast in Slovenian Istra, Kras and Brkini are confronted with many structural problems.
- Good accessibility of larger urban centres and the connection of the region with other regions (motorway), worse accessibility to further away rural areas (bad regional and local connections, poorly maintained roads).
- Developed urban centres (especially in Slovenian Istra), poor communication and co-operation between urban and rural areas.
- Depopulation areas in further away parts of Kras and Brkini.
- Growth of dispersed settlement – extension of settlements into the countryside, while there is unused space capacity within the settlements (rehabilitation of degraded urban areas, reurbanisation), wasteful use of space, low population density of new settlement areas.

Key problems (continued):

- Planned structuring of the use of physical space: weak intermingling of uses.
- Emergence of shopping centres with large parking lots outside town centres.
- Large public investment into road network and public utility infrastructure in peripheral areas, which on the one side facilitates rural development and on the other encourages dispersed settlement.
- Under-investment into the existing urban centres and larger settlements, which results in the decrease in the quality of life in urban centres (social stratification, environmental problems: noise, reduced trafficability (standing traffic), removal of functions and activities to the outskirts, worse housing stock, etc.).
- Real estate in South Primorska is among the most expensive in Slovenia, its price rising constantly due to the demand for holiday homes. Demand for and the prices of real estate vary significantly between Slovenian Istra and the Kras/Brkini part. The number of building permits issued is increasing.
- Due to high prices, appropriate housing is inaccessible to the inhabitants.

The Problems of Spatial Development and the Coastal Strip Spatial Arrangements

In the last decades the coastal area has been exposed to strong development pressures showing in a fast growth of population, urbanisation and development of activities. Use of the sea coast as the juncture of the land and the sea and their axis at the same time (population, tourist, transport, economy, etc.) has had to adapt constantly to the pressures of urban environment and economic interests.

The mere presence of the sea has determined a whole series of specific activities (mariculture, fishery), which are directly linked to the sea or the use of the sea, or represent accompanying activities. Through the use of the sea, these activities influence each other, compete and impose various legal regimes, thus provoking conflicts in the sea use in relation with the protection of habitats, natural ecosystems and the landscape, as well as with regard to granted water rights and a decrease in economic performance of some activities.

The key environmental and spatial resources/potentials of the coastal strip are the nature, cultural heritage, natural resources (fishing reserves, agriculture and forestry), recreational potential (bathing sites, promenades, tourist and recreation areas, green areas), urban and architectural qualities and valuable landscape features.

The key environmental and spatial pressures in the coastal strip derive from maritime transport, marinas and the Port of Koper, transport, tourism and recreation, settlement and industry.

We conclude that spatial development patterns are more sustainable in comparison with the above-described ones in a broader Mediterranean context; in addition, solving of the existing conflicts is also at a high level. However, this should be no excuse for resting on our laurels, because we have an opportunity to make the existing spatial development trend even more sustainable.

In view of the analysis of economic aspects, it is necessary to provide for:

- a suitable space for the extension and/or further development of the Port of Koper (the third pier), marinas (in particular the space for service areas), municipal moorings, shipyards (the present location is unsuitable, space should be found for servicing and repairing vessels in connection with service areas in marinas);
- cleared definition of the areas for tourism development and their structuring and interconnection (definition of multifunctional areas, where other uses are intertwined with tourist ones);
- land for further development of the Porto of Koper, transport logistic terminal and new business zones (business incubator, technology park), if possible in the vicinity of the Port of Koper and/or traffic corridors and hubs;

- land for the development of economic, business and trade activities, which in fact are already developing in a ring around the town centre of Koper, Izola and at Lucija;
- adequate land for the development of social activities – sports and recreation – on the coastal strip (also in protected areas).

The key demographic and environmental trends and their impact on the spatial development of the coastal strip are as follows:

Imbalance in the spatial development patterns: The coastal municipalities have three settlement areas: the coastal strip, the coastal hinterland and the countryside. The most densely populated is the coastal strip, a little less the coastal hinterland, while in the countryside (in particular Šavrini and Bržanija), the population has been declining ever since the Second World War. The fastest population growth has been recorded in sub-urban areas. The polarisation of demographic processes, which has led to such situation, has been calming down since 1985, which is related to the resumed settlement of the hinterland and countryside due to the improved infrastructure and the possibility for people to return from towns. Another problem is a great urban pressure on the coastal strip, including settlement, economic activities, too high building land prices for the current needs of the local population and non-selective interventions into the coastal strip.

The problem of divergence between settlement and transport shows especially in transport patterns, traffic flows, modal split and the problems of standing traffic. To a large extent, the transport in the three coastal municipalities is carried out by automobiles, while the share of public passenger transport and alternative transport is exceptionally low. In towns and their surroundings, there is a lack of parking spaces. The areas covered by standing traffic are disproportionately large, representing a high cost for towns, using the most valuable space and visually degrading the towns.

In coastal hinterland and to a smaller extent in the countryside, dispersed, amorphous and low density settlement has been spreading on the former agricultural land between the existing villages and settlements. Revitalisation of these areas is mostly uncontrolled, including illegal and unregulated building, foreign to ethnical and cultural elements of the environment, bringing over urban living patterns to rural areas and not bound to agricultural activities. The owners of holiday houses and apartments represent a special category.

Old town centres of Koper, Izola and Piran represent a special problem in **urban planning**. A town centre integrates the basic urban activities, such as shops, establishments, offices, dwelling premises and public buildings, through which the town centre had the main function and control over the other parts of town and sub-urban areas. The town pulse spread concentrically from the town centre, determining the town's basic identity and character. Due to economic, social and political changes, equivalent centres with own character have developed outside the town centre. Thus, the town centre lost the characteristics of a historical town nucleus.

The growth of monofunctional shopping centres: The problem has become acute in Koper where a monofunctional shopping area has been spreading in the town outskirts, although in all earlier spatial documents this intermediary area was intended for urban-creative activities: interlocking of residential, business, commercial, and service activities as well as educational programmes, culture, sport and recreation. Negative effects of shopping centres location in the vicinity of town centres are visual degradation, loss of land for urban-creative activities and consequently malfunctioning of the town centre.

Deterioration of old rural centres: due to their structure and form they are mostly protected as settlement monuments: however, in most cases they are falling into decay because of unsuitable renewal policy, fragmented ownership, inappropriate building size and density, unfit for modern living requirements.

Development of transport-logistic terminal in the Port of Koper represents an important point in the network of the European TEN corridors. The terminal is based on the connection of the Port of Koper with railroad, road and maritime hubs of various levels. The advantage of Koper over the neighbouring ports is particularly in large spatial reserves and good connections with the hinterland. Therefore, the town has an opportunity to develop into an

important European harbour which, however, aggravates spatial conflicts with the surrounding settlements and land uses.

Depopulation of the hinterland: The countryside has been reviving only in some more vital villages, while the rest of the hinterland continues to decline. We are witnessing a decay of traditional production system and man-made landscape, which is being reflected in intensive overgrowing of cultivated terraces and agricultural land, as well as in emptying of traditional rural settlements.

Construction activities threaten the overall image of vulnerable landscape: extensive and uncontrolled "physical" interference with the coastal strip, poor developments in environmentally complete areas, changing of the overall image of the coastal strip, reducing the natural contact of the sea and the land (including unprotected areas), extensive developments (the Port of Koper, marinas, shellfish farms and accompanying facilities) with a visual impact on wider area, limiting the view, architectural, urbanistic and landscape chaos resulting from excessive commercialisation of space, ever increasing built-up areas of the coastal strip and loss of spatial identity.

The key interests and conflicts on the coast and in the coastal sea in individual municipalities are as follows:

Koper

1. according to the municipal spatial plan, a mariculture area is planned next to Debeli rtič;
2. unarranged areas planned for the third pier of the Port of Koper;
3. potential risks due to maritime transport to and from the Port of Koper;
4. periodical marine pollution due to transhipment of bulk cargo in the Port of Koper;
5. limitation of high-quality tourism development due to the Port of Koper;
6. unsuitable location of the discharge from the wastewater treatment plant in Koper in the estuary of the Rižana River in the centre of the Bay of Koper;
7. unarranged shore of the Semedela Bay;
8. arrangement of tourist and local harbour in the Semedela Bay;
9. arrangement and extension of the tourist complex at Žusterna; and
10. arrangement of the coast between Koper and Izola and small facilities in the sea.

The interests under 7, 9 and 10 are already being implemented and harmonised within all spatial planning institutions. Some activities are going on to solve the problems under 2 and 4.

Izola

1. arrangement of the coast between Koper and Izola, presently occupied by road;
2. arrangement of the Viližan Bay by the construction of a large facility in the sea ("Adriatic Island" project, defined in the resolution of National Development Projects 2007-2013) as a tourist area;
3. the impact of the Izola Shipyard on the Viližan Bay and the old town centre;
4. discharge of urban and industrial wastewaters next to the "Ob svetilniku" bathing site (Petelin Peninsula);
5. unsuitable status of the "Ob svetilniku" bathing site (Petelin Peninsula);
6. a conflict between the location of bathing site and the protection of cultural heritage next to the Korbat Peninsula; and
7. unarranged access and enjoyment of the Strunjan Natural Reserve.

The interest under 1 is already being implemented and harmonised within all spatial planning institutions.

Piran

1. unarranged access and enjoyment of the Strunjan Natural Reserve;
2. concentration of the sea use and legal regimes in the Strunjan Bay (nature preservation area, fishing reserve, mariculture area, bathing site and maritime transport);
3. conflict between the location of mariculture and fishing reserve may evolve due to the aspirations for fish-farming fields;
4. unarranged Stjuža;

5. regulation of moorings at Stjuža;
6. management of protected area at the Piran Punta;
7. location of tourist and passenger harbour next to Piran;
8. concentration of tourist activities at Bernardin;
9. concentration of tourist activities in the centre of the Bay of Piran;
10. discharge of swimming pool water has negative impacts on biodiversity;
11. conflicts between fishing reserve and intensive tourist use of the sea along the coast of Portorož;
12. extension of tourist capacities into the sea (according to the land-use plan);
13. extension of the Portorož marina into the sea;
14. unarranged Seča Peninsula;
15. unarranged St. Jernej canal;
16. conflicts between fish-farming fields and the fishing reserve; and
17. appropriate development of the Strunjan saltpan area.

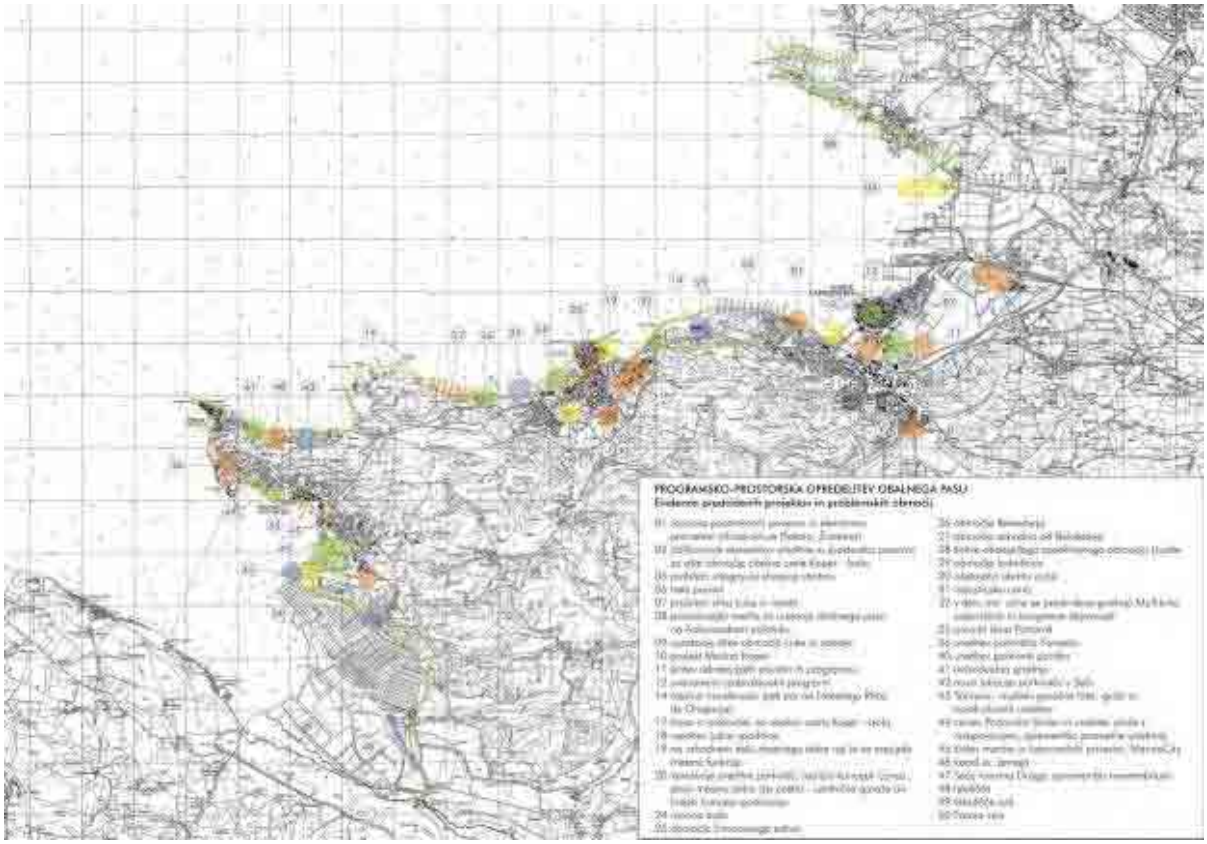


Figure 9: ***Programming and spatial definition of the coastal strip***

5. Analysis of the Situation and Trends in the Region – Results of the Imagine Process (Systemic and Prospective Sustainability Analysis)

In the analytical phase of the CAMP Slovenia Project, the *Imagine* project (SPSA – Systemic and Prospective Sustainability Analysis), implemented in co-operation with the performers of individual projects and experts in various fields, stakeholders and the public, contributed the following observations in line with participative principles, open learning and transparent presentation of feedback information to the participants:

Findings on the current situation *(the group dealing with the Kras-Brkini sub-region)*

The first group dealt with the problems related to the preparation of the Conception of Spatial Development and focused on specific **issues of Kras and Brkini**. The working group identified the following processes, problems and issues that need to be taken into consideration when planning for the future:

- strong pressure of the economy (initiatives for the construction of golf courses and wind farms in nature preservation areas or exceptional landscapes);
- strong influence of the central government reflecting at local level;
- border position: the national border remains a mental barrier despite the fact that Slovenia is a part of the EU;
- fragmentation of space (construction of large infrastructure projects: Ljubljana–Koper motorway has divided Kras in half and the fifth railway corridor will further divide it, which will bring no advantages to the local population);
- demographic problems: migration from villages to large centres on the coast and to Ljubljana, ageing of population;
- inadequate protection of drinking water resources: Kras is a 'water reservoir' for the entire coastal area and Kras;
- tourist attractions are not being put to profitable use (the Škocjan Caves, protected by UNESCO); the natural qualities of Kras remain 'unrecognised';
- poor public utility infrastructure in villages and the hinterland (drinking water supply, waste management, wastewater collection, drainage and treatment);
- short-term orientation of local politicians: they are not well informed and are concentrated only on attaining short-term goals supported by money;
- weak communication between sub-regions (Kras-Coast): the area of Kras Edge is on the edge also when it comes to problem solving at the political level;
- pressures on local cultural, architectural and landscape heritage;
- lack of clear strategic directions: a constant conflict between environmental and development projects; and
- weak implementation capacity: a too large number of different programmes and projects; the adopted plans and projects are not carried out.

On the basis of definition of the current situation, the working group selected six priority ***issues*** and ***tasks***:

Issues	Tasks
Concentration of activities in limited areas	Strategic planning and programming
Uncompleted public infrastructure	Infrastructure development (traffic – strengthening transverse connections, environmental protection, sustainable energy (sun, biomass)
Sparsely populated areas, emptying of villages	Renovation of historic villages
Inadequately developed tourism, unused potentials, poorly developed service activities	Tourism development, eco-tourism, agro-tourism
Low awareness of the capital holders and decision-makers	Effective implementation of decisions taken, bigger influence of the civil sphere
Traffic: poorly developed public transport, poor local road network	Strengthening of public transport system, development of railway passenger transport

Findings on the current situation *(the group dealing with the Slovenian Istra sub-region)*

The second group dealt with the problems related to the preparation of the Conception of Spatial Development in the coastal sub-region, composed of three coastal municipalities. The working group identified the following processes and problems, as well as the issues which need to be taken into consideration when planning for the future:

- littoralization: great pressure of the economy on the coastal area;
- littoralization: weak integration of the coastal part and the hinterland, weak connections;
- littoralization: high prices of building land, inadequate land available for construction;
- littoralization: problems of affordable housing for local population due to high prices, as a consequence of huge demand for secondary homes;
- spatial conflicts, competition for land: a large number of activities on a small coastal area (tourism, seaside resorts, protected areas, traffic, industry);
- traffic congestion: completed highway network, including the Ljubljana–Koper connection causes traffic jams in summer months;
- weak inter-municipal co-operation: municipalities are concerned only with their own problems;
- poor implementation capacity on regional/municipal levels related to the implementation of strategic documents (Regional Development Programme);
- inconsistent legal/institutional framework: overlapping affecting coastal and marine management, spatial planning, environmental protection; inefficient bureaucratic procedures, which are slow and do not react to the actual demands;
- incomplete coastal environmental monitoring (increasing problems with the ozone, etc.);
- huge migrations in summer months (for instance, the number of inhabitants doubles and the amount of traffic triples, additional burdens on the existing public utility infrastructure during rush hours, etc.); and
- increasing pressures on the sea.

On the basis of definition of the current situation, the working group selected the priority ***issues*** and ***tasks***, as presented below:

Issues	Tasks
Littoralization: Big pressure on the narrow coastal strip, spatial conflicts, competition for land, traffic congestion	More balanced spatial distribution of activities between the coast and the hinterland
Weak and inefficient inter-municipal co-operation	Establishment and operation of regional institutions
Water pollution	Completion of wastewater collection, drainage and treatment infrastructure
Degradation of the sea ecosystem	Preservation of natural parts of the sea and maritime shoreline

Findings on the current situation *(the group dealing with the coastal strip area)*

The third group dealt with the issues related to the management of the narrow coastal strip. With the help of image presentation of the present situation, the working group identified the following priority processes and problems:

- littoralization: pressure of economic on the narrow coastal strip;
- littoralization: concentration of (conflict) activities in a very small area;
- littoralization: inappropriate activities on the coast;
- inconsistent legal/institutional framework: the legislation regarding the sea management is not harmonised;
- weak integration with neighbouring regions, insufficient co-operation;
- traffic congestion in summer: a big difference between summer and winter traffic schemes;

- the problem of drinking water supply on the coast, especially in summer peaks;
- insufficient public utility infrastructure: overburdened during summer peaks, incomplete wastewater treatment plants; poor municipal waste management;
- spatial conflicts: problems with the third pier in the Port of Koper;
- weak inter-municipal co-operation: lack of common strategy and joint programmes between the three municipalities in the narrow coastal zone;
- low level of environmental awareness among developers and residents; and
- weak influence of the civil sphere on decision-making, strong influence of the economy.

On the basis of identification of the current situation, the work group defined the following **issues** and **tasks**:

Issues	Tasks
Littoralization: high concentration of activities on the narrow coastal strip	Closer inter-municipal co-operation, harmonisation of spatial development and spatial planning between coastal municipalities
Traffic congestion and saturation, inappropriate traffic management	Establishment of a common sustainable mobility scheme
Weak awareness of developers on long-term environmental consequences, weak influence of local population on decision-making	Establishment of sustainable awareness raising and public participation programmes

5.1 Spatial Planning Scenarios

Scenarios of future development of the South Primorska region were prepared within the expert work. The scenarios are not an attempt to foretell the future but only an assumption of the desired future, a story of various possibilities or even extreme outcomes. The scenarios were formulated to promote ideas and to draw attention to the opportunities and threats that we may encounter in the future. The details of scenarios can be used to assess risks and opportunities resulting from the course of regional spatial development in the future.

The scenarios were developed at two levels:

- within the SPSA framework; and
- within the detailed conception of coastal strip spatial arrangements.

The scenarios were formulated on the basis of the identified driving forces and their indicators in workshops, gathering the stakeholders and key actors in the field of regional spatial planning and management of the coastal area.

Trends and projections of possible situations for the period after 10, 15, 20 and 25 years were identified for each indicator and the resulting problems and opportunities for sustainable development. On this basis, the desired future conditions and the target values of key indicators were defined.

Scenarios Based on Current Trends

The main characteristics of the set trend scenarios, as they were defined in the third workshop, are the following:

The area of Kras-Brkini

- continued deterioration of the demographic structure, in particular the ageing of the population;
- increasing share of active population in the sub-region resulting from better employment opportunities and also the changes in the demographic structure, improved mobility of employees and better educational structure of the population (also as a result of better educational opportunities by strengthening the University of Primorska and Higher and University Education Centre Sežana);

- strengthening of companies' business performance and maintaining the above-average economic power of the population compared to the rest of Slovenia;
- faster tourism development in the sub-region; and
- reduced pressures on the environment (municipal waste, wastewaters) mainly due to the implementation of the key environmental projects in the programming period 2007-2013 or until 2017: GOJUP – waste management of South Primorska, operational programmes for the treatment of urban wastewaters.

Table 4 shows the trends for the year 2015 for Kras indicators.

Table 4: ***Trends of Kras indicators – 2015***

#	Indicator	BoE		Unit	Timeline (when)			2015
		Min.	Max		~1991	~1996	~2003	
1	Public waste removal			Kg per inhabitant	21.07	52.18	25.31	29
2	% of households connected to public sewage system	80	90	%	18	19	24	38
3	Share of active working population	40	70	Share %	43	48	47	50
4	Daily migration / number of active working force	1,500	2,500	Rate	2,100	3,400	5,000	7,000
5	Ageing index	35	50	Rate	80	112.1	128.2	132
6	Educational structure of inhabitants, % of high education	20	30	%	11.5	16.7	10.31	17
7	Number of arrivals and nights of tourists per 100 inhabitants	250	350	# nights/100 inhabitants	241.37	210.33	211.88	220
8	Number of beds per 100 inhabitants	5	8	# beds/100 inhabitants	2.27	1.94	3.11	4
9	Gross income tax base per capita	105	130	Index (Slovenia=100)	103.8	107.2	104.2	105
10	Business - net profit/loss per employee	300	600	In SIT '000	-329	-289	286	320

The Area of Slovenian Istra

Several common indicators were identified for both areas. But regarding the diversity of areas, the BoE were defined for each area differently. According to participants, the main characteristics of the trend scenario are the following:

- improvement of the structure of employees and the educational structure of the population (University of Primorska);
- further urbanisation pressures on the coastal strip (littoralization);
- faster tourism development in the sub-region (increase in the number of beds, but also a larger occupancy of accommodation capacities);
- considerable growth of investments into the management of nature protection areas, also in relation with the development of specific tourist products;
- reducing pressures on the environment (municipal waste, wastewaters) mainly due to the implementation of the key environmental projects in the programming period 2007-2013 or until 2017: GOJUP – Waste management of South Primorska, Operational programmes for treatment of urban wastewaters; and
- lower pressures on the environment will reflect in the quality of drinking water and the quality of bathing waters.

Table 5 shows the trends for the year 2015 for the Coast indicators.

Table 5: ***Trends of Coast indicators – 2015***

#	Indicator	BoE		Unit	Timeline (when)			2015
		Min.	Max		~1991	~1996	~2003	
1	Urbanisation rate	60	70	%	63.1	66.3	71.8	88
2	% of connected households to public sewage system	75	90	%	42	55.2	70.2	80
3	Quality of drinking water, % of unsuitable samples	0	2	%	2	2.1	1.1	1
4	Quality of sea water in public baths, % of good microbiological samples	90	100	%	72	74.4	86.7	90
5	Rate of coastline with regulative approach	30	50	% of land	28	35	45.2	46
6	Investment in management of nature protected areas on coast	50	100	MIO SIT	18	23	50	60
7	Employment structure	2	3	#	1	1	1	2
8	Number of beds per 100 inhabitants	30	35	# beds/100 inhabitants	25.8	25.8	27.7	29.9
9	Number of nights per 100 inhabitants	3,000	4,000	# nights/100 inhabitants	1,865	568	2,603	3,600
10	Educational structure of inhabitants	20	30	%	11.60	12.4	15.55	21

Key Observations

Interestingly, the workshop participants estimated that the trend scenario itself, for most selected key indicators, led to an area of balance or sustainable development: urbanisation of the narrower coastal strip and burdening due to tourism are exceptions in the coastal area (expressed as Number of nights per 100 inhabitants, obviously on the account of new capacities, better utilisation of tourist capacities, as also an increase in the number of tourist apartments).

The participants evaluated the situation in the Kras-Brkini area as less optimistic: the problem of ageing population and also a growing volume of waste per inhabitant, the risk of lagging behind in the implementation of operational programmes of wastewater discharge and treatment and, consequently, further burdening of waters in the vulnerable Kras area, as also the trend of increased daily migration.

5.2 Alternative Scenarios for the Whole Region

After defining the trend scenarios, the participants defined the desired future conditions and target values of the key indicators on the basis of selected indicators.

The groups were not dealing with the formulation of the desired conditions in individual areas (Kras-Brkini and Slovenian Istra) any more, but they prepared two alternative scenarios for the whole area of South Primorska.

The 'Promised Land' Scenario

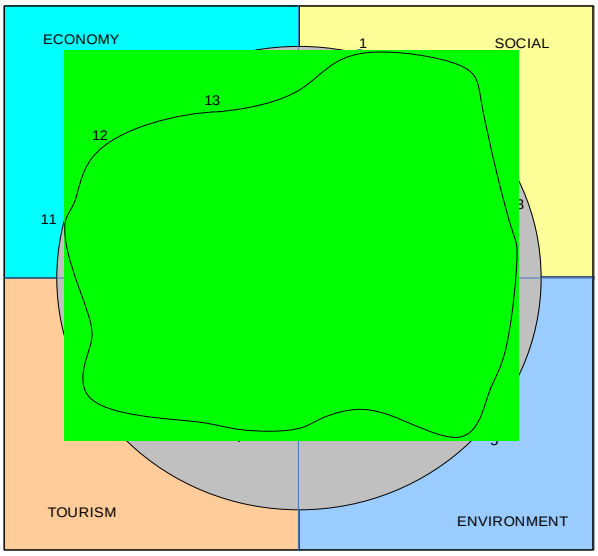
The main characteristics of the scenario defined by Group 1 are:

- tourist infrastructure harmonised with natural and cultural heritage of the region – attractive and well organised B&B (Bed & Breakfast), hostels, etc.;
- hotel offer is complemented with many activities (rowing, walking, cycling, agro-tourism, wine tasting, eco-farms, etc.);
- renewed historic town and village centres offer developed tourist services, attractive accommodation capacities are developed in the countryside;
- the University is successfully integrated in the regional economic environment and is a powerful generator of economic development (raising BDP, building knowledge-based society, preventing brain drain, reversing the unfavourable indicator of ageing index, etc.);

- the economy and local population live in coexistence with the primary economic activity – tourism;
- developed public utility infrastructure, supporting (sustainable) development;
- integrated and efficiently managed tourist destination or sub-destinations, complementary development of coastal tourism and Kras-Brkini tourism;
- preservation and restoration of natural heritage, valuable natural features are adequately protected and managed; and
- important part of local economy is based on sustainable tourism and organic agricultural production.

Table 6: ***The 'Promised Land' scenario indicators***

#	Indicator	BoE		Domain Type	Unit	Timeline (when)			2015
		Min.	Max			~1991	~1996	~2003	
1	Urbanisation rate	60	75	Social	%	63.1	66.3	71.8	75
2	Ageing index	35	50	Social	Rate	80	112.1	128.2	80
3	Share of active working population	40	70	Social	Share %	43	48	47	60
4	Quality of sea water in public baths, % of good micro-biological samples	90	100	Env.	%	72	74.4	86.7	97
5	% of households connected to public sewage system (Coast)	75	90	Env.	%	42	55.2	70.2	90
6	% of households connected to public sewage system (Kras)	80	90	Env	%	18	19	24	80
7	Number of beds per 100 inhabitants	30	35	Tourism	# beds/100 inhab.	25.8	25.8	27.7	31
8	Number of nights per 100 inhabitants	3,000	4,000	Tourism	# nights/100 inhab.	1,865	568	2,603	3,500
9	Rate of coastline with regulated access	30	50	Tourism	% of land	28	35	45,2	50
10	Number of arrivals and nights of tourists per 100 inhabitants	250	500	Tourism	# nights/ 100 inhab	241.37	210.33	211.88	400
11	Employment structure	2	3	Economy	#	1	1	1	3
12	Investment in management of nature protection areas on the coast	50	100	Economy	MIO SIT	18	23	50	100
13	Business - net profit/ loss per employee	300	600	Economy	In SIT '000	-329	-289	286	500



Here, the 'Promised Land' scenario is presented by the AMOEBA graph. Individual indicators are marked by figures from 1 to 13. The grey band denotes the indicator values within the equilibrium area. For this scenario, the participants estimated that most indicator values will be within the equilibrium area, some will approach the limit values, while the ageing indicator will exceed the equilibrium area.

Grey belt indicates outerlimits of the Band of Equilibrium – BoE.

Figure 10: ***AMOEBA graph – 'Promised Land' 2015***

The desired development scenario for the whole area, as defined by Group 1, differs from both defined trend scenarios (for the areas of Slovenian Istra and Kras-Brkini), mainly in the following points:

- the age structure is essentially favourable, as the ageing index is much lower compared to that form trend scenarios;
- the share of active population is more favourable (up to 60%);
- the performance (profitability) of companies (per employee) is a lot higher – by almost 60%;
- tourism is more developed, which reflects in a higher number of tourist beds/100 inhabitants, the rate of coastline with regulated access is larger (up to 50%), a bit lower is the number of tourist overnight stays/100 inhabitants in the Slovenian Istra, and the number of arrivals and nights in the area of Kras-Brkini is substantially higher (almost twice);
- urbanisation of the coastal strip, but it still reaches the upper BoE value (area of balance);
- the situation related to the households connected to public sewage system is essentially improved, both in the area of Slovenian Istra and in the area of Kras-Brkini, which also reflects in a better quality of bathing waters.

The 'Quality in a 1/1000 of the Mediterranean' Scenario

This scenario is based on the following presumptions and facts for the year 2015:

- tourist infrastructure is harmonised with natural and cultural heritage of Kras and Brkini;
- the University of Primorska is internationally known and it is a progressive force in the region, the University facilities are distributed throughout the region;
- Slovenian Istra and the Kras-Brkini area are well known in the world as a tourist destination for active holidays;
- most cultural heritage monuments and old villages are restored and in function of sustainable tourism;
- biodiversity, nature and natural heritage are efficiently preserved and restored: sustainable development of cultural and natural treasures of the region: protected Sečovlje Saltpan, Snežnik Regional Park, Lipica with its world-famous Lipizzaner horse breed and Škocjan Caves (UNESCO protected caves);
- diverse and attractive recreation facilities are available, stimulating sustainable tourism development;
- local economy and organic agricultural production is one of the pillars of sustainable tourism, the Kras-Brkini area is known in the EU for organically produced food;
- sustainable mobility scheme is in function: efficient public transport is established, maritime passenger transport has an important role, traffic is organised according to the demands of the local population and the primary economic activity;
- promotion of tourism with large passenger ships and appropriate tourism offer for all kinds of tourism, connection with Kras and the hinterland;
- the quality of marine environment and biological-chemical status of the sea is improved;
- the Kras-Brkini area is known as a destination for treatment of lung diseases because of its pleasant climatic conditions;
- rural areas in the hinterland are populated, tourism is well developed;
- restructured ecologically problematic economic activities.

Table 7: ***The 'Quality in a 1/1000 of the Mediterranean' scenario indicators***

#	Indicator	BoE		Domain Type	Unit	Timeline (when)			2015
		Min.	Max			~1991	~1996	~2003	
1	Share of active working population	40	70	Social	Share %	43	48	47	60
2	Urbanisation rate	60	75	Social	%	63.1	66,3	71.8	75
3	Ageing index	35	50	Social	rate	80	112.1	128,2	80
4	% of households connected to public sewage system	80	90	Env	%	18	19	24	80
5	Number of arrivals and nights of tourists per 100 inhabitants	250	350	Tourism	# nights/100 inhab.	241.37	210.33	211.88	300
6	Quality of drinking water, % of unsuitable samples	0	2	Env.	%	2	2.1	1.1	0
7	Number of beds per 100 inhabitants	30	35	Tourism	# beds/100 inhab.	25.8	25.8	27.7	31
8	Rate of coastline with regulated access	30	50	Tourism	% of land	28	35	45.2	50
9	Employment structure	2	3	Economy	#	1	1	1	2
10	Business - net profit/loss per employee	300	600	Economy	In SIT '000	-329	-289	286	350

The desired development scenario for the whole area, which was prepared by the Group 2 and named "Quality in a 1/1000 of the Mediterranean", is very much alike the one made by Group 1.

The desired development scenario for the whole area, as defined by this group, differs from the previous one in a slightly less intense tourism development and a bit smaller profitability of companies (per employee).

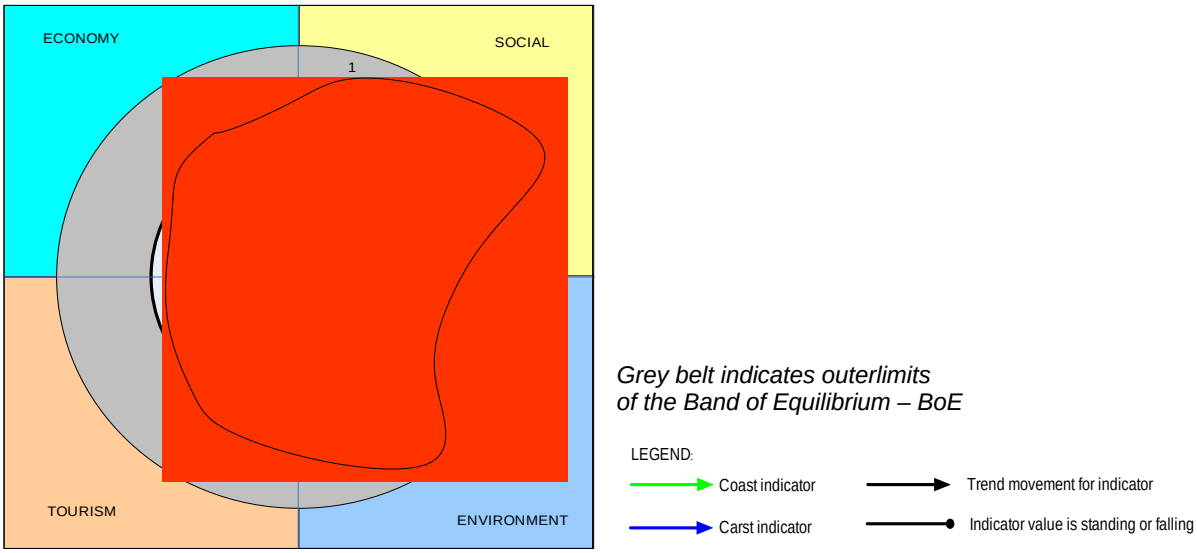


Figure 11: ***AMOEBA graph – 'Quality in a 1/1000 of the Mediterranean' scenario 2015***

5.3 Scenarios at the Level of Detailed Conception of Coastal Strip Spatial Arrangements

Three detailed scenarios were elaborated within the SPSA project expert work. They refer to the spatial arrangements of the coastal strip. The operators of the project on Detailed Conception of Coastal Strip Spatial Arrangements were involved in the SPSA process; therefore, their contribution derives from the results of this process and upgrades it with specific spatial aspects of the coastal strip development.

The method applied for this purpose is based on the overlapping of thematic maps of the following spatial data:

- national roads, municipal roads;
- natural heritage areas;
- cultural heritage areas and facilities;
- Natura 2000 sites;
- land use (Ministry of Agriculture, Forestry and Food);
- watercourses;
- legal regimes;
- digital relief model in 20x20 m raster;
- municipal boundaries – in all models; and
- sea boundary (shoreline) – in all models.

Three different scenarios were defined for the spatial development of the coastal strip, namely: ecological, liberal and moderate scenarios. The purpose was to verify three eventual future developments and establish which development scenario may ensure the realisation of visions set for the spatial development of the coastal strip, taking account of fundamental principles and general development platforms. The scenarios are valuable in particular from the point of view of spatial development in the area of three coastal municipalities. They are a part of the basic expert material, which will prove very useful in the preparation of new municipal spatial plans.

Ecological Scenario

The ecological scenario considers the aspect of environmental vulnerability to the greatest extent possible; it does not, however, take account of the aspect of attractiveness for the development of various activities in the environment. The said scenario refers to the planning of protected areas and includes in the said category also the areas that are of greater quality in terms of landscape.

The interpretation of designed vulnerability models shows that:

- as regards the protection of naturally better preserved parts of the environment considered together with the cultural heritage, the majority of the coastline is vulnerable and requires protection;
- several spatial *caesurae* allowing for development exist only in current uses occupying the beach (Marine of Lucija, Port of Piran, Semedela Canal, and the Port of Koper);
- ecological axes extending into the hinterlands are also relevant: corridor of the River Dragonja valley, a relatively wide axis in the direction NW-SE (Rtič Ronek – Malija – Koštabona) along which the remains of the natural landscape are scattered, and a somewhat shorter and narrower axis Izola – Šmarje;
- it is important to maintain and establish corridors between Piran hinterlands and the Sečovlje Saltpan Landscape Park;
- similarly, it is necessary to consider the entire line between the Bay of Sv. Križ and Simonov zaliv. The areas that fall within the Natura 2000 programme will undoubtedly require special attention in future.

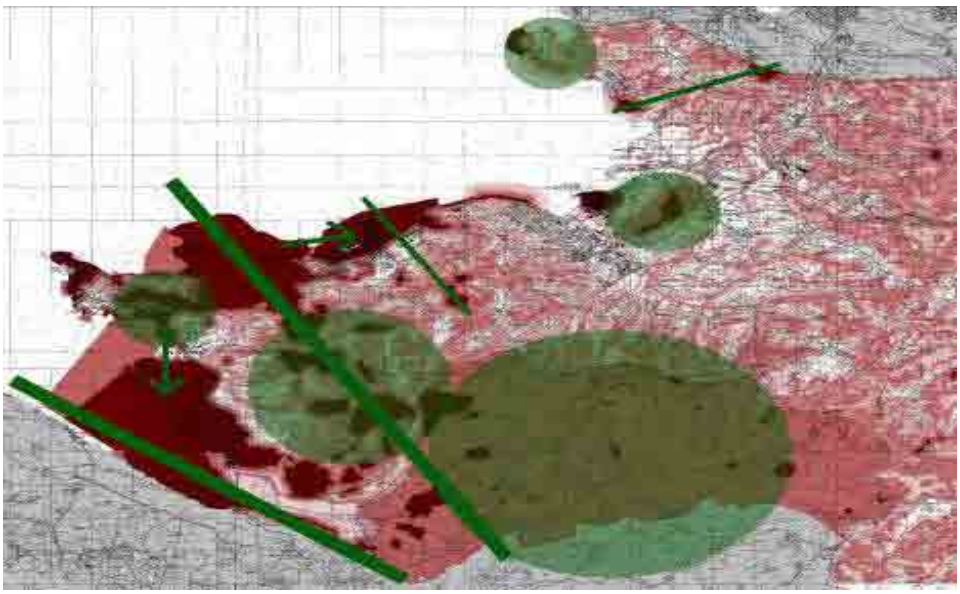


Figure 12: ***Already protected areas and the areas in need of protection (dark red), priority protection sites (green zones) and significant ecological connections and axes (green lines)***

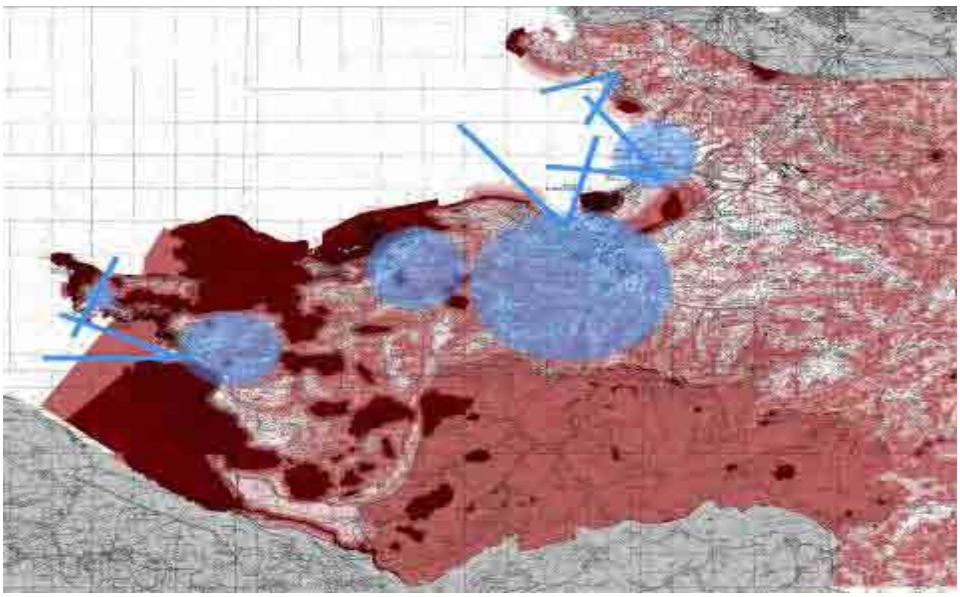


Figure 13: ***The map of potential development shows the hinterland areas to which development may and should be directed (blue areas). Blue lines define the parts of the coastal strip where marinas, ports and moorings already exist and to which developments should be directed***

Liberal Scenario

The liberal scenario considers the aspect of environmental attractiveness for the development of various activities to the greatest extent possible; it does not, however, take account of the vulnerability of spatial structures and the need for the protection of protected areas, cultural heritage, man-made landscape and sea. Further, said scenario does not consider the areas protected under the law and refers to the planning of said areas in the light of the attractiveness of the environment for the development of various activities.

The conclusions are:

- developmental pressures on the narrower continental shelf are rather powerful, namely, the pressure of urbanisation, in particular of settlement (housing construction, infrastructure, in particular transport infrastructure with vast areas of stationary traffic), tourism (development of tourist infrastructure: hotels, apartment settlements and

accompanying programmes, nautical ports with accompanying programmes) and economy (commercial port, trade centres, production activities, economic zones);

- the liberal scenario provides for the relaxation of the rules for the distribution of activities in space in accordance with the pressures and interests of individual investors. The area develops without let or hindrance.

The liberal scenario was made with the purpose to expose the overall effects of the approach comprising gradual abandonment of protection regimes or, in other words, opening of space for exceptions, which is a possible scenario in view of the present interest and pressures for construction on the coastal strip and intensive investment cycle. This is, therefore, a clear presentation of impacts resulting from such approach.

Moderate Scenario

The moderate scenario tries to establish a synergy between the aspects of attractiveness and vulnerability of the environment. It aims at balancing all three aspects, namely, the environmental, economic and social aspects in such a way that it develops spatial potentials in such a manner that is not threatening to the loss of irreplaceable natural resources, to the loss of the contact between the sea and the coast (on natural parts of the coast, in particular), and allows for a long-term conservation of all potentials. As a rule, said scenario does not address the protected areas; however, it does address to a moderate extent the areas that are of greater quality in terms of landscape as well as introduces a quality and not too dense a construction in the remaining space.

The coastal strip is developing in accordance with the principles of moderate development of the environment, the sea and the coast, i.e. sea and coast uses do not compete with one another, but complement each other in demonstrable harmony. Included in the continental shelf area are the activities that do not impose burdens on the environment, contribute to the social development of the wider and narrower areas, create long-term profits and constitute at the same time also economically self-maintaining systems. Settlement and activities that are not related to the sea use are directed from the coastal strip to the hinterlands with a view to relieving the burdens on the coastal strip. The settlement is down-shifted to the coast only in areas with the existing settlement structure.

5.4 Scenario Assessment and Analysis

The following table presents the assessment and analysis of scenarios according to environmental impacts.

In the light of the results of the assessment carried out in accordance with the criteria set, it is evident that the scenario of moderate development allows for the realisation of vision and objectives set in relation to the spatial development of the coastal strip.

Table 8: ***Scenario assessment and evaluation in relation to environmental impacts***

	Moderate Scenario	Ecological Scenario	Liberal Scenario
Impacts on the development of natural environmental components	+	+	-
Impacts on the development of created environmental components	+	+ -	+ -
Settlement	+	+ -	+
Landscape	+	+	+ -
Infrastructure	+	+ -	+ -
Impacts on safeguarded and protected areas under the regulations governing the conservation of nature	+	+	-
Impacts on the development of social environment	+	+ -	+ -
Impacts on the development of economic environment	+	-	+
Impacts on the development of cultural environment	+	+ -	-
Impacts on the development of symbolic-sensory environment	+	+	-

6. Vision, Strategy and Programme of Coastal Area Management

The vision, the strategy and the programme of coastal area management in Slovenia results from the conclusions of the analytical phase of the project, which was implemented at four levels:

- at the level of individual CAMP Slovenia projects; within this framework a particularly detailed analysis was contributed by the Conception of Spatial Development of South Primorska and the Detailed Conception of Coastal Strip Spatial Arrangements, due to their cross-sectoral nature;
- at the level of the Imagine project (SPSA – Systemic and Prospective Sustainability Analysis);
- other data obtained by the core project team; and
- scenarios formed on the basis of the study of the present trends and the consideration of stakeholders' views, as well as expert spatial scenarios contributed by the operators of the project on Detailed Conception of Coastal Strip Spatial Arrangements.

6.1 Vision

The vision of spatial development of South Primorska may be abridged into the following slogan:

"Spatial development of South Primorska shall support sustainable welfare, equitable distribution and high quality of life, whilst protecting and strengthening natural, spatial and cultural goods."

The development vision may be described in more detail through the integration and generalisation of conclusions provided by the stakeholders participating in the Imagine process – the Systemic and Prospective Sustainability Analysis – which reflect the desired situation in the region in 2015:

- The University of Primorska is internationally known, representing the driving force in the region, integrated into the economic sphere and a strong generator of economic development; the University infrastructure is spatially distributed between the Slovenian Istra and the Kras-Brkini area.
- The development engine are innovations in all fields of social life: economy, public sector, culture, environmental protection, university, science and research sphere and support structures.
- Slovenian Istra – the coast and the Kras-Brkini sub-region are well known tourist destinations for active holiday; tourist infrastructure is harmonised with natural and cultural heritage of the region – attractive and well organised; an important segment of local economy is based on sustainable tourism and organic production of local agricultural produce; protected areas are a significant generator of regional development, in particular in rural hinterland in relation with tourism.
- Biodiversity, natural and cultural heritage are well preserved and renewed; sustainable development of regional cultural and natural treasures: protected Sečovlje saltpan, Snežnik regional Park, Lipica as an internationally known stud farm and Škocjan Caves; valuable natural features are properly protected and managed.
- Rich cultural heritage is renewed and well protected, renewed historical urban and rural centres offer advanced tourist services, attractive accommodation facilities in the countryside; cultural heritage is successfully integrated in development processes.
- Developed municipal infrastructure for wastewater management, waste management; it supports (sustainable) development; reliable supply of drinking water is ensured; established innovative methods for management of natural resources and the environment.
- The quality of marine environment is improved, better biological and chemical status of the sea.
- Ecologically questionable economic activities are restructured.

- Sustainable mobility mode is established: public transport is efficient and user-friendly; attractive infrastructure for sustainable mobility is established; maritime passenger transport plays an important role, transport is regulated according to the requirements of local population and primary economic activities.
- Spatial development ensures a more even settlement distribution in the region, environmental pressures on the coastal strip are efficiently controlled, the nature, biodiversity, cultural heritage and exceptional landscapes are protected against urbanisation and intended for the enjoyment of the coming generations.

6.2 Strategy

The strategy framework was prepared on the basis of broad consultation among the key stakeholders in the region, which was carried out within the horizontal *Imagine* project – SPSA Systemic and Prospective Sustainability Analysis. The strategy results from the identified key problems or weaknesses of the present situation and the defined vision or situation which, in the opinion of participants, should be achieved by 2015.

Key problems or weaknesses

- marked phenomenon of littoralization, i.e. concentration of population and activities on limited coastal strip, resulting in spatial conflicts, competition for space, degradation of nature, ecosystems, cultural heritage, exceptional landscapes and other undesired incidents;
- municipal infrastructure is not completed – wastewater treatment, waste management, drinking water supply – which all burdens natural resources, in particular water and the nature and endangers the biodiversity;
- the region is exposed to transport overburdening and the related problems, such as traffic jams and congestion, air pollution, spatial degradation, high consumption of natural resources, poorly developed public passenger transport as well as local road network in remote parts of the region;
- uneven population density, emptying of remote rural areas;
- except in the coastal strip, tourism is underdeveloped, potentials in the hinterland of Slovenian Istra, Kras and Brkini remain unexploited;
- insufficient inter-municipal co-operation in the field of development programming and spatial planning;
- low awareness of development institutions and policy-makers about long-term environmental impacts of development plans, which makes difficult the optimisation of development decisions; the influence of local population in decision-making is too weak;
- despite the restricted coast, degradation of marine and coastal ecosystems and landscape qualities continues.

Key strategic directions

- strengthening the sustainability of key economic activities – tourism and transport;
- reduction of environmental pressures (water, air);
- improved protection of cultural heritage and valuable natural features, preservation of biodiversity;
- ensuring the sustainable spatial development for greater competitiveness and higher quality of life in the region, in particular through the concentration of urban potentials and a more proportionate urbanisation in the region.

The following horizontal elements of the strategy are of key importance for successful implementation of the programme:

- promotion of innovation at all levels of development;
- establishment of the flow of information between the programmes at the cross-border, national, regional and local levels (in particular between the National Environment Protection Action Programme, National Development Programme, regional development programmes, local environment protection programmes and municipal spatial plans);

- strengthening the management structure and co-ordination mechanism at the regional level and between the national and regional levels;
- strengthening the information and public participation; and
- strengthening the role of science and research sphere.

The priority areas comprise the following strategic management objectives:

Priority area 1: Strengthening the sustainability of key economic activities – tourism and transport

Sustainable tourism development

Objective 1: To strengthen the sustainability of tourism development as an element of quality management; to reduce the environmental impacts of tourism.

Development of transport in line with the environmental requirements

Objective 2: To establish a system of sustainable mobility in the region.

Objective 3: To reduce the environmental impacts of the port, maritime activities and increase the safety of marine transport.

Priority area 2: Reduction of environmental pressures (water, air)

Objective 4: Efficient protection of water sources and reduction of water pollution.

Objective 5: To establish an integrated system of waste management.

Objective 6: To increase safety from climate changes, natural and other disasters.

Priority area 3: Protection of cultural heritage and valuable natural features, preservation of biodiversity

Objective 7: To ensure efficient protection of cultural heritage, valuable natural features and biodiversity.

Priority area 4: Ensuring the sustainable spatial development for greater competitiveness and higher quality of life in the region

Objective 8: To increase the competitiveness of the region.

Objective 9: To improve the quality of life in the region.

Objective 10: To ensure the sustainable spatial development of the coastal area.

6.3 Expected Effects of the CAMP Slovenia

Sustainable tourism development will contribute to a more even distribution of tourist activities, prudent spatial planning of tourism capacities on the coast (in the framework of the existing settlement areas); closer integration of tourism and a more efficient management of tourist destinations, development of infrastructure for sustainable tourism development; and reduced burdening of the environment and natural resources resulting from tourism. In addition, it will enhance the contribution of tourism to the overall development, in particular in Kras and Brkini areas, and it will contribute to a more efficient integration and management of protected areas and cultural heritage.

Establishment of sustainable mobility will lead to the reduction of transport environmental impacts (noise, air pollution, degradation of valuable spatial features, historical town centres and the nature, lower consumption of non-renewable energy resources). Positive impacts will be visible especially on the coastal strip where at present transport is one of the main generators of environmental pollution and degradation of natural goods and cultural heritage. It will contribute also to improved mobility of the segment of population who cannot use cars (the old and the young), and at the same time lower the price of mobility for individuals and at the community level and release the financial resources for development purposes. Integration of transport systems and establishment of logistic centres will rationalise traffic flows, enable better transitivity between different systems, thus increase the transport efficiency, lower the costs and mitigate the environmental impacts of transport.

The measures related to the **reduction of environmental impacts of maritime activities and the safety of maritime transport** will increase the safety of maritime transport and

reduce the environmental impacts of the Port of Koper, as well as contribute to the improved coexistence of port activities and local communities.

The measures for **reduction of environmental pressures** will reduce the impacts on aquatic environment, especially through the implementation of an extensive and financially exceptionally demanding programme of the construction of infrastructure for wastewater treatment and through the implementation of other measures within the framework water and Adriatic aquatic area management plan. The measures in the field of waste management, in particular in relation to the establishment of CERO – a system of integrated waste management in the region, remediation of old burdens (registration and rehabilitation of illegal landfills), regulation of waste management on the coast (stranded waste, waste in municipal moorings), information, awareness raising and public promotion will contribute significantly to the reduction of environmental impacts.

The measures within the priority area of **Efficient protection of cultural heritage and valuable natural features, preservation of biodiversity** will contribute to the integration of protected areas, their inclusion in tourist offer and thus to a more efficient management and consequent protection of valuable natural features, biodiversity and cultural heritage (establishment of protected areas management system, biodiversity monitoring systems, restoration of degraded natural areas, development of tourist products in relation to the environmental protection).

The measures within the priority area **Sustainable spatial development for greater competitiveness and higher quality of life in the region** will lead to a harmonised polycentric development of settlements, closer integration and co-operation between the towns in cross-border area (at the sub-regional level) and between urban and rural areas and to the improved quality of life in the region, while consequently, strengthening the sustainable communities, the regional identity and attractiveness.

The **administrative structure supporting the process of integrated coastal area management** will be based on the operation of the Regional Development Agency, aimed at the strengthening of partnership, monitoring of the state of the environment and space through the involvement of the government representatives and the establishment of project partnerships, which will supervise the implementation of the key projects arising from the programme.

7. Action Plan

7.1 Priority Areas and Programmes

The action plan was prepared on the basis of set objectives. Each of the above-listed objectives represents the basis for the formulation of a programme comprising measures and a proposal of activities and projects, which will lead to the attainment of the set objectives. The key programmes of the present document are:

Priority Area 1: Strengthening the sustainability of key economic activities – tourism and transport
Programme 1: Sustainable tourism development
Programme 2: Sustainable mobility in the region
Programme 3: Environmental protection and maritime activities

Priority Area 2: Reduction of environmental pressures (water, air)
Programme 4: Protection of water resources and reduction of water pollution loads
Programme 5: System of integrated waste management in the region
Programme 6: Protection against natural and other disasters, including the climate change

Priority Area 3: Efficient protection of cultural heritage and valuable natural features, preservation of biodiversity
Programme 7: Management of cultural heritage, valuable natural features and biodiversity, and their integration in development processes

Priority Area 4: Ensuring the sustainable spatial development for greater competitiveness and higher quality of life in the region
Programme 8: Guidance of spatial development in support of greater competitiveness of the region
Programme 9: Improved quality of life in the region
Programme 10: Spatial planning for the sustainable coastal area development

7.2 Visions, Objectives and Measures by Priority Areas

Priority Area 1:
Strengthening the Sustainability of Key Economic Activities –
Tourism and Transport

Programme 1: Sustainable Tourism Development

Vision:

By 2012, tourism in the region will be recognised as a “Pearl Treasure of the Northern Mediterranean”, consisting of a visible offer of cultural, ecological and marine tourism and distinguished by exceptional care for these values.

During this period, tourism in Slovenian Istra, Kras and Brkini will become appreciated in the world for high-quality and diverse tourist programmes and services, the contribution of tourism to the quality of life, the respect of biodiversity on the land and in the sea and exceptional care for valuable natural and cultural features, creating a Mediterranean identity of the region. The main products of the border region between Slovenia, Italy and Croatia will be nautical sports, wellness and mundane business tourism in combination with diverse cultural, natural and man-made sights, among which there are the world-renowned Lipica, Škocjan Caves, nautical sports events along with good infrastructure and mundane business tourism.

The region of South Primorska is very diverse as regards the natural, cultural and socio-economic features of Slovenian Istra, Kras and Brkini. In order to give due consideration to their special characteristics, which is of great significance for sustainable tourism development,

the programme was prepared at the regional level, defining common goals and directions, and at the sub-regional level, exposing specific interests of Slovenian Istra, Kras and Brkini.

Objectives:
- Increased competitiveness of tourist offer, and
- Reduced environmental impacts and contribution of tourism to sustainable development.

In order to strengthen sustainable characteristic of tourism in South Primorska, as well as to increase its competitiveness, it will be necessary to improve the organisation of tourism in managing cross-border tourist destination/destinations, to diversify tourist offer with the development of tourist and support infrastructure and services (particularly those strengthening the sustainable characteristic of tourism), to raise the quality of tourist offer with the introduction of quality promotion programmes, to reduce negative environmental consequences of tourism development, to develop new forms of marketing, supported by modern telecommunications, as well as to strengthen the commitment of tourist sector to the sustainable development of the area. The reduction of structural disparity between intensive offer of the seaside resorts and the areas of the Slovenian Istra, Kras and Brkini (more coherent spatial distribution and economic diversification of tourism) is here of particular importance.

Measures:
1. Regional/destination tourism management organisation;
2. Improvement of tourist infrastructure;
3. Development and marketing of new tourist products and services and improvement of the quality of the existing ones;
4. Promotion of the high-quality tourism and reduction of the environmental impacts of tourism activities; and
5. Partnership for sustainable development.

Measure 1:
Regional/destination tourism management organisation

Objective:
- Establishment of regional/destination tourism management organisation.

In accordance with the Regional plan and guidelines of Slovenian tourism for the period between 2007 and 2011, a more effective organisation of the destination will be established in order to develop common products and comprehensive marketing by linking local actors from public, private and non-governmental tourism sectors within a joint destination management organisation. It will be necessary to take a decision whether to establish a common organisation covering the whole region or an organisation at the level of tourist (sub)destinations (the Kras – with a close link with cross-border part of the Kras; the Slovenian Istra), in which the communities of the Kras are interested. The new destination organisation will ensure greater effectiveness in the development of common products, comprehensive marketing by linking local actors from public, private and non-governmental tourism sectors, systematic participation of the sector in the management of public affairs with the objective to increase quality and competitiveness of the tourist destination as well as joint action for sustainable development of the area.

Activities, projects:
- Definition of a recognisable tourist destination;
- Establishment of regional/destination tourism management organisation; and
- Strengthening the functions of tourism management organisation.

Holder:
- Ministry of the Economy

Participants:
- Municipalities, tourist companies, National Tourist Organisation, local tourist organisations

Measure 2:
Improvement of tourist infrastructure

Objectives:
- Strengthening the sustainable nature of the offer; and
- Increase in the value added in tourism.

Within the framework of this measure, the following activities and projects will be carried out: investment activities related to the offer of smaller tourism providers, especially various guesthouses and boarding houses in the countryside in smaller places within the region, construction of cycling and walking paths as support infrastructure providing the visitors with the possibility of recreation and rest, investments in the construction of new and bigger tourist resorts in combination with man-made and natural sites of special interest (attractions) in touristically less developed areas of the region. It is necessary to establish a network of services, which will also provide the users with other possibilities for relaxation (pubs, farm tourism, souvenir sale, sports parks, guided tours), to ensure additional tourist and other information signalisation, investment in renovation and use of downgraded areas, existing buildings and cultural heritage for the purposes of tourist services.

Activities, projects:
- Preparation of investment and project documentation;
- Construction of tourist infrastructure;
- Water-front promenade and Izola-Portorož recreational axis; creation of integrated offer through the integration of support infrastructure facilities along the axis;
- Revitalisation of abandoned buildings for tourist purposes;
- Investments in small accommodation facilities, especially in the countryside;
- Upgrading and maintenance of thematic paths (promotion of public-private partnership);
- Upgrading of sports tourist infrastructure (promotion of public-private partnership); and
- Promotion of public-private partnership and planning of investments in tourist infrastructure and the means of financing.

Holders:
- Municipalities

Participants:
- Tourist companies, local tourist organisations

Measure 3:
Development and marketing of new tourist products and services and improvement of the existing ones

Within the framework of this measure, priority will be given to the implementation of the following activities: it is necessary to clearly define the tourist products and strengthen the marketing of “experience/emotion” instead of “material” offer, establish joint planning of marketing activities for higher marketing efficiency (overcoming the local fragmentation), as well as a joint use of marketing tools or their combinations (at present, the tourist companies perform their own marketing), new marketing segments will be defined in development documents, as the existing ones are no more consistent with the offer and trends in tourist market, marketing objectives, which are at present hardly measurable, will be clearly defined to improve the marketing efficiency, monitoring of marketing results will be established, the use of modern communication and marketing channels will increase, more financial resources will be earmarked for marketing (in particular on account of construction/development of new products and services), greater emphasis will be put on knowledge in the preparation of efficient marketing and preceding organisation of market offer in the field, as at present many marketing promises remain unfulfilled.

Activities, projects:
- Development of the sites of special interest from the given natural and cultural resources and/or man-made attractions;

- Establishment of new tourist products in connection with the countryside, archaeological, historical, architectural, landscape and natural heritage, in connection with traditional economic sectors (agriculture, trade, fishery, etc.);
- Strategic and implementation marketing plan and development of sustainable tourist products and services of the destination/sub-destination;
- Promotion of sustainable policy of the destination/subdestination and specialised programmes: maritime, cultural, ecotourism;
- Strengthening marketing and other activities at the cross-border level to increase the accessibility of the destination for global guests who enter destination from neighbouring harbours (Trieste, Rijeka, Pula) and from the airports (Trieste, Rijeka); and
- Upgrading and specialisation of specific eno-garstonomic offer.

Holders:
- Municipalities

Participants:
- Tourist companies, local tourist organisations

Measure 4:
Promotion of high-quality tourism and reduction of environmental impacts of tourist activities

Successful development of tourism from the business point of view, as well as from its environmental acceptance depends on appropriate level of quality of tourism providers and co-ordinated offer at a level of tourist destination, including the subjects that are connected with tourism. Within the framework of the measure, activities and projects will be carried out aimed at the raising of quality of the existing tourist products, services and infrastructure (obtaining quality certification, establishing trademarks, etc.). Within the framework of the quality in tourism, special attention will be paid to environmental programmes reflecting the commitment of tourist actors to the principles and objectives of sustainable development. In the world, as well as at the EU level, instruments to support these efforts exist, e.g., Blue Flag, environmental codes, the European eco label and the systems of environmental management: ISO standards 140000, EMAS scheme (improvement in environmental performance of organisations and providing the public with the relevant information). Unfortunately, these instruments are not appropriately implemented in the field of tourism in the area of South Primorska. The problem lies in the lack of knowledge, support structures and experience with the exception of the Blue Flag for bathing sites and marinas, which is known and implemented in the area.

Activities, projects:
- Support to quality promotion programmes;
- Introduction of tourism quality promotion programmes;
- Promotion of ecological programmes; and
- Introduction of environmental labelling and ecological management.

Holders:
- Regional Development Centre Koper, tourist companies

Participants:
- Ministry of the Environment and Spatial Planning, Ministry of the Economy, tourist companies, local tourist organisations

Measure 5:
Partnership for sustainable development

So far, the tourism economy has not been sufficiently active in public dealings, which have important consequences also in the development of tourism itself. Here, we particularly highlight the area of spatial planning, traffic control and management of protected areas of natural and cultural heritage. The situation has been changing in the recent years, as also in the field of tourism they are becoming more and more aware of the importance of co-operation for raising the quality of tourist destination. An example of such a co-operation is the established partnership in Kras as well as in the community of Piran, where the main

tourist actors have prepared, on their initiative and in co-operation with the community, a joint view of tourism development in the future. The initiative should be further developed and substantially upgraded as well as territorially expanded. Within the framework of the CAMP project, the evaluation of the Carrying Capacity Assessment (CCA) of the environment for tourism was carried out for the area of the Slovenian Istra with the first range of indicators, which show the present situation. The list of the basic indicators should be upgraded and a continuous system for monitoring the indicators of sustainable development should be established, if possible, in the Slovenia-Croatia-Italy cross-border area.

Activities, projects:
- Establishment of the systems for monitoring and measuring sustainable development of tourism on the basis of sustainable development indicators;
- Carrying out assessments of the environment carrying capacity for tourism;
- Establishment of the co-operation of tourist actors in the promotion of public dealings, which are important for the quality of tourist destination: planning the public open spaces and greenery, sustainable mobility, spatial planning, etc.;
- Co-operation in the field of employment, training and education for tourism; and
- Joint awareness-raising actions for target groups.

Holders:
- Municipalities, local tourist organisations, tourist companies

Participants:
- Tourism providers

Due to the diversity of South Primorska there is a need for a differentiated approach to the guidance of tourism development in the areas of the Kras, Brkini and the Slovenian Istra.

Programme 2: Sustainable Mobility in the Region

Due to its geographical position and the location on the 5th European Corridor, South Primorska is exposed to intense traffic flows. The current transport infrastructure, the framework of which consists of road and railway networks, the Port of Koper and the Portorož Airport, is well developed. However, the exposure to traffic causes increasingly obvious problems in the region. Passenger car traffic is increasing and it has already reached a level at which it is becoming problematic from the environmental as well as economic point of view, especially in the coastal area. Public transport is poorly developed and does not represent an alternative to the passenger car traffic.

Measure 1:
Establishment of effective sustainable mobility system in the region

Objectives, projects:
- to improve the accessibility of transport services to a larger circle of users;
- to reduce the costs related to mobility for local communities and individual users;
- to increase road safety;
- to reduce environmental impacts of transport;
- to contribute to the reduction of dispersed settlement, revitalisation of the cities and better spatial planning; and
- to reduce or prevent the increase in mobility demand, which can be achieved by wise location of activities and other measures in the field of spatial planning, as well as through the improved information and communication infrastructure.

Establishment of an effective system of sustainable mobility will be based on a regional approach. Partnership between neighbouring regions/provinces (Friuli-Venezia Giulia, the Region of Istra) and within the region (the communities of South Primorska) will be established and an agreement will be reached on the objectives and tasks of the measure, joint actions and activities carried out by particular partners, forms of co-operation and project financing. All the necessary studies and expert groundwork will be prepared, integration of spatial and transport planning within the framework of new spatial plans will be carried out, a part of the infrastructure for sustainable mobility (bus stops, inter-modal transport terminals, parking places, traffic routes, infrastructure for non-motorised transport –

walking paths, cycling network, information system – logistics support system for managing public passenger transport, etc.) will be built; the intermodality of the public passenger transport will provide for the integration of different systems; parking lots, places for entry and exit of passengers, bicycle rentals, taxi services and information service for passengers will be arranged at the public transport hubs, thus including the personal cars into the public transport system; national and municipal supporting measures will be established (such as a uniform ticket for the entire public transport system) and awareness-raising actions will be implemented in order to change the transport habits.

Activities, projects:
- Preparation of investment documentation;
- Adaptation of municipal spatial plans in order to facilitate the introduction of sustainable mobility;
- Preparation of the priority investments programme;
- Preparation of project documentation;
- Implementation of priority investments – infrastructure for sustainable mobility: cycling paths, walking paths; and
- Carrying out the promotion actions in order to popularise the use of public transport among the general public.

Holders:
- Municipalities, consortium

Participants:
- Providers of public transport

Programme 3: Environmental Protection and Maritime Activities

Due to its strategic position in the extreme northern part of the Mediterranean there is a growing increase in maritime transport, especially freight transport in the harbours of Koper and Trieste in the North Adriatic (the index of growth of physical volume of transport in the Port of Koper between 1996 and 2006 is 214). With the increase in maritime transport its environmental impacts are exacerbating as well as the navigational safety. Because of its particular activity, the Port of Koper is facing problems such as spatial extension and environmental problems, particularly air pollution because of the open bulk cargo terminal and related conflicts with the surrounding local communities, the problems with disposal of dredged material, the problems with marine pollution, etc. The complexity of environmental issues in a system such as the Port of Koper demands effective management also in the area of environmental protection. The projects planned in the Port of Koper and other maritime activities, such as the construction of the Pier 34 and the passenger terminal, extension of marinas, passenger piers in Izola and Piran and the like max endanger the implementation of the basic objectives of the sustainable development; therefore, it is necessary to carry out appropriate expert assessments (e.g., Strategic Environmental Impact Assessment – SEA, preparation of appropriate expert groundwork) in order to design the projects in such a way as not to threaten the basic objectives of the sustainable development.

Measure 1:
Management of the environmental problems of maritime activities

Objectives:
- to reduce environmental impacts of port and other maritime activities;
- to improve management in the field of environmental protection; and
- to reduce conflicts with the surrounding local communities.

Under this measure, the Port of Koper will carry out certain actions, which will contribute to the reduction of the environmental impacts, particularly covering the terminal of bulk cargo, effective management of waste, marine pollution (in co-operation with the State). It will also upgrade the efficiency of management in the area of environmental protection (the Port of Koper has already established a management system in the field of environmental protection according to the ISO 14001 Standard for all port activities). It will carry out appropriate

activities for environmentally acceptable management of dredged material. Within the framework of environment management it will strengthen communication with the public and relations with the surrounding local communities. Within this measure, expert groundwork and Environmental Impact Assessments (EIA) will be prepared also for other planned maritime activities.

Activities, projects:
- Preparation of expert groundwork and assessments (including an integrated Environmental Impact Assessment - EIA);
- Preparation of a detailed plan for the Port of Koper area;
- Preparation of project documentation;
- Implementation of investments: covering the bulk cargo terminal;
- Strengthening the management in the field of environmental protection;
- Preparation of a feasibility study on the issues related to dredged material; and
- Establishment and strengthening the communication with the public and local communities.

Holder:
- Port of Koper

Participants:
- Ministry of Transport, Municipality of Koper, local community

Measure 2:
Reduction in the environmental impacts and increase in the maritime transport safety

Objectives:
- to increase the safety of maritime transport;
- to improve the transport management; and
- to reduce the risk of oil spills and other hazardous substances.

Today, maritime transport represents more than 90% of the world's trans-oceanic freight transport. In the case of the European Union, traffic on water represents more than 80% of foreign trade and about 40% of domestic trade. The trends indicate that maritime transport will further increase its role on the global as also local level.

The Gulf of Trieste represents the final point of the Adriatic navigational route and it is a good starting point for land routes to Slovenia and Italy and further to other Central European countries. Cargo transport in the Gulf of Trieste is carried out by three main harbours: Koper, Trieste and Monfalcone. There are also some smaller ports intended mainly for passenger transport. In Slovenia, such ports are in Izola (passenger and fishing boats, and shipyard for repairs) and in Piran, including Portorož, where mostly passenger transport is carried out, but also some cargo transport for the needs of the Droga company.

It is worth mentioning that in line with the traffic separation scheme, ships travel towards the ports of Koper, Trieste and Monfalcone through the Slovenian part of the Adriatic Sea and back on the Italian side. Therefore, practically all transport to the above-said ports goes through the Slovenian part of the Adriatic Sea.

Dense shipping of hazardous substances can be confirmed by the data that in 2005, 220 oil tankers entered the Port of Koper and 450 to the port of Trieste, which means two oil tankers per day. In 2005, the total number of ships reaching the Port of Trieste was 3,300, the Port of Koper 2,651, while the Port of Venezia recorded 10,000 ship movements. During the tourist season, the traffic of 11,000 vessels was recorded only in the area covered by the Slovenian Maritime Administration. The entire Gulf of Trieste hosts also a significant number of fishing boats. In the future, with the construction of the planned Sea Motorway, increased maritime transport can be expected. Moreover, the construction of liquefied natural gas (LNG) terminal would additionally increase the maritime transport.

Holders:
- Faculty of Maritime Studies and Transport, University of Ljubljana

Participants:
- Slovenian Maritime Administration

Measure 3:
Establishment of decision support system for ballast water management in the Slovenian part of the Adriatic Sea

Objective:
- reduced environmental loading resulting from the input of harmful organisms.

When a ship sails empty or only partly loaded, it needs additional burdening, thus ensuring safe navigation. The matter used for this purpose is called ballast. In the past, sand, stones and the like was used for this purpose. At the end of the 19th century, they started to fill freight depots or special reservoirs (ballast reservoirs) with water (ballast water).

Research has proved that various species of bacteria, plants and animals survive in ballast water and sediment even on several month travel. Therefore, a risk exists that ballast water and sediment filled in at one port and discharged at the other contains non-indigenous species and harmful and/or pathogenic organisms.

A number of instances were recorded in the world having harmful impacts on human health, the environment and the economy, some of them with catastrophic and irreversible consequences. Such incidents call our attention to the fact that another burning problem will be added to the list of global environmental changes resulting from human activities.

Therefore, introduction of the regime of ballast water exchange for all vessels with no regard to specific local characteristics is hazardous. In addition to inefficiency, it can aggravate the marine transport safety and increase its cost. An alternative to this rigid approach may be the so-called selective approach, based ballast water management by the means of ballast water decision support system, which presumes the adjustment of action intensity for each ship in accordance with the assessed risk level of harmful input.

Under this measure, adequate studies will be carried out on the basis of which the measures of ballast water management will be introduced, while taking into account the feasibility and the maritime transport situation in Slovenia and with due consideration of climate changes.

Holders:
- Faculty of Maritime Studies and Transport, University of Ljubljana

Participants:
- Slovenian Maritime Administration

Measure 4:
Sampling of the sea water near the ports for the identification of non-indigenous species

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Priority Area 2:
Reduction of Environmental Pressures (Water, Air)

Programme 4: Protection of Water Resources and Reduction of Water Pollution Loads

The main source of marine pollution is imperfectly treated urban wastewater from the wastewater treatment plant of Koper, which flows into the downstream part of the Rižana river, apart from that some wastewater from the hinterland and the industry flows into the Rižana and the Badaševica rivers. The situation is particularly critical in summer with a low rate of water flow of rivers and high temperatures, when the results at the river mouth of the Rižana and the Badaševica rivers show anaerobic processes. The potential danger is presented by the transport over the areas of the resources of drinking water since the protection of these resources is not appropriately solved (which is within the competence of the state). Despite the issues related to the drinking water supply, especially in summer, promotion of saving drinking water and the use of alternative water resources is not appropriately solved.

Measure 1:
Construction of sewage system and wastewater treatment plants in the Reka river basin and Slovenian Istra

Objectives:
- to ensure compliance with the requirements of achieving good chemical status of surface water and groundwater by 2013;
- compliance with requirements concerning prescribed quality standards of surface water and groundwater (meant for drinking water supply of the general public);
- prevention of eutrophication of surface water in the sensitive areas; and
- compliance with the requirements concerning environmental quality standards of surface water which apply to bathing waters.

Under this measure, project documentation will be prepared and investment made for the construction of wastewater treatment infrastructure on the basis of municipal operative programmes focused on the period 2005-2007 and appropriately updated later.

Activities, projects:
- Preparation of project documentation; and
- Investment implementation – construction of wastewater treatment infrastructure.

Holders:
- Ministry of the Environment and Spatial Planning, municipalities, project teams

Measure 2:
Promotion of drinking water saving and the use of alternative water resources

Objectives:
- to ensure reliable supply of wholesome drinking water;
- to enable reserve water resources;
- rational water consumption; and
- use of rain water where low quality water is considered appropriate.

Under this measure, studies will be carried out to identify the possibilities for the use of rain water and small local sources as the sources of drinking water for other uses, in households, agriculture and industry. Some demonstration projects will be implemented to present the use of alternative sources and rational water consumption. Management and protection of local water resources will be improved and guidelines will be prepared for the use of rain water, small water sources retained and secondary waters. Measures will be taken to reduce the load and volume of wastewater (population, industry and agriculture). Drinking water supply in settlements, which so far have not been connected to public water supply, will be regulated. Modernisation of water supply systems will be carried out to reduce losses and asbestos-cement pipes will be removed.

Activities:
- Analysis of the possibilities for rain water collection and the use of small water sources;
- Preparation of guidelines for the use of rain water and small water sources; and
- Promotion and demonstration projects.

Projects:
- Preparation of investment and project documentation;
- Implementation of investments into water supply network; and
- Implementation of investments into the modernisation of water supply systems (removal of asbestos-cement pipes).

Holders:
- Municipalities, public utility services

Participants:
- Local communities, companies, non-governmental organisations

Programme 5: System of Integrated Waste Management in the Region

Filled-up landfill sites present one of the main problems in the communities of South Primorska. The communities have signed a co-operation agreement in which they committed

themselves to manage the waste in their area according to the joint starting points, guidelines, scientific bases and projects within the GOJUP consortium.

Measure 1:
Reduction of waste disposal environmental impacts

Objectives:
- regulated system of waste management in the region;
- increase in the volume of separately collected waste; and
- provision of space for waste disposal.

Under this measure, introduction of separated waste collection at source, regulation of collection points (eco points) and regulation of collection centres at the level of individual municipalities will continue. Two regional waste management centres (CERO) will be established:

- **Regional CERO Koper** in the area of Sermin, where the processing of separately collected fractions will take place in the following facilities: sorting facility, compost site, dismantling of bulky waste and household appliances, collection centres and a loading station.
- **Regional CERO**, where mechanical and biological processing of the rest of the waste will take place and the preparation for further substantial use with the objective of a maximum substantial use. Smaller part of stabilised rest of waste is then safely deposited.

The location of the second waste management centre will be defined. The location process is based on the study of natural features of the areas in all communities suitable for the construction of such a centre prepared by the Geological Survey Institute of Slovenia and in line with social acceptance of the proposed areas. At present, public presentations of these potential locations are taking place in local communities.

Activities:
- Analysis of the situation and overview of the possibilities and opportunities for determining the location of regional waste disposal site; and
- Preparation of project and other documentation for the construction and operation of the landfill site.

Projects:
- GOJUP – integrated waste management project

Holders:
- Municipalities, GOJUP Consortium

Measure 2:
Establishment of waste management in moorings and regulation of stranded material disposal

Objectives:
- regulated system of waste management in municipal moorings; and
- regulated system of stranded material disposal.

The problem of waste in municipal moorings used by the local population is not regulated. Stranded material presents another problem, in particular on natural beaches, which do not have a manager and a monitoring programme. Under this measure, a joint programme of waste management will be prepared, including the monitoring, and a project will be implemented to solve the problem of stranded material and also the litter left behind by tourists on the sea shore and beaches. In the world, approaches and methodologies to solve such problems are well known; therefore, it would be appropriate to introduce them also in our situation.

Activities, projects:
- Joint plan of waste management and control in moorings; and
- Establishment of stranded material disposal programme.

Holders:
- Ministry of the Environment and Spatial Planning, municipalities, public utility companies

Participants:
- Non-governmental organisations, Marine Biology Station Piran

Priority Area 3:
Efficient Protection of Cultural Heritage and Valuable Natural Features, Preservation of Biodiversity

Protection of cultural and natural heritage is within the competence of the State. Regional partners can deal with the issues related to the protection of valuable natural features and cultural heritage through participation in integration of natural and cultural potentials of the region within the management systems, pursuing the following objectives:

- development of tourist products in relation to protected areas and cultural heritage;
- harmonisation of protected areas management regimes;
- preparation and implementation of joint projects (development of tourist destinations, thematic paths);
- joint promotion and awareness raising of residents and visitors; and
- preservation and strengthening the regional identity.

Programme 7: Management of Cultural Heritage, Valuable Natural Features and Biodiversity, and Their Integration in Development Processes

Measure 1: Establishment of management and integration of protected areas

Valuable natural features and cultural heritage, potential activities and offer for visitors of individual protected areas have not been presented as a whole so far, although it would be reasonable to connect them and offer the visitors diverse experiences and perception of values and heritage from the sea to the hinterlands, where only the indirect influence of the sea can be felt. In this way, the visitors would be offered better tourist products and services, while the managers of tourist areas would organise their activities in an easier way and present them more efficiently to tourists.

As stipulated by the National Development Plan 2007-2013, sound integration of natural and cultural potentials (including their preservation, but also used for economic purposes) is important from the following two points of view:

- high-quality living environment is a condition for the quality of living and competitive economy; and
- appropriate integration of environmental factors enables the development of new business opportunities in tourism, culture, sport and other related activities.

Under this measure, management of protected areas will be established, in co-operation with the State, where the issue has not been regulated yet (e.g., Strunjan Landscape Park, Kras). Management plans will be prepared and closer co-operation will be set up between the managers of protected areas in the fields of the development of tourist products, promotion and education.

Activities, projects:

- Arrangement of active protection of protected areas;
- Preparation of management plans;
- Implementation of integrated environmental impact assessments (e.g., for the utilisation of wind power in the area of Kras);
- Integration and joint promotion of protected areas;
- Renewal of architectural and urban heritage; and
- Establishment of educational system.

Holders:

- Ministry of the Environment and Spatial Planning, Ministry of Culture

Participants:

- Municipalities, local communities, tourist actors, non-governmental organisations

Priority Area 4:
Ensuring the Sustainable Spatial Development for Greater Competitiveness and Higher Quality of Life in the Region

The priority area is directed towards the attainment of two basic objectives:
- to increase the competitiveness of the region; and
- to improve the quality of life in the region.

Programme 8: Guidance of Spatial Development in Support of Greater Competitiveness of the Region

Settlement patterns in the region are diverse – from dispersed settlement to urban centres and towns with rich historical and cultural traditions. The centre for regional urban network is Koper within the Koper-Izola-Piran conurbation. Other centres of regional significance are Sežana and Ilirska Bistrica. The urban network consists also of other significant local centres (most of them are in coastal municipalities) and small local centres. The urban network is adequately developed; however, some imbalances exist in the coastal municipalities due to the lack of significant local centres in the hinterland and in Kras and Brkini hinterland where some centres should reinforce, thus improving the access to urban functions and decreasing the pressure on the coastal strip. In the last forty years, urban expansion, economic activities and infrastructural development are concentrated on the coastal strip. The demand for real estate is growing, especially in Slovenian Istra and recently also in Kras. Towns and other urban settlements in the region of South Primorska are small in comparison with cross-border urban centres and their urban potential is modest. The entire Northern Adriatic area has not yet taken the advantage of its strategic position.

Measure 1:
Efficient spatial planning through regional support activities

Objectives:
- to establish a balanced urban network at the cross-border/regional level through the concentration of urban potentials;
- to mitigate the urbanisation pressure on the coastal strip;
- to strengthen the competitiveness and the visibility of the cross-border urban area: and
- to increase the efficiency of spatial planning.

Under this measure, the activities will be directed towards the improvement of development potentials and better visibility of towns and other settlements in a wider area through interconnection and co-operation within the urban network, based on closer co-operation and integration of urban centres (in cross-border region) into networks, and joint and harmonised activities. Within this framework, it is essential to reach agreements in relation to settlement guidance, provision of infrastructure, harmonisation in relation to infrastructural integration, organisation of joint events, marketing of towns, etc.

Some activities will be directed towards dealing with littoralization and a more coherent spatial development in the region. Littoralization can be mitigated by conscious enabling of development in the hinterland (in particular in the centres of national significance and significant local centres: housing, economic zones and in parallel also supply and service activities). Co-operation will be required here in the preparation of expert groundwork, which will lower the costs and strengthen the orientation towards common goals in the region. Preparation of new municipal spatial plans will be based on the principles of sustainable development. The municipalities do not have an effective tool for the accomplishment of these principles (in spite of the fact that the rules have been set by the Spatial Order of Slovenia, there is a lack of support instruments, such as indicators, specific assessments, etc.). Some municipalities, in particular the small ones, are faced with weak human resources and ICT infrastructure for efficient tackling the requirements of spatial planning. The latter is most distinctive in rural areas.

In order to strengthen the competitiveness of towns and settlements or the urban network in the wider EU context, it is necessary to establish closer co-operation with cross-border towns, especially Trieste, Gorizia, Rijeka and the towns in Croatian Istra.

Activities, projects:
- Strengthening the co-operation and integration with the towns in the cross-border region
- Organisation and implementation of joint events
- Joint marketing of towns
- Harmonisation of the guidance of key spatial activities (housing, business zones, supply and service activities of regional significance, infrastructure)
- Integration of infrastructure systems
- Co-operation in the preparation of expert groundwork for municipal spatial plans
- Development of common instruments in support of spatial policy

Holders:
- Municipalities

Participants:
- Cross-border municipalities and regions/counties

Measure 2:
Strengthening the competitiveness of rural areas through the high quality of living

Four Rural Development Programmes were prepared in the region (for the area of Koper, Izola, Piran; the area of Divača, Hrpelje-Kozina, Sežana, the area of Komen, Vipava, Ajdovščina and the area of Ilirska Bistrica, Pivka, Postojna). The sub-programme "Rural Areas, Agriculture, Fishery and Forestry" of the Regional Development Programme of South Primorska refers to the areas of eight municipalities (Koper, Izola, Piran, Divača, Hrpelje-Kozina, Sežana, Komen in Ilirska Bistrica); it upgrades the content of the four Rural Development Programmes, which were being prepared at the same time for the areas of twelve municipalities (Koper, Izola, Piran, Divača, Hrpelje-Kozina, Sežana, Vipava, Ajdovščina, Komen, Ilirska Bistrica, Pivka, Postojna).

The objectives of this programme are:
- higher value added to products/services;
- preserved number of rural population; and
- rural development on the basis of sustainable agriculture, forestry and tourism.

The measure will be implemented by an organisational structure established for this purpose.

Programme 9: Improved Quality of Life in the Region

So far, towns or settlements in the region do not have integrated programmes of urban environment management with defined short-term, medium- and long-term environmental goals and the action plans for their achievement. In the widest sense, a plan should mean the organisation of all urban matters related to the environment: energy consumption, emission of greenhouse gasses, water consumption, wastewater treatment, sewage, noise, air quality, nature, transport and mobility, spatial planning, risks, sustainable building, health issues, etc. In spite of visible improvements, reserves nevertheless exist in administrative organisation and public utility companies for efficient implementation of environment related tasks. Likewise, there are no integrated plans for the revitalisation of old urban centres facing various problems, such as worsening of the demographic structure, decline in attractiveness for business activities, decrepit building stock and infrastructure, and problems with transport accessibility. In spite of the improvements in recent times, there is still a lot of reserve left in the fields of landscape, urban and architectural design. Similar trends apply to the arrangement of public areas, including the green areas. The aforementioned is of key significance for the improvement of the quality of life in towns and other settlements.

Measure 1:
Urban management for sustainable development

Under this measure, the municipalities will improve urban management by the introduction of suitable standards (ISO 14001, Agenda 21, EMAS). These systems determine the implementation

of the set of environmental goals and programmes, consultation with interested stakeholders, preparation of situation assessments, reporting and continuous improvement; moreover, they define the operational structure, responsibilities, procedures and regular public information; the systems are an instrument for the improvement of environmental management in municipal administrations. Therefore, the systems ensure that the authorities fulfil their environmental obligations and use the resources for the achievement of sustainable development.

Activities, projects:
- Promotion of integrated environmental management of urban and rural settlements;
- Expert background for the implementation of environmental management schemes in selected urban and rural centres; and
- Pilot projects: implementation of environmental management schemes.

Holders:
- Municipalities

Participants:
- Local communities, non-governmental organisations, economic actors

Measure 2:
Overall revitalisation of old urban and rural centres

The measure will be directed towards the preparation of overall revitalisation programmes for urban and rural centres and the commencement of their implementation: investments will be channelled into the improvement of infrastructure, better housing, renewal of cultural heritage facilities, tourism development and other urban services, and renewal of public buildings. The pilot projects of integrated approach to the revitalisation of old urban and rural centres will have a motivational effect on the population and local communities.

Activities, projects:
- Preparation of overall revitalisation projects;
- Strengthening and integration of offer;
- Promotion of towns;
- Renewal of buildings;
- Renewal of public premises; and
- Renewal of infrastructure.

Holders:
- Municipalities

Participants:
- Local communities, non-governmental organisations, economic actors

Measure 3:
Integration and efficient management of green areas

Under this measure, and within the framework of municipal spatial plans, the systems of greenery will be upgraded through the integration of new areas and their functional sub-division. At the same time, green areas will upgrade and expose exceptional landscape qualities of the region (e.g., the coastal strip, characteristic Kras and Brkini settlements). At the operational level, management will improve where the problems have not been suitably regulated. Maintenance of green and recreational areas will improve, in particular in the key areas. The effect of activities under this measure will contribute to a more proper role of the green system in the settlement structure of the region, a more efficient management of these areas, better arrangement of green areas, emphasising the landscape qualities of the region and all in all to a higher quality of living in the region.

Objectives:
- well integrated and maintained network of green and recreational areas;
- active management of the most important green and recreational areas through the promotion of public participation; and
- established co-operation between the managers themselves and between the municipalities and managers to enhance management and exchange experiences.

Activities, projects:

- Preparation of conceptions for green areas within the framework of municipal spatial plans;
- Preparation of project documentation;
- Preparation of management programmes;
- Implementation of investments; and
- Promotion of green areas.

Holders:

- Municipalities

Participants:

- Public utility companies, local communities, non-governmental organisations, universities

Programme 10: Spatial Planning for the Sustainable Coastal Area Development

In the last decades, the coastal area has been exposed to strong development pressures showing in a fast growth of population, urbanisation and development of activities. Use of the sea coast as the juncture of the land and the sea and their axis at the same time (population, tourist, transport, economy, etc.) has had to adapt constantly to the pressures of urban environment and economic interests. The main problems of spatial development and planning of the coastal strip are: inconsistency between the settlement and transport, which is based on the use of automobiles and bringing about the known consequences especially in the coastal strip, stagnating old town centres, frequently unsuccessful control of construction on the coastal strip, endangering of the overall image of he vulnerable landscape, poor regulation and integration of recreational infrastructure (promenades, bathing sites, green areas), competition for space on the coast between different activities (e.g., nautical tourism, including the land areas, and other activities), endangering of the nature and biodiversity, conflicts between the sea uses, presence of degraded areas along the coast, poorly integrated programmes and their weak integration in tourism.

The objectives of spatial development and arrangement of the coastal strip and its influence area are as follows:

- sustainable and environment-friendly development through a harmonised approach based on the comprehension of the coastal strip as a key resource for successful development of tourism and good quality of living, while taking into account the protection of waters, nature, biodiversity, cultural heritage and valuable landscape values;
- development in line with the carrying capacity of the coastal area, on the basis of the defined key indicators;
- disburdening of the coastal strip of all activities which are not directly harmonised with the first-mentioned basic principle;
- establishment of balance between the protection of natural resources, nature and coastal ecosystems, cultural heritage and the economic and social development;
- establishment of the synergy between different, but compatible uses; however, priority is given to the activities directly linked to the sea; and
- spatial development and arrangements adapted to the basic landscape structure of the region, which should become the bearer of the region's visibility and identity.

The programme will be implemented through co-ordination with other CAMP Slovenia programmes, but in particular with the following: Sustainable Tourism Development, Sustainable Mobility, Efficient Management of Cultural Heritage, Valuable Natural Features and Biodiversity, Improved Quality of Life in the Region (particularly in the part relating to the Overall Revitalisation of Old Urban and Rural Centres and Integration and Efficient Management of Green Areas), but also with other programmes, as all of them comprise important elements supporting the above objectives.

The key precondition for the programme implementation in line with the set objectives is spatial planning. The CAMP Slovenia project contributed significant expert background and instruments of spatial planning, which will play an important role:

a) **methodology:** methodology of the implementation of strategic premises in the space environment (planning level, implementation level);

b) **premises and objectives:** strategic premises and objectives of spatial development;

c) **space: perception model:** the division into 5 characteristic spatial units characterises the present conditions in the coastal strip; a qualitative upgrade with individual comprehensive guidelines for its possible physical/spatial reanimation is necessary;

d) **programme: functional model:** guidelines for the distribution of suitable activities in the space environment: the division of the coastal strip into 4 spatial area categories, defined in terms of existent legal regimes, natural preservation of the environment, present and future use of the space environment, and mutually exclusive legal regimes;

e) **detailed conception – development models:** alternative conceptions for coastal strip planning in three selected planning areas;

f) **detailed guidelines:** detailed guidelines for coastal strip planning take into consideration the specific properties and amend the fundamental rules of the Spatial Order of Slovenia;

g) **criteria:** criteria for coastal strip planning or for the evaluation of alternative spatial solutions;

h) **instruments:** preparation of the programme for the implementation of the regional conception – definition of key projects; indicators for sustainable development monitoring of the coastal strip.

The measures within the programme, described in detail above, address some specific topics related to the coastal land and its influence area.

Measure 1:
Arrangement of promenade along the entire coast and rehabilitation of the coast

Objectives:

- to ensure sustainable arrangement of the coastal strip, harmonised with the nature, the exceptional landscape and rich cultural heritage;
- to establish suitable recreational infrastructure (a promenade, which will connect the park infrastructure, town promenades and footpaths along the entire coast);
- to regulate the bathing sites, green areas and other tourist and recreational infrastructure;
- to harmonise the solutions in the field of sustainable tourism, transport, overall revitalisation of coastal towns and other programmes/measures with the effects on the key goals of the coastal strip spatial arrangement; and
- to integrate the programmes for protected areas and cultural heritage into a comprehensive product.

Arrangement of the coastal promenade will ensure the exploitation of exceptional development potentials as well as better protection of the nature, cultural heritage and other potentials. Arrangement of the attractive area along the coast will improve the planning potential of the three coastal towns – Koper, Izola and Piran – and the whole Slovenian coastal area. It will improve the environmental status and the promotion of the heritage. Well considered activities which affect the environment improve the environmental status, contribute to active protection and development of the heritage and enhance its promotion. The coastal promenade will connect the coastal towns. The promenade will represent a backbone to which all other arrangements will be tied. The promenade will consist of a footpath, in some sections suitable also for cyclists and roller-skaters and intervention access. Tied to it will be also beaches, thematic parks and other green and recreational areas (for many target groups from the coastal town and the hinterland): areas intended for tourism development, coastal public urban areas (including the culture premises) and accompanying areas. The promenade will represent a programme enrichment of the coastal town and a quality upgrading of the existing sites and a new offer in the promotion of tourism.

Activities, projects:

- Preparation of expert groundwork;
- Harmonisation of municipal spatial plans;

- Preparation of investment documentation;
- Organisation of tenders and workshops;
- Preparation of project documentation;
- Implementation of investments;
- Preparation of management programmes; and
- Promotion.

The activities and projects will be directed particularly towards the following thematic strands:
- Arrangement of public urban coastal areas;
- Arrangement of green and recreational areas, arrangement of thematic parks;
- Management and improvement of bathing sites infrastructure;
- Presentation of cultural and archaeological heritage;
- Integration of protected areas;
- Municipal moorings and service areas for nautical tourism; and
- Establishment and harmonisation of the sea- and land-use regimes.

Under this measure, close co-operation will be established with other key programmes and measures of the CAMP Slovenia project and the key actors.

Holders:
- (to be defined at a later stage)

Participants:
- The State, municipalities, local communities, non-governmental organisations, economic actors and others

Measure 2:
Adriatic Island and reurbanisation of the surrounding areas

Objectives:
- to construct an island as a complementary programme to the overall arrangement of the eastern part of Izola and the coastal promenade, and the reurbanisation of the areas at the Viližan Bay;
- to strengthen the area's attractiveness for tourism and recreation; and
- to contribute to the solution of the problem of dredged material deposit resulting from the construction of large infrastructure facilities (roads, railways).

Construction of the Adriatic Island is a project listed in the Resolution on national development projects 2007-2013. According to the project, the island will be of 30,000 m^2, comprising various tourist entertainment infrastructure, arranged by thematic areas, catering services and a pier for private boats, as well as additional bathing sites. The island, as the only artificial island in this part of the Adriatic, will become an attractive sight, catching the attention of many visitors. The project will provide about 200 new jobs, variegate the existing tourist offer and create new opportunities for small and medium enterprises, which is supposed to have favourable effects on the economic development of the whole region.

The representatives of the Institute of the Republic of Slovenia for Nature Conservation, Regional Unit Piran, call attention to the potential conflict of the project with the sustainable development objectives and the disburdening of the coastal area.

Considering the above and the fact that the construction of the island is planned at the eastern side of Izola – the Viližan area, which is at present intended mainly for production activities (shipyard, industrial plants) and where land-use changes are foreseen, it is necessary to carefully examine the project and, on the basis of integrated Environmental Impact Assessment (EIA), fully harmonise the project scope, programme and spatial conception with the reurbanisation of the entire area, including the coast between Koper and Izola after the closing of the coastal road (after the construction of tunnel). The project demands utmost sensitivity, otherwise it may endanger the existing spatial qualities and potential, natural processes and values, and cultural heritage. Under this measure, expert groundwork will be prepared, alternative solutions defined and assessed, and investment and project documentation prepared. Special attention will be paid to public participation.

Activities, projects:
- Preparation of a feasibility study;
- Preparation of investment documentation;
- Preparation of expert groundwork;
- Adjustment of municipal spatial plan;
- Preparation of project documentation; and
- Project implementation.

Holders:
- Ministry of the Economy, Directorate for Tourism, Municipality of Izola

Participants:
- Ministry for the Environment and Spatial Planning, Ministry of Transport, Slovenian Tourist Organisation, tourist actors in the coastal area, local communities and non-governmental organisations and other economic actors

Measure 3:
Harmonisation of the sea use and the sea and land management regimes

Objectives:
- harmonisation of the uses and regimes of the inner waters and the territorial sea; and
- harmonisation of the uses and regimes with Croatia and Italy.

Slovenia possesses a very limited maritime area. The land-use conflicts are culminating (transport – navigational routes, fishery and fishing reserves, mariculture, cultural heritage, nature protection, bathing sites, leisure boats, etc.). These activates and interconnected due to the sea use, they compete with each other and determine different legal regimes, which all is provoking conflicts in relation to the goals of habitat protection, natural ecosystems and the landscape as well as the granted water rights and decreasing economic performance of some activities.

Spatial planning on the land part of the region indirectly dictates the sea use and grating of water rights on the coastal strip. The uses of space, land and the sea will have to be adjusted to the environment in quantitative and qualitative sense, which is the main guidance in all international conventions, while at the same time the economic analyses of potential activities should not be neglected as they provide support in the achievement of sustainable development. The initiative for obtaining the water rights is given by investors, authorised managers, activity operators or the State or the Government of the Republic of Slovenia. The initiative should be harmonised with spatial documents; however, due to the competencies of the municipalities, it can apply only to the land areas and only normatively to the sea, thus neglecting the overall mechanism of functional integration of the sea-use planning.

The issue of harmonised sea use in the Northern Adriatic is aggravating in the whole area of the Gulf of Trieste, which affects the sea-use management of areas under the jurisdiction of Slovenia: navigational routes, energy infrastructure (gas terminals), fishery, and environmental protection. It is essential to reach an agreement at the international level on the strategic goals of the sea use in this part of the Adriatic and to prepare a harmonised plan of the sea use.

Activities, projects:
- Inventory of the situation (legal platform, legal regime, uses);
- Identification of conflicts; and
- Preparation of the sea use plan in the area under the jurisdiction of Slovenia and in the entire area of the Northern Adriatic and the Gulf of Trieste.

Holder:
- Ministry of the Environment and Spatial Planning

Participants:
- Stakeholders interested in the land/sea use, municipalities

Part 2:

SUMMARY
of Individual and Horizontal Projects

INDIVIDUAL PROJECTS:

Conception of Spatial Development of South Primorska

Detailed Conception of Coastal Strip Spatial Arrangements

Management of Protected Areas

Regional Strategy of Sustainable Tourism Development

Regional Programme of Environmental Protection and Water Resources

Sensitivity Maps of the Slovenian Coast

HORIZONTAL PROJECTS:

Systemic and Prospective Sustainability Analysis

Programme of Public Participation, Training and Promotion

Regional Spatial Information System

CONCEPTION OF SPATIAL DEVELOPMENT OF SOUTH PRIMORSKA

Contractor: ACER, Spatial planning, project engineering and environmental protection Novo mesto, Ltd.
Sub-contractor: Oikos, Development consulting, Ltd.
Project Co-ordinator: Urša Šolc, BSc. Geography
Authors: Klemen Strmšnik, Mojca Hrabar, Urša Zakrajšek and Ines Stanešič

1. Introduction

The purpose of the Conception of Spatial Development of South Primorska is:

- to strengthen the sustainable spatial development of the region of South Primorska; and
- to provide a strategic spatial framework for priority investments (strategic investments) in South Primorska for the period from 2007 to 2013.

The Conception of Spatial Development thus represents a spatial complement to the Regional Development Programme of South Primorska and the National Development Programme for 2007–2013. It is a guideline for future spatial development of the region, as it provides guidance for the preparation of national and municipal spatial documents.

The key objectives to be achieved by the preparation of the Conception are:

- to determine the key advantages and weaknesses of the past spatial development on the basis of the analysis of the situation and trends;
- to establish a vision and conception of spatial development in the region;
- to formulate the regional conception of the distribution of selected spatial activities while taking into account the characteristics of individual regional areas of Slovenian Istra, Kras and Brkini;
- to prepare spatial development guidelines representing the basis for strategic national and municipal planning documents; and
- to define the measures for the implementation of the regional conception, taking into consideration the possibilities of co-operation with the neighbouring regions in Slovenia, within the EU (Italy), and with the regions in non-member countries (Croatia).

2. Conduct of the Elaboration of Spatial Conception

The vision, objectives and the strategy of spatial development were formulated on the basis of expert groundwork carried out in Phase 1 and 2 of the project on the preparation of the Conception of Spatial Development of South Primorska. The expert groundwork took into consideration the results of workshops within the horizontal Systemic and Prospective Sustainability Analysis (SPSA) project and special workshops organised for spatial planning stakeholders.

The vision, objectives and the strategy of spatial development were formulated on the basis of expert groundwork carried out in Phase 1 and 2 of the project on the preparation of the Conception of Spatial Development of South Primorska. The expert groundwork took into consideration the results of workshops within the horizontal SPSA project and special workshops organised for spatial planning stakeholders.

Prior to the determination of spatial development objectives, a framework development scenario was formulated in the above-mentioned workshops in order to illustrate the consequences in the absence of strategic interventions. Later on, the scenario was supplemented by detailed analyses. The scenario of sustainable spatial development of the region was also drawn up within the framework of SPSA activities.

Subsequently, in order to prevent unsustainable solutions and to avoid negative and undesirable results, the objectives were set up and an appropriate strategy of spatial development was established.

Assessment of the compliance of the vision and the objectives of regional spatial development with the objectives of superior strategic documents, directed towards strengthening of sustainable development, was carried out. Moreover, the compliance with the objectives of the Mediterranean Strategy for Sustainable Development, the EU Sustainable Development Strategy, the Spatial Development Strategy of Slovenia and the National Environmental Protection Programme was also assessed. The spatial conception is fully in line with the Regional Development Programme of South Primorska 2007–2013 and, in fact, it is its integral part. The internal coherence of the Conception was also examined in order to assess the compliance of measures and projects with the set spatial objectives.

The Conception of Spatial Development of South Primorska was prepared on the aforesaid basis, followed by drawing up of the proposal for the programme of measures and policies for the implementation of spatial development objectives. The proposal was adjusted in the workshop organised for municipal representatives.

Finally, the assessment at the regional level was carried out of the eventual impacts of the Conception on the environment, nature, human health and cultural heritage.

3. Characteristics of the Region

The region of South Primorska covers an area of 1,524 km^2, which is 7.5% of the Slovenian territory and its inhabitants account for 6% of the country's total population. The region comprises the municipalities of Slovenian Istra – Koper, Izola and Piran, and the municipalities of Kras and Brkini – Sežana, Divača, Hrpelje-Kozina, Komen and Ilirska Bistrica. The municipalities make up the Obalno-kraška statistical region, apart from the Municipality of Ilirska Bistrica that falls within the Notranjska-Kras statistical region.

The region occupies the south-west part of Slovenia and it borders with Italy and Croatia. At the regional level, South Primorska borders with Friuli-Venezia Giulia to the west and with Croatian Counties of Istra and Primorje-Gorski Kotar to the south. Within the frontiers of Slovenia, South Primorska borders with the Gorica region to the north and with the Notranjska-Kras region to the east.

In comparison with other statistical regions in Slovenia, the region of South Primorska is small; however, according to different socio-economic indicators, it is close to Slovenian average or even above it. The region's population density is below average as it reaches only 80% of Slovenian density, but it is by far the highest in its coastal part where it is more than twice the average density in the region. The Kras area with 34 inhabitants per km^2 and the Municipality of Ilirska Bistrica with 30 inhabitants per km^2 are among the most sparsely populated areas in Slovenia.

The main natural characteristics of the region are the alternation of flysch and limestone landscapes, sub-Mediterranean climate and, in particular, its maritime position, which allowed for the development of tourism and transport. Namely, it is the only Slovenian region lying by the sea and with its 46 km of coast, it represents a certain "window to the world". Closely built villages are a typical settlement pattern. During the last decades, littoralization – a process of concentration of the population and economic activities on the coastal strip – is becoming an increasingly distinctive trend. The region may be divided into three parts: the coastal part or Slovenian Istra, Kras and Brkini. These areas differ from each other in their natural, social and environmental features, which will be pointed out where necessary hereafter.

3.1 Key Development Trends

Demography

- Population growth in the region is above the Slovenian average, which is mainly the result of extensive immigration. However, the natural growth is constantly negative, which is in no way favourable from the demographic point of view.
- The number of inhabitants increases faster in the coastal part of South Primorska than in the rear areas, which confirms the littoralization phenomenon – settlement pressure on coastal areas.
- The population of South Primorska is ageing, especially in the Kras and Brkini areas. According to the demographic forecast, the share of young people under 15 years of age will drop to 12.6% by 2014 and the share of working age population will be 70.5%, which does not imply considerable change in view of the present situation. It seems that such demographic trends will continue, while the gap between the coastal and the Kras-Brkini parts will widen.
- According to the demographic trends forecast for Obalno-kraška statistical region, it is expected that the number of population will fall, while unfavourable age structure and ageing of the population will continue.
- The trend of longer life expectancy will continue. As the values for South Primorska do not differ much, it can be expected that in various scenarios the life expectancy in 2025 will be between 85 and 85.9 years for women and between 76.6 and 78 years for men.

Economy

- On assumption that the values for South Primorska do not differ much from the data valid for the Obalno-kraška statistical region, it can be ascertained that the GDP exceeds the Slovenian average and that it has been rising again after a short downturn period.
- South Primorska demonstrates a strong orientation towards service sector (trade, transport, real estate, renting and business activities, tourism), as a good three-quarters of gross value added is generated by the service sector, followed in proportion by industry, building industry and agriculture.
- The rate of formal (registered) employment, as also the number of jobs, is growing even faster than the country's average. Employment is strengthening in the service sector (particularly in the coastal municipalities) and it can be expected that employment in service will grow faster while falling in agriculture, especially in the area of Kras and Ilirska Bistrica.
- The region of South Primorska has a below-average rate of registered unemployment and structural unemployment has also decreased a little after 2001. There is a lack especially of jobs for highly educated job seekers. The share of women among the unemployed population has fallen below the Slovenian average and is still falling. The percentage of young job seekers (up to 25 years of age) is falling at a lower pace than on average in Slovenia and the share of the unemployed of over 40 years of age is still above the average.
- The economic power of the population of South Primorska, measured by the basis for income tax per inhabitant, exceeds the Slovenian average and is growing. The amount of the gross basis for income tax per inhabitant is above the average; however, the difference with the Slovenian average is tending to reduce. From 1996 to 2005, there was a constant growth of average gross salary in all municipalities of South Primorska, but the average gross salary is still below the Slovenian average.
- There is a large disparity between the operation of companies in the municipalities of Slovenian Istra and the municipalities of Kras and Brkini. Although the business performance of companies in the Kras area is worse than the results of companies in the coastal municipalities, some indicators show that they are improving. 80% of companies operate in coastal municipalities and they employ 77% of all workers.
- Labour productivity (value added per employee) calculated for the whole South Primorska amounted to SIT 6,966,000 in 2004 and it is above the Slovenian average (6,675,000). The differences in productivity between the economic sectors and also between the municipalities are typical. The highest labour productivity has been recorded in manufacturing, while the labour productivity in catering and tourism is below the regional average. Between the municipalities, the labour productivity is highest in the Municipality of Koper and the lowest in the Municipality of Divača.
- The region is very attractive for various spatial investments. The main economic activity, which also has the greatest aspiration for land, is tourism. Locating of new activities has already been causing conflicts between various land users.
- Tourism trends:
  - highly developed and concentrated, mass tourism on the coast;
  - increasing number of tourists and overnight stays;
  - strong but inadequately emphasised natural and landscape potentials in the area of Kras, exploited almost exclusively only in three places – Lipica, Štanjel and Škocjan Caves; and
  - the areas of smaller potential and the areas in the Municipality of Ilirska Bistrica, Brkini and the rear parts of Slovenian Istra with weakly or not at all developed tourism and recreational infrastructure.

Settlement and urban network

- There is a well-organised urban network on the one side and unbalanced urban system with large concentration in the area of Slovenian Istra and a lack of suitable centres in the area of the Municipality of Ilirska Bistrica, on the other.

- Good accessibility of larger urban centres and the connection of the region with other regions (motorway), worse access to further away rural areas (bad regional and local connections, poorly maintained roads).
- Depopulation areas in further away parts of Kras and Brkini.
- Growth of dispersed settlement – extension of settlements into the countryside, while there is unused space capacity within the settlements (rehabilitation of degraded urban areas, reurbanisation), wasteful use of space, low population density of new settlement areas.
- Emergence of shopping centres with large parking lots outside town centres.
- Under-investment into the existing urban centres and larger settlements, which results in the decrease in the quality of life in urban centres (social stratification, environmental problems: noise, reduced trafficability (standing traffic), removal of functions and activities to the outskirts, worse housing stock, etc.).
- Real estate in South Primorska is among the most expensive in Slovenia, its price rising constantly due to the demand for holiday homes. Demand for and the prices of real estate vary significantly between Slovenian Istra and the Kras/Brkini part. The number of building permits issued is increasing.

Transport

- Due to the geographical situation and the location on the 5th European Traffic Corridor, South Primorska is affected by strong traffic flows. The present traffic infrastructure, consisting of the road network, railway network, the Port of Koper and the Portorož Airport at Sečovlje, is in general well developed;
- In the last decade, the **motorway network** was completed to a large extent and connected to the Italian network; in the following period, within the framework of the National Programme for the Construction of Motorways, the area will be connected through the motorway network also with Croatia (sections Jelšane–Ilirska Bistrica–Postojna/Divača and Koper–Dragonja) and towards Trieste (Divača/Postojna–Reka). The section Koper–Izola–Lucija, where at present the traffic conditions are very critical, will also be finished;
- Passenger transport is based chiefly on the use of personal vehicles, as suggested by the number of cars per 1,000 inhabitants by which the region is ranked first in Slovenia;
- The road network is especially congested in the coastal part; during the summer period and at weekends, road congestions occur very often, as the average daily traffic (ADT) in some sections is 30,000 vehicles/day;
- Parking represents a major problem in urban centres on the coast. Even outside the tourist season, the parking lots are fully occupied, while the need for parking spaces increases so much in summer that this becomes the main hindrance to the accessibility of particular places and areas;
- The environmental impacts of car traffic, such as air pollution, noise and dispersed settlement, are becoming increasingly evident;
- Despite the well-developed road network, there are still some areas in the region where the road network is underdeveloped;
- **Public passenger transport** is poorly developed and does not represent an attractive alternative; the system is not connected, transport is slow, uncomfortable and unreliable;
- The existing **railway lines** no longer meet the modern transport requirements as regards higher speed, higher frequency of trains, improved reliability and predictability and higher quality of services in passenger and freight transport. Unsuitability of the present railway lines reflects also in frequent level crossings as well as their capacity and other parameters. The main railway line leading to the coast finishes in two dead ends, in town and the Port of Koper;
- **Cycling connections** in the region are also poorly arranged. Cycle tracks are partly regulated in the area of Kras along the existing roads with less traffic loading. In some

parts of the region cycling infrastructure is planned, particularly on the narrow coastal strip and its hinterlands and the Snežnik mountain range;

- In spite of its location on the shortest route to the centre of Europe and its logistics services, the **Port of Koper** does not offer enough to the partners from Slovenia and abroad regarding the establishment of overseas economic links and trade flows;
- The opportunities for the development of **maritime transport**, especially the maritime passenger transport, are underexploited. In order to promote the public maritime passenger transport in Izola, Piran and Portorož, the present harbours should be developed and upgraded. The network of marinas, servicing arrangements and more appropriate connections of maritime infrastructure to other transport networks have not been clearly defined;
- The present passenger terminal of the Portorož Airport at Sečovlje and the airport infrastructure should be progressively upgraded.

Public service infrastructure

- Due to natural features of Kras and Slovenian Istra, the sources of drinking water are relatively scarce; therefore, integrated planning of drinking water resources management is requisite. The existing water resources in the Kras area are suitable, however, they are exposed to pollution because of karstic characteristics and do not ensure adequate supply of the population with drinking water. The Rižana River basin as a source of drinking water for Slovenian Istra (in addition to the sources of the Dragonja River in Croatia) is not abundant enough and it is distinctly exposed to pollution. Therefore, additional water resources should be ensured to cover the needs of the whole region. The proposed water resource of Padež–Suhorka has a potential to meet all needs for water in the region; however, the need to guarantee drinking water supply must be harmonised with the protective restrictions regarding the preservation of the Reka River regime and the state of the Škocjan Caves environment.
- Protection of water resources has been formally implemented, but there is no control over the implementation of restrictions regarding the activities in these areas. For this reason, water resources are constantly exposed to pollution. The territories of some municipalities largely comprise water protection areas, resulting in considerable limitations to spatial and economic development. The principal activity in water protection areas is agriculture which does not have enough regard to the protection requirements in water protection areas and for water resources.
- Three main water systems ensure water supply for the major part of the region, while the areas of dispersed settlement (Brkini, rear areas of Slovenian Istra) are supplied through local water distribution systems of unsuitable quality and quantity, as well as inappropriate management.
- Only a small part of the region – big settlements on the coast and larger settlements in the hinterland – is provided with regulated sewage network terminating with wastewater treatment plant. The highest level of connection to sewage network is in the coastal areas and the lowest in the Kras area. The rest of wastewater is discharged through unregulated individual systems or through the systems that do not end in wastewater treatment plant.
- The entire region of South Primorska is defined as a very vulnerable area and, therefore, more stringent criteria apply to equipping the agglomerations with wastewater treatment systems. The extent of equipment of agglomerations with more than 10,000 PE with adequate sewage systems is quite large, while at present the suitability of facilities is low. Small agglomerations (from 2,000 PE to 10,000 PE) are fairly well equipped with treatment plants; however, the inadequate sewage systems remain a problem.
- The municipalities have adopted operational programmes for wastewater treatment, but their consistent implementation is questionable due to the lack of financial resources.
- The situation with energy supply in the region is satisfactory (electric energy, in particular), but a disturbing fact is that there is no comprehensive energy concept for the

region or its parts, with the result that the basis for efficient energy use is not defined and development plans elaborated to impose strategic decisions and action programmes.

- There is still no gas network in the region, although local networks exist in some settlements (liquefied petroleum gas), intended in the long-run for the connection to the long-distance gas network.
- The facilities for storage of the security stock of oil products, which are located in the wider area of the Port of Koper, ensure a relative independence in the supply with this kind of energy.
- Renewable energy sources, particularly solar energy, which could represent a significant source of energy in the coastal area, are underused and there are no pilot projects in this field. Due to a large forest potential, wood biomass is an important renewable energy source. Other alternative sources are less prospective, as they are related to exceptional spatial conflict (wind power plants) or may have a relatively low potential (geothermic sources, small power plants).
- The main telecommunication (TC) network is well developed and it represents a skeleton TC network. The long-distance network is connected to the national network of Telekom Slovenia and to the optical connection of Slovenian Railways, power transmission networks and motorway network. The network of telephone switchboards and post offices is well developed and it covers the whole territory of the region, although the regional centres are better equipped than the hinterland due to the dispersed settlement.
- Waste management is not fully resolved in the region and it represents one of the largest pollution sources. In general, the landfill sites are unsuitably located, technically inadequate (unsealed, not degasified, subject to inundation, within reach of groundwater, etc.) and all of them are mostly filled up. At present, all municipalities dispose of the waste at reconstructed landfills which will be full in some years or at landfills in the process of rehabilitation or the increase of capacity.
- All inhabitants of the region are involved in waste disposal. The system of separate waste collection has been introduced in all municipalities but, according to the information obtained, it is not particularly successful. Due to irregular data collection, it is difficult to talk about the trends in the quantity of collected urban waste.
- All municipalities in the region acceded to GOJUP South Primorska that was preparing a regional project covering the landfills for surplus waste in the Municipality of Sežana; however, the local community did not support the project and consequently the initiative was adopted to find another location for a common regional landfill.

Agriculture and forestry

- In spite of the amelioration of agricultural land in the second half of the 20th century, small plot structure still prevails in the region. Such structure, together with some characteristic forms of production (vineyards, orchards, etc.) creates in some places a man-made environment of exceptional quality, but on the other hand offers poor economic prospects. Good agricultural areas of larger continuous plots are rare, while in many places market-oriented agriculture changes the man-made environment directly due to the measures designed to increase production (enlargement of plots, land improvement, etc.) or indirectly because of the abandonment of farming, which leads to the overgrowing of cultivated land.
- The classification of land often does not correspond to the actual situation in the field and this may consequently prevent rational urban development.
- Modern approaches to food production (integrated production, ecological agriculture), directed towards sustainable development and the exploitation of special natural conditions (soil, climate, relief), are increasingly gaining importance in the region. Considering the natural structure and climatic situation, the conditions in various parts of the region are suitable for different kinds of farming which development would be reasonable also in the future: wine-growing (Kras, Slovenian Istra), fruit-growing (Brkini, Slovenian Istra), livestock production (Kras – cattle and horse breeding, Slovenian Istra

– sheep breeding) and vegetable cultivation or horticulture (Slovenian Istra near the coast).

- In Kras and Slovenian Istra, especially on the coastal strip, there is an explicit need for irrigation of agricultural land.
- A large part of the region is covered in woods and forests. The amount of woodlands is increasing due to the abandonment of farming on less favourable land areas. A particularly evident process is the overgrowing of Kras with pine forests resulting in non-indigenous stands in the central part of the region (Kras, Brkini and Slovenian Istra). In the outermost eastern part of the region, the forests are completely different in appearance as vast beech, fir and mixed forests cover wide areas of Snežnik and Javornik massifs.
- As in the rest of Slovenia, sustainable management of forests has been practised also in this region.
- It is an important issue that this area is subject to a great fire hazard due to dry and hot sub-Mediterranean climate in combination with degraded sites and the vegetation adapted to both. Traffic corridors, in particular the railway, contribute additionally to the fire hazard.

State of the environment

- A sign of climate change is rising of the sea level along the Slovenian coast, estimated at 1 mm/year. In the next hundred years, greater risk may be expected and more frequent flooding of low-lying parts of coastal towns (Koper, Izola, Piran), particularly where flooding has already been occurring repeatedly every year.
- In the light of expected intensification of maritime transport and nautical tourism, an increasing trend in the content of hydrocarbons in sea sediments can be expected.
- Pollution of the sea with wastewaters will continue until the construction of sewage network and wastewater treatment plants.
- The situation of water quantity at characteristic flow rates of rivers with direct outflow into the Adriatic Sea indicates that medium flows are falling most markedly; however, the maximum flows are also decreasing. The present conditions point to a reduction of the available water in the region. Additional problems in the provision of adequate quantity of water may result from the change in flow timing observed in the past years, as the periods of high flow in watercourses with rain and rain-snow regimes move to the winter time, while the periods of low flow in summer time are getting longer, thus increasing the risk of long droughts.
- There is poor flood prevention in some parts of the region in consequence of inadequate regulation of certain torrential streams. In order to secure prevention against high water on agricultural land, regulation was carried out of some watercourses and retention basins built in the past (Mola, Klivnik, Pivol and Triban, and Vanganel Lake in Slovenian Istra).
- South Primorska falls within the air pollution level II. Periodically, the permissible values are exceeded, especially as regards the pollutants such as nitrogen oxide (NO_2), particles (PM10) and ozone (O_3). The main air pollution sources are industry, traffic and furnaces. The problem of pollution by ozone and NO_x is becoming increasingly acute and it can be expected that pollution will increase due to local sources (traffic) as well as cross-border pollution.
- In particular areas, significant negative environmental impacts include also high light pollution, which has to be taken into consideration in spatial planning of activities, especially in vulnerable areas from the point of view of the protection of wild animals.
- Traffic is the main source of noise, burdening especially urban and tourist centres.
- On the national scale, fire risk to the environment is exceptionally high in the Kras forest management area. The largest forest areas destroyed by fire are in this area.

4. The Vision of Objectives of Spatial Development

The vision of spatial development of South Primorska reads:

> *"Spatial development of South Primorska will support sustainable welfare, equitable distribution and high quality of life, whilst protecting and strengthening natural, spatial and cultural goods."*

The objectives of spatial development are to:

- Increase the competitiveness of the region by:
  - the establishment of competitive cross-border polycentric network of settlements;
  - the establishment of a competitive countryside with a high quality of living; and
  - better external and internal cohesion of the region.
- Enhance the quality of life in the region by:
  - strengthening of sustainable communities (towns);
  - strengthening the identity and attractiveness of the region; and
  - sustainable management of natural goods.

The strategy of sustainable spatial development is based on the co-operation between the municipalities, the State and other partners, and on cross-border co-operation in the following priority areas: promotion of regional development, locating of regionally significant functions and management of protected areas and natural resources. Partnership will play the key role and it will be established on the basis of the Promotion of Balanced Regional Development Act (Regional Council, Regional Development Council, thematic partnerships).

The most important instruments of sustainable development strategy will be as follows:

- economic and regulative municipal instruments: the need should be emphasised for the harmonisation of these two instruments on the regional level in order to achieve specific objectives as well as the development of instruments and the use of all intrinsic potentials;
- harmonised municipal spatial and land policies at the regional level, representing a guaranty of protection of spatially related natural and cultural property and at the same time an instrument for fostering the competitiveness of the region, resulting in development and generation of additional financial resources on the local level;
- partnership between public and private sectors as a promising instrument of sustainable spatial development because it involves many areas where public and private interests meet;
- transparent functioning and public participation in order to timely settlement of conflicts and to motivate the largest possible number of stakeholders on the regional level;
- preliminary evaluations and assessments (such as feasibility studies, cost-benefit analyses, strategic environmental impact assessment, assessment of environmental carrying capacity, etc.) to ensure the compliance with sustainable development, efficient and effective implementation of programmes laid down and timely solving of conflicts; and
- co-operation and co-ordination between municipalities, between municipalities and the State, co-operation with the EU institutions and co-operation and integration with neighbouring regions (notwithstanding the national borders) in the field of project financing and to exchange experience.

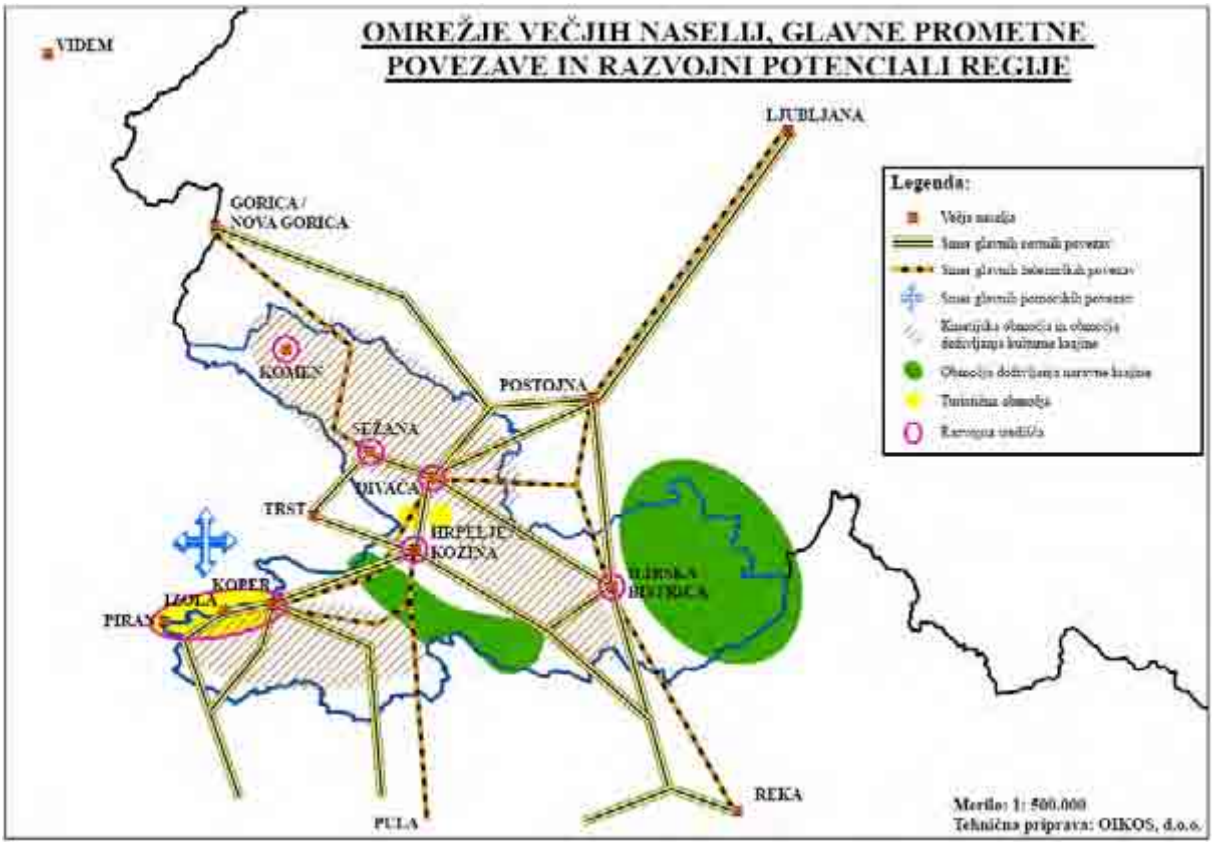

Figure 14: ***Network of large settlements, main transport connections and development potentials of the region***

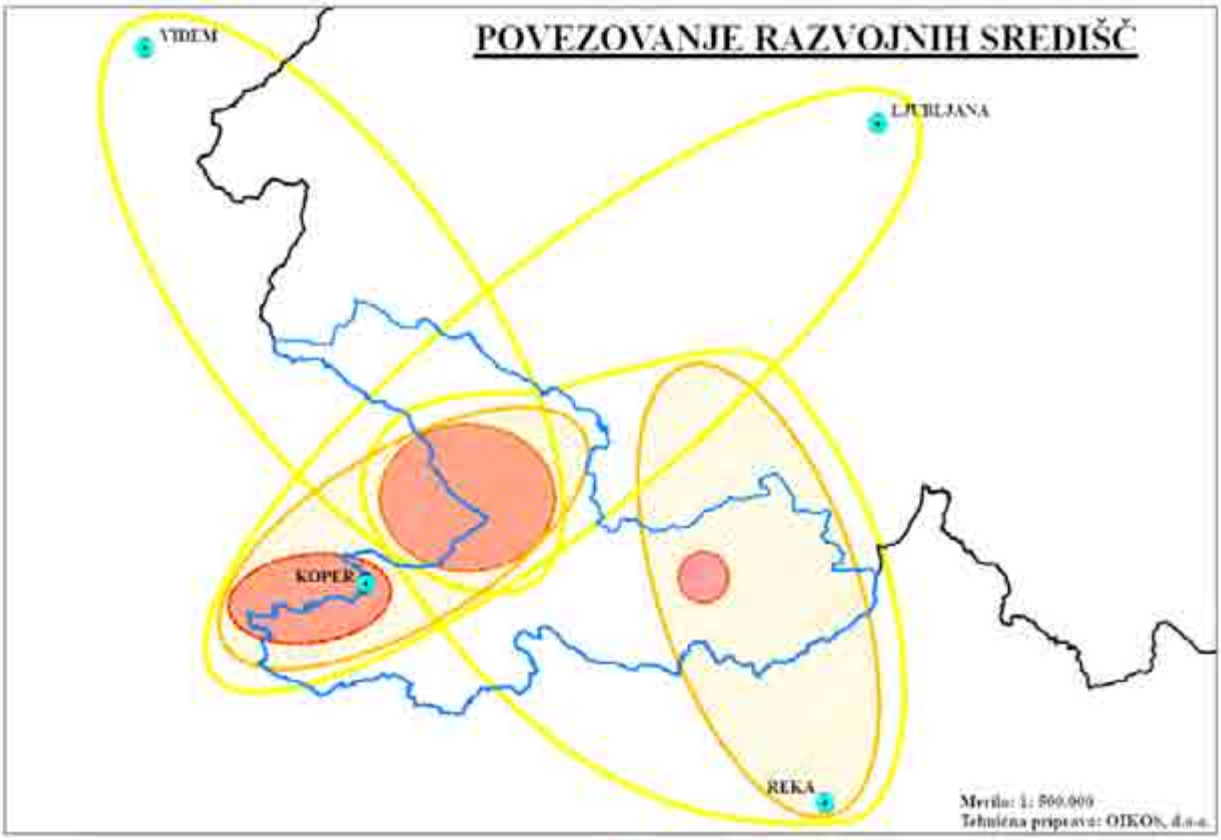

Figure 15: ***Integration of development centres***

4.1 Settlement

Harmonious spatial development is based on a polycentric network of settlements, which allows meeting the needs of all communities and the attainment of their development potential within the limits dictated by the environment and the orientation to sustainable development. The key feature of polycentric network of settlements in the region is the establishment of a **three-tier network of settlements**, designed to promote:

- intensive changes in **strategically significant urban centres** through the development of their economic and service role and sustainable development policies, leading to the strengthening of their competitiveness in the broader EU area;
- changes in **more important local centres/settlements** defined as focal points ensuring locally significant development; and
- small-scale changes in **other settlements**, directed mainly to the improvement of living conditions in those settlements and the strengthening of sustainable development.

In order to strengthen the competitiveness of towns and settlements or the network of settlements in the broader EU area, it is essential to establish closer co-operation with cross-border cities, in particular Trieste, Gorica, Rijeka and the towns in Croatian Istra.

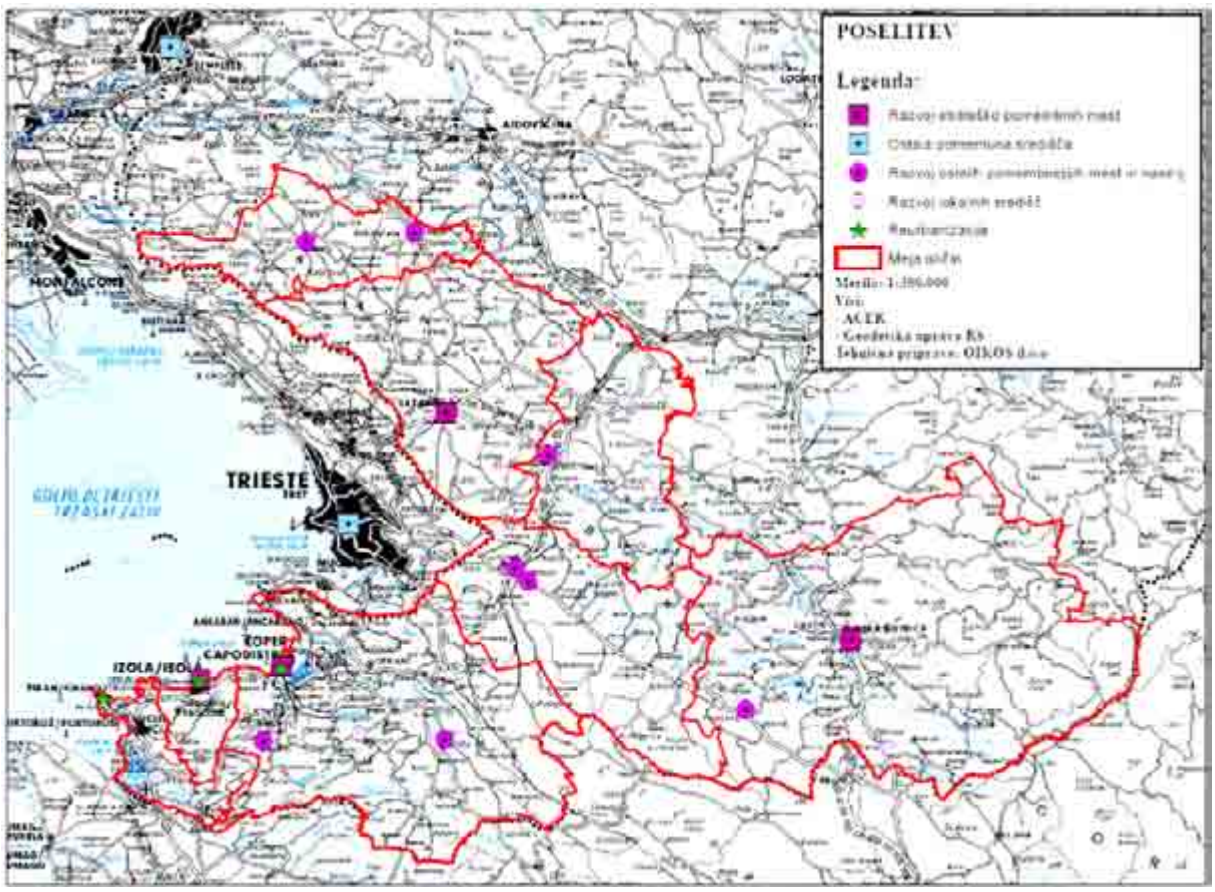

Figure 16: *Settlement*

Strategically **significant urban centres** in the region will:

- strengthen the development of a wide range of economic, commercial and social services by ensuring suitable facilities and land for the development of activities and their integration;
- enhance social cohesion, ensure healthy and safe living environment for all inhabitants by ensuring adequate quality and accessibility of social services (health care, education, culture, spending of leisure time);

- enhance the public transport within conurbation/towns and to settlements/communities within the functional area by the development of adequate traffic infrastructure and the management of traffic flows;
- promote co-operation on the conurbation level and with other municipal centres;
- establish the specialisation within the conurbation;
- as a priority, direct the settlement to unoccupied building land within the settlement areas and in particular to the areas of too low building density, with a purpose to achieve urban compactness and higher urban density;
- ensure rational land use by increasing the urban density;
- implement reurbanisation, revitalisation of settlement centres (by diversification of activities and social structure, renewal of building heritage, sound management of public areas);
- improve the quality of urban residential environment; and
- promote closer cross-border co-operation (particularly with the agglomerations of Trieste and Gorizia (Italy), and Rijeka and the towns in Istra (Croatia) with a view to create a more competitive and recognisable cross-border area within the wider EU area.

Future development will be, in addition to more important local centres, oriented primarily to those settlements which, on the basis of their role and function analysis, meet the criteria set out below and which are defined as focal points ensuring locally significant development, namely:

- settlements are municipal centres (Hrpelje-Kozina, Komen, Divača);
- settlements with adequate concentration of activities and jobs, or settlements with development potential, employment opportunities and supply facilities;
- settlements providing shopping and cultural, educational, health care and other social services that meet the needs of the settlement and its hinterland, provided there is good accessibility by public transport;
- settlements offering building land for affordable housing; and
- settlements with a potential to develop certain functions/services due to their specific features, such as cultural heritage (Štanjel).

Development in **local centres** will be directed primarily to:

- ensuring of even settlement of the area;
- support to small-scale economic activities, corresponding to the size of settlements;
- improvement of the access to available services, including field delivery – “itinerant services” (e.g., shop, library, post, etc.), utilising the available facilities, where possible;
- good condition of local roads to establish the accessibility and support to public passenger transport;
- rational use of municipal infrastructure; and
- promotion of independence, strengthening of local communities and support to key services.

The increase in housing capacity in these settlements will be intended primarily for meeting the local needs, and also for secondary homes – holiday houses, but primarily in depopulation areas and in the areas with an explicit problem of population ageing.

General guidelines for the development of settlement network are given, while a detailed definition of development potentials, settlement functions and their interrelationship should be specified in municipal spatial planning documents, but in close co-operation between neighbouring municipalities, regions as well as in the cross-border area.

The general criteria for the development of a competitive settlement network are:

- parallel and co-ordinated planning of settlement and transport (transport networks, public passenger transport, transport hubs);
- rational land use by focusing on the internal development of settlement areas; and

- efficient allocation and appropriate quality of social services and infrastructure within the meaning of infrastructure equalisation (in line with the role of a settlement within the settlement hierarchy) in urban and rural settlements: ensuring the basic supply services for all inhabitants within ten-minute walk, ensuring safety on the way to school, ensuring adequate number of number of enrolment places in kindergartens, properly maintained local road network, public passenger transport, connection to public sewage system and wastewater treatment plants and ensuring proper wastewater management respectively.

Description of spatial planning measures related to the network of settlements:

Measure	Objectives
Competitive polycentric urban network	▪ Establishment of a balanced network of settlements at the cross-border/regional level with a concentration of urban potentials ▪ Strengthening the identity of cross-border urban area ▪ High quality of dwelling in urban settlements and the definition of quality standards for construction and renewal of buildings (use of nature and people friendly materials, energy performance of buildings, use of rain water, utilisation of renewable energy sources), which will be more demanding than the minimum standards defined in the legislation ▪ Availability of appropriate social services and infrastructure (education, schooling, health care, culture, administration, sport, recreation, utility services, supply services, transport, public transport, etc.) ▪ Calming of land and real estate prices
Preservation of settlement and development of rural areas	▪ Provision of adequate building land for the development needs of settlements and local population ▪ Appropriate accessibility and municipal infrastructure ▪ Preservation and arrangement of new public areas in settlements (in particular recreation and green areas) ▪ Provision of adequate social services and infrastructure in rural areas ▪ Reasonable rounding of building land at the periphery of settlements at the border with rural land
Strengthening the partnership between urban and rural areas	▪ Ensuring adequate social services and infrastructure in rural areas ▪ Equalising the quality and accessibility of social services of urban and rural areas ▪ Appropriate division of functions between urban and rural settlements in the region
Renewal of urban centres/settlements	▪ Increased attractiveness of urban centres for dwelling ▪ Increased compactness of urban centres and the achievement of increased urban density in the areas of too low density ▪ Integrated spatial, economic and social renewal of town districts or parts of settlements ▪ Gentrification of town centres ▪ Arranged and accessible public areas ▪ Higher quality of urban planning and architectural design of settlements ▪ Improved quality of construction and renewal of buildings

Projects:

- Revitalisation of urban and rural settlements

4.2 Establishment of Support Economic Infrastructure Network

For the purposes of the development of economic activities, economic zones will be defined and adequately regulated. In addition to socio-economic conditions (capital, knowledge and workforce base), also the following spatial criteria will be taken into consideration in the development of economic zones: optimum connection with transport and energy networks, and other infrastructure; the vicinity and size of already existing economic zones and transport terminals; the size of settlements, their role in the urban system and access to the locations of planned economic zone locations; and spatial opportunities and limitations arising from the state or characteristics of the natural and cultural landscape in which an economic zone is placed.

A technology park will be established in Koper in which infrastructure will be established for technological enterprises (start-up and operative enterprises) and the development of support services. Two incubators will be set up in Koper and Sežana, and a university incubator will start to operate in Koper. According to the needs, technology parks and incubators may develop also in other locations.

Description of spatial planning measures in the field of support economic infrastructure:

Measure	Objectives
Ensuring the land for production and business activities	▪ Concentration of knowledge and economic activities in particular areas ▪ Efficient distribution of functions in the region ▪ Activation of degraded and poorly utilised areas in settlements ▪ Appropriate location of residential and industrial areas ▪ Reduction of negative impacts of production and business activities on the environment and human health (in compliance with environmental requirements in the legislation)

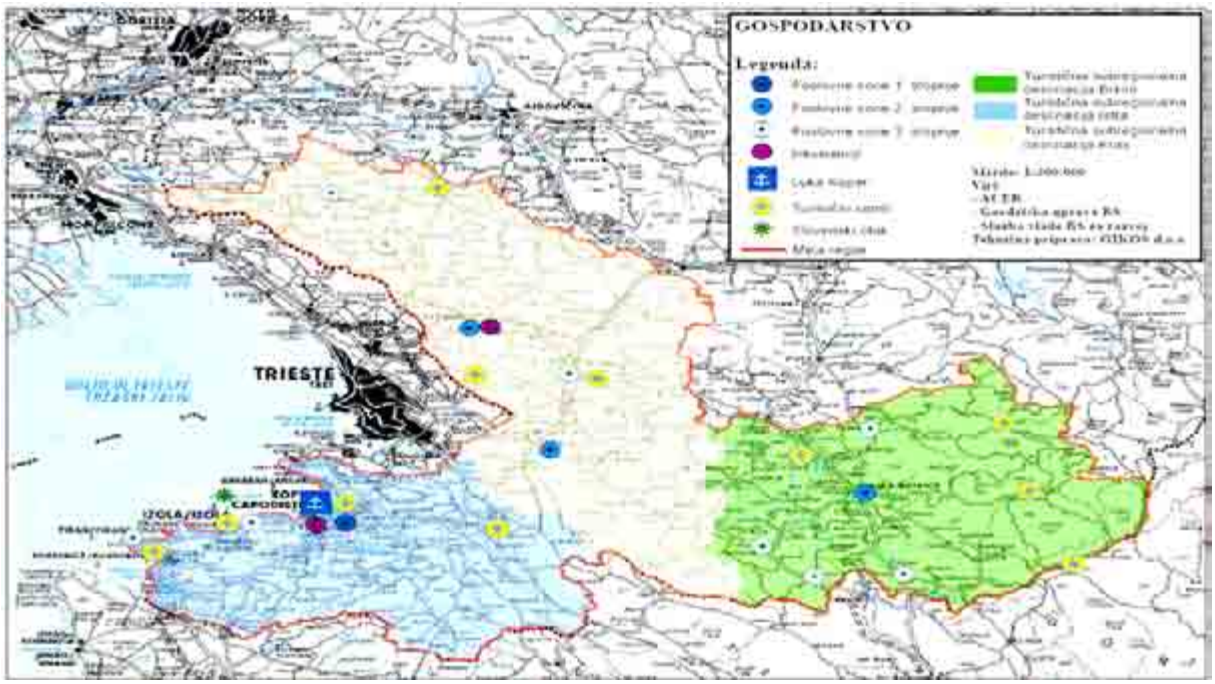

Figure 17: *Economy*

Projects:

- Technological park
- Construction of business zones
- Establishment of University Campus

4.3 Establishment of Tourist Infrastructure Network and the Support Environment for Tourist Destinations Management

In line with the Strategy for Sustainable Tourism Development of South Primorska, the development objectives, which are directly related to spatial objectives, are:

- to strengthen the sustainable character of tourism development as an element of integrated quality management; through integrated management of the destination (or sub-destinations) for the development and marketing of new (sustainable) tourist products and the improvement of the existing tourist products, services and efficient

investment in tourist accommodation and support infrastructure, in compliance with the principles of sustainability;

- to reduce the environmental impacts of tourist activities;
- to achieve a more even spatial distribution of tourist capacities and increase the role of the hinterlands of Slovene Istra, Kras and Brkini;
- to establish a selective development of coastal tourism by focusing investments on new tourist capacities especially within the existing settlement areas;
- to relieve the coastal strip from transit and stationary traffic, to manage accessibility in tourist and recreation areas, to improve accessibility by the development of sustainable transport modes (public passenger transport, footpaths, cycle tracks) and to invest in information infrastructure;
- to improve utilisation of the potential of historical centres (towns and villages) for the development of tourism; and
- to develop tourist infrastructure for sustainable tourism.

Description of spatial planning measures in the field of tourist infrastructure:

Measure	Objectives
Establishment of areas and ensuring of land for tourist zones and the accompanying infrastructure	▪ Concentration of tourist activities in tourist zones ▪ Efficient distribution of functions in the region ▪ Reduction of negative environmental impacts of tourist activities ▪ Appropriate location of tourist and residential programmes ▪ Improved accessibility of tourist centres by the development of sustainable mobility modes ▪ Efficient investment in tourist accommodation and support infrastructure

Projects:

- Development of tourist sub-regional destinations
- Thematic footpaths
- Parenzana and sub-urban cycling network
- Arrangement of the promenade along the entire coast
- Slovenian Adriatic Island
- Integration of natural and cultural potentials of Kras

4.4 Transport

From the point of view of sustainable development, one of the main problems in the region is excessive increasing of car traffic, which causes ever-greater environmental and spatial problems, pressures on the nature and biodiversity, especially in the coastal strip and densely urbanised areas.

The Conception of Spatial Development of South Primorska defines a transport concept, which will be based on the principles of sustainable mobility. Its objective is to establish an efficient and competitive system of public transport and thus reduce environmental and spatial impacts of mobility, while at the same time improve the accessibility of transport services for a wider circle of users. The measures within spatial planning will play a crucial role, as a wise location of activities reduces or prevents the growth in mobility needs.

The future economic success of the region depends also on an efficient organisation and functioning of strategically significant urban centres with soundly operating system of sustainable mobility. Without radical changes in the field of mobility, these centres will become less attractive for dwelling, burdened by noise and polluted air, poor traffic safety, traffic jams and unreliable travel times (due to congestion), which all will further reduce the development potential of the region.

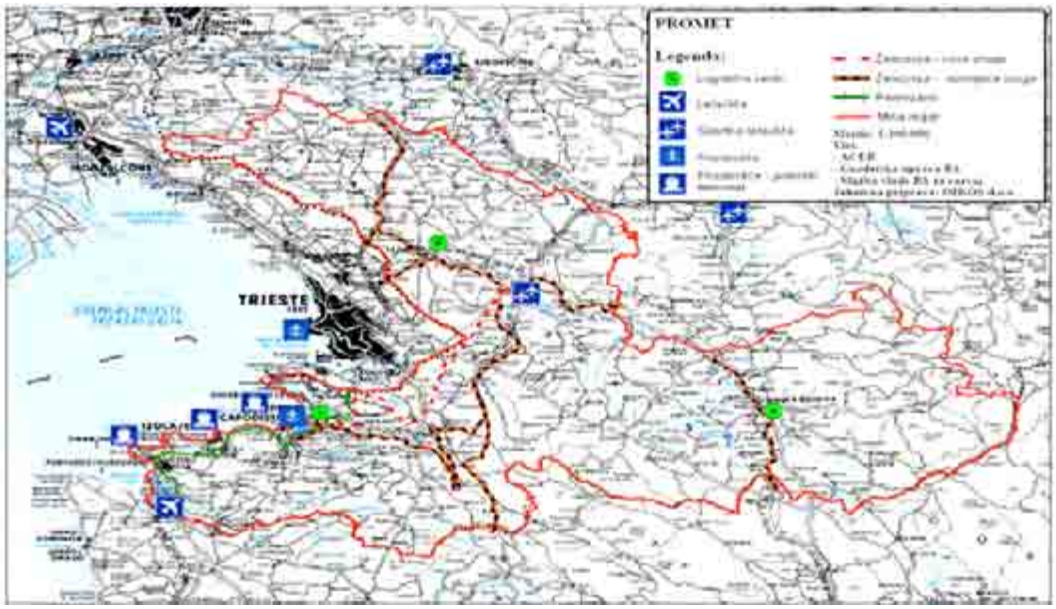

Figure 18: ***Transport***

Therefore, strategically significant urban centres (especially the Koper–Izola–Piran conurbation) need comprehensive transport strategies, taking into account a wider area supplied by these centres (at the cross-border and regional levels, regardless the municipal/and national borders). Such strategies will define strategic investments, the measures regarding the management of traffic flows, including the measures supporting the renewals of particular town districts. Investments will be needed in new technologies and the measures for changing the transport habits of the population. The measures will be directed also to the provision of better accessibility of services at reduced mobility, the measures promoting the access on foot and by bicycles as an important mode of urban mobility and the measures increasing the competitiveness of public transport.

The institutions responsible for the introduction of measures will be municipal administrations, co-operating between themselves, public transport operators and other stakeholders. Cross-border co-operation will be established, in particular with Trieste, in order to achieve a co-ordinated approach to solving this problem.

Figure 19: ***Transport – sustainable mobility***

The activities leading to the modal breakdown to the benefit of sustainable mobility modes are:

- establishment of attractive, safe and handy footpaths and cycle routes, connecting the residential areas, employment centres, town centres, schools and educational institutions, and other key destinations, by taking into consideration the examples of good practice;
- establishment of main public transport corridors, including the lanes reserved for public transport in the areas of frequent traffic jams;
- strengthening the role of motor and rail public transport; and
- calming down the traffic in town centres and through settlements (parking areas at the periphery of towns, P-R system, ”destimulation” of long parking, rerouting of commuters to public transport, closing the town centres to motor road traffic, slowing down the traffic, improved traffic safety, etc.).

The following is of key importance in order to enhance the competitiveness of the region and to realise its development potential:

- establishment of an adequate sustainable mobility system;
- completion of the missing sections of the motorway network in the region;
- construction of the second railway line Koper–Divača and the modernisation of railway network;
- construction of a railway link between Koper and Trieste;
- recategorisation and improvement of particular roads for better supply of remote areas;
- construction of the third pier in the Port of Koper and the establishment of maritime passenger terminal in Koper and passenger piers in Portorož, Izola and Piran; and
- modernisation of the Portorož Airport and better connection of the region with the Brnik, Ronchi, Pula and Krk airports.

Transport systems, especially road, railway and maritime systems, both passenger and freight, will be connected at contact points, which will enable the changing (freight and passengers) between different transport modes. Multimodal logistics centres will be established in Koper (connection of maritime, rail and road transport) and in Sežana and Ilirska Bistrica (connection of rail and road transport). In urban centres, suitably arranged footpaths and cycle tracks are of special importance for the provision of appropriate access to social services and the connection between the said transport systems.

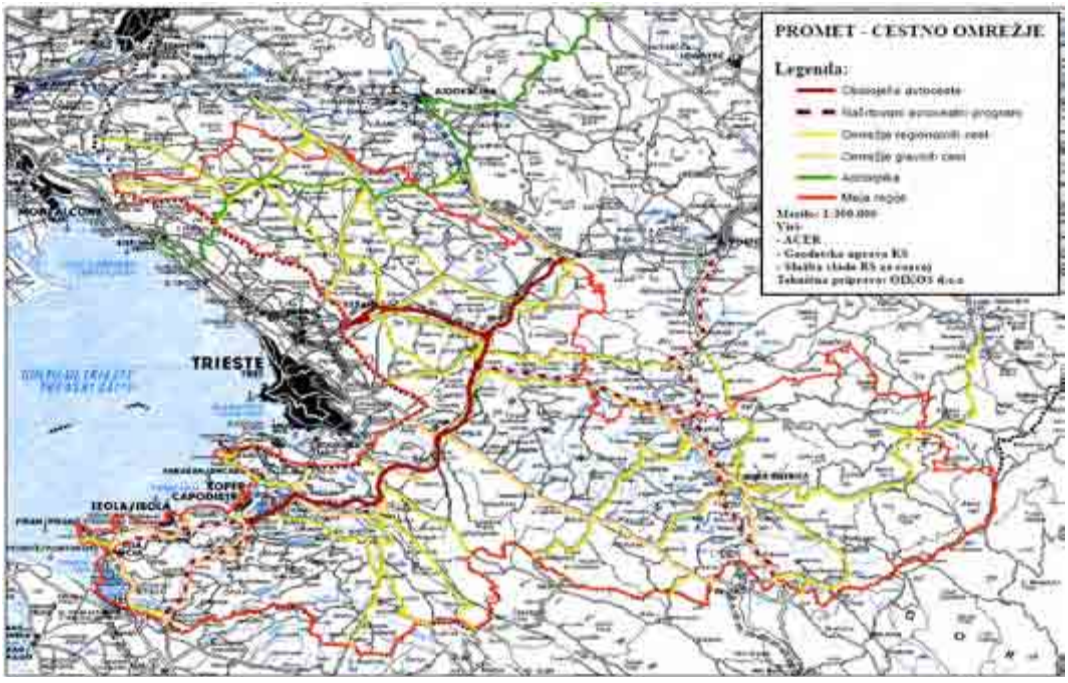

Figure 20: ***Transport – road network***

Description of the spatial planning measures in the field of transport infrastructure management:

Measure	Objectives
Establishment of sustainable mobility	▪ Improved access to transport services for a large circle of users ▪ Increased traffic safety ▪ Reduction or prevention of the need for motorised mobility through efficient location of activities ▪ Improved and extended infrastructure for sustainable mobility
Integrated planning of transport infrastructure	▪ Harmonised planning of activities and development of settlement networks in relation to the development of transport network ▪ Reduction or prevention of the need for motorised mobility through efficient location of activities
Road transport infrastructure	▪ Increase the transport accessibility and transitivity of the region ▪ Reroute the road traffic flows from the precious coastal strip ▪ Improve the condition of the roads of regional and local order ▪ Ensure adequate connection of regional and local road network to the national network
Rail transport infrastructure	▪ Increase the transport accessibility and transitivity of the region ▪ Reroute the freight transport to the railways ▪ Construct new rail connections and modernise the existing ones
Maritime transport infrastructure	▪ Increase the transport accessibility and transitivity of the region ▪ Growth of the Port of Koper as a freight and passenger port ▪ Establish the system of public maritime transport
Air transport infrastructure	▪ Development of the Portorož Airport into an important passenger terminal for medium and business airplanes ▪ Modernisation of airport infrastructure

Projects:

- Establishment of sustainable mobility system in the region
- Construction and modernisation of the road network
- ADRIALPIKA
- Second railway line Divača – Koper
- Modernisation of railway network
- Development of the Port of Koper
- Maritime passenger terminal Koper
- Multimodal logistics centre

4.5 Municipal Infrastructure

Water supply will be provided from three existing public supply systems:

- the Rižana water supply system utilising the spring of the Rižana River, Gradole in Brestovica;
- the Kras water supply system utilising the Klariči (Brestovica) reservoir and Nanos water sources; and
- the water supply system of Ilirska Bistrica utilising the spring of Bistrica River.

In order to meet the needs for water in the region, it is proposed to construct two retention reservoirs at the Padež and Suhorka watercourses having an adequate catchment area, while the construction is possible in more phases and the safety of the water resource is higher. The new water resource will provide a long-term supply of drinking water for the population presently supplied by the Rižana water supply system, and at the same time this source will represent a reserve source of water for the Kras and Ilirska Bistrica water supply systems. A connection should be established within the regional water supply system, namely, between the Kras and Ilirska Bistrica water supply systems and between the Ilirska Bistrica system and the planned Padež–Suhorka water source. The municipalities and public enterprises will continue the construction and renewal of drinking water supply infrastructure (asbestos cement pipes, there are still pockets of unregulated water supply in the region – Kras, Brkini), improve the management and protection of local water sources and promote utilisation of retained and secondary waters.

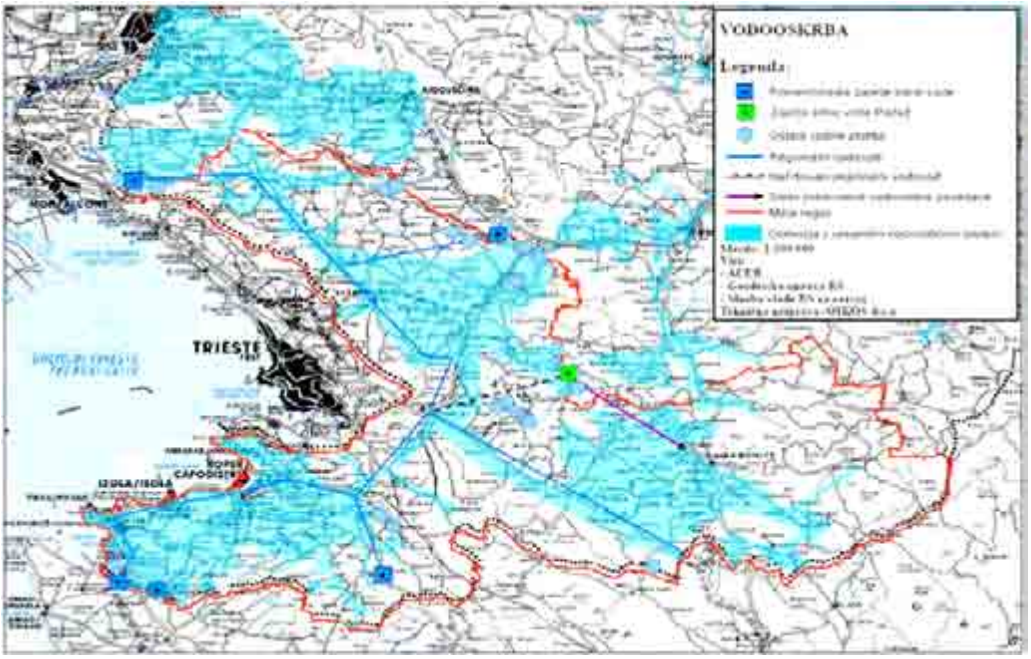

Figure 21: *Water supply*

The regulation of discharge and treatment of urban wastewater is based on the national and municipal Operational Programmes for the Discharge and Treatment of Urban Wastewater. It is foreseen that the infrastructure in settlement areas with more than 10,000 PE will be completed until the end of 2008, and for those between 1,000 and 10,000 PE until the end of 2015 (over 95% of the load will be connected to public sewage system until the end of 2017), as well as the settlements with over 50 PE and the population density above 20 PE/ha (or 10 PE/ha) in vulnerable and catchment areas. Especially because of considerable financial burdens, the implementation of municipal Operational Programmes is very demanding. As a result of characteristic dispersed settlement in the area, the cost of establishing adequate wastewater management is very high or higher than the determined eligible cost. For this very reason, appropriate alternative solutions will have to be determined in the field of wastewater management. Inter-municipal co-operation in planning and construction of municipal infrastructure is of utmost importance in ensuring efficient wastewater management, as also for efficient operation of municipal utility services.

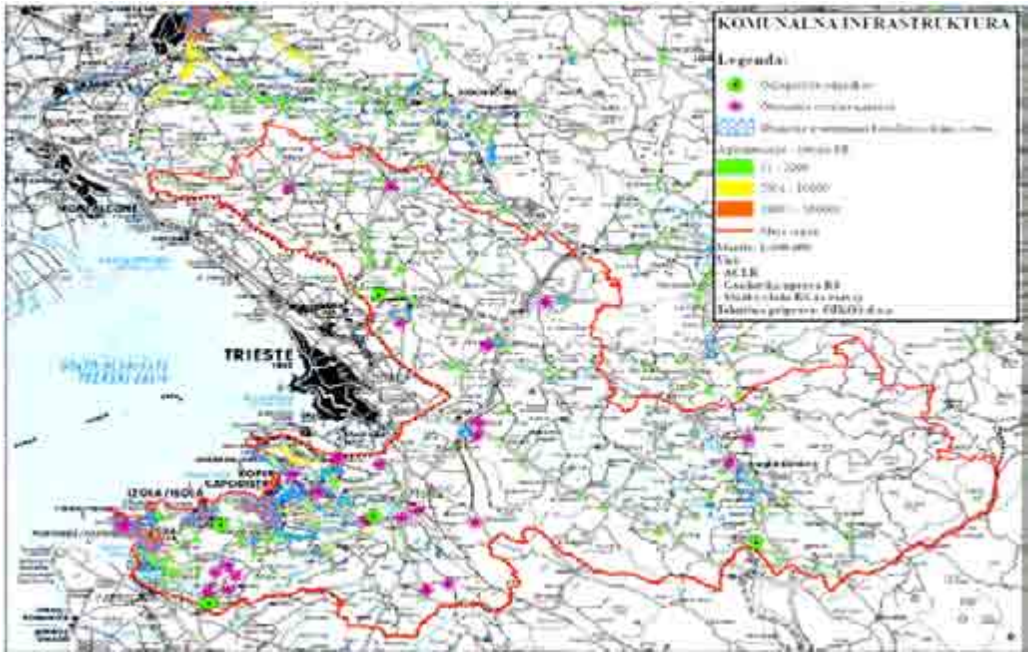

Figure 22: *Municipal infrastructure*

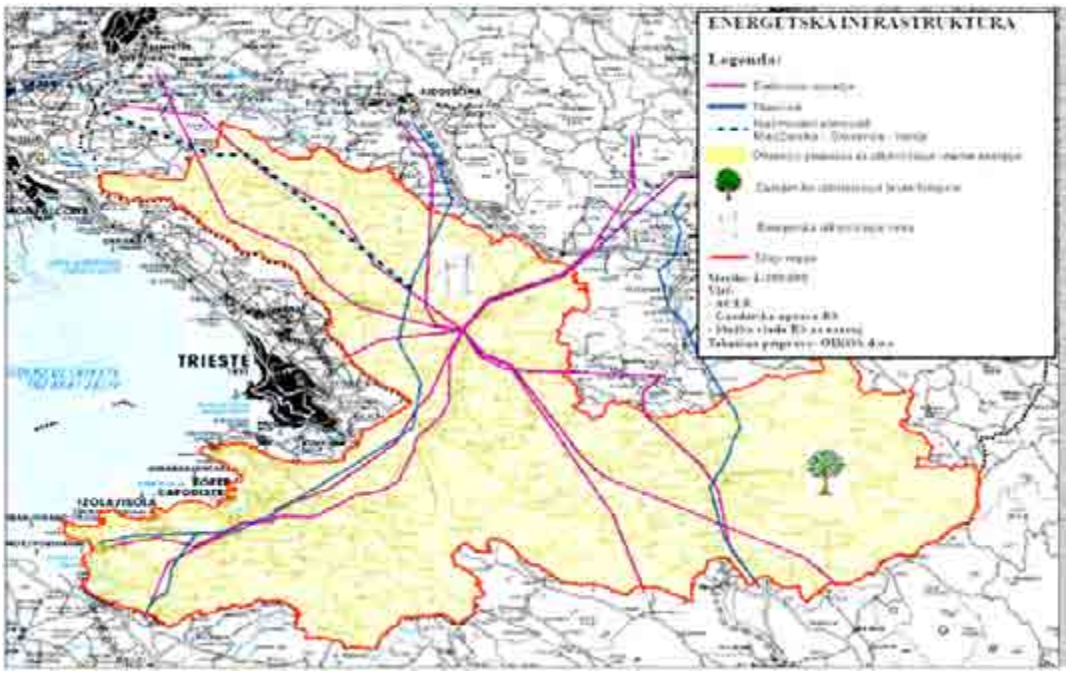

Figure 23: ***Energy infrastructure***

An agreement should be reached as soon as possible on a suitable location for the construction of regional Waste Management Centre (WMC). The location, however, should be chosen through active participation of residents in all planning and construction procedures. Alternative solutions for waste management should be developed and a comparative analysis carried out at regional level. In this respect, the co-operation between municipalities is of utmost importance.

It is planned to construct a network of transmission and distribution gas pipeline. Special emphasis should be placed on the development of local energy supply and the utilisation of renewable energy sources. Because of the geographical situation, the use of **solar energy** should be seriously considered in the coastal part of the region.

Internal local/sub-regional fibre optic connection should be set up in the region to form a backbone for the establishment and provision of new technologies, which will influence also the mode of operation and spatial redistribution of activities. In order to establish a modern communication system, it is necessary to interconnect all larger centres (municipality centres) by efficient transmission (optic cables). The municipalities and the region will promote development and introduction of modern telecommunication infrastructure also on the level of local centres.

Description of spatial planning measures in the field of municipal infrastructure management:

Measure	Objectives
Completion of the basic environmental infrastructure	▪ Ensure high-quality public utility services for the population and the economy ▪ Ensure efficient wastewater treatment – upgrading of sewage network and TP ▪ Ensure safe drinking water supply and reduce water losses in plumbing – modernisation of water supply networks, construction of Suhorka-Padež retention basin ▪ Arrange the regional waste management centre of order I ▪ Reduce the environmental pressures
Sustainable energy supply	▪ Harmonised planning of settlement areas, economic zones and infrastructure for energy supply (municipal heating, steam supply, gas pipeline) ▪ Clear definition of the conditions for location of renewable energy sources projects (solar, wind, biomass)
Development of information communication technologies	▪ Reduce the economy communication costs ▪ Wide accessibility to ICT with an emphasis on the provision of adequate infrastructure to smaller settlements

Projects:

- Modernisation of water supply systems in order to reduce the loss of water and substitute the water supply network made of asbestos pipes and drinking water supply
- GOJUP – waste management in South Primorska
- The system of discharge and treatment of urban wastewater
- Development of the ICT regional backbone

4.6 Landscape

Agriculture, Fishery and Forestry

Modern, sustainable approaches to food production (integrated production, ecological production) are increasingly gaining ground in the region and exploiting the natural particularities (soil, climate, relief). Regarding the natural structure and climatic conditions, the conditions in different parts of the region are suitable for various farming modes. It would, therefore, be appropriate to further develop them in the future and thus establish a system of internal specialisation of the agricultural production in the region.

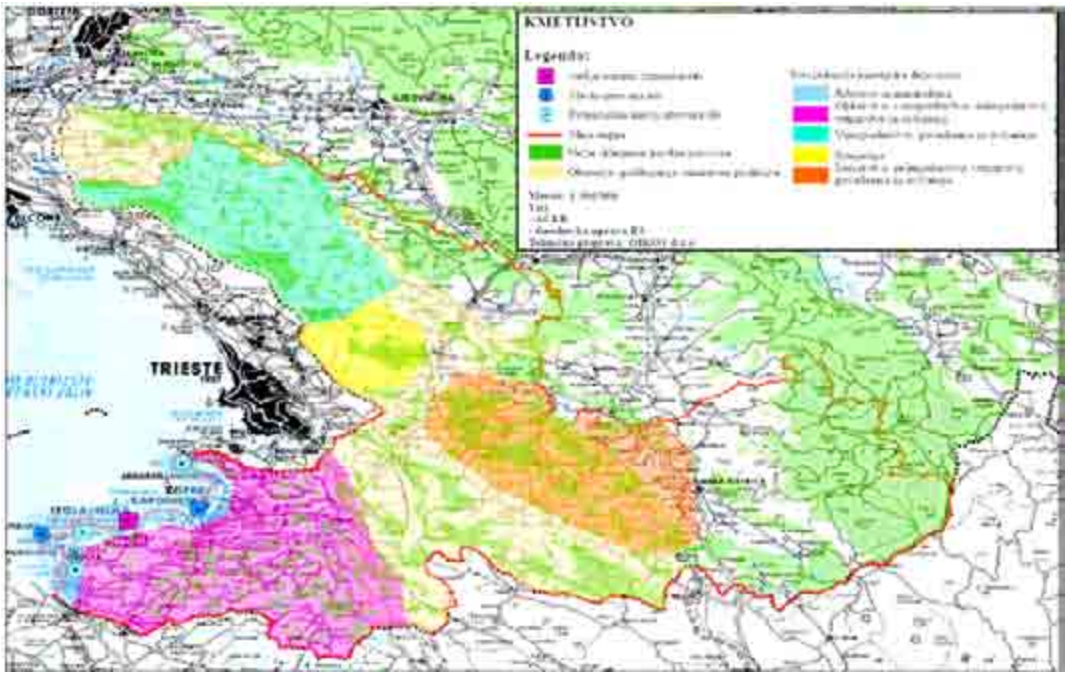

Figure 24: ***Agriculture***

Kras and Slovenian Istra need water for **irrigation** of agricultural land; however, a detailed analysis of the needs for and the justification of irrigation have not been done. An accurate analysis of the situation is needed, as well as a feasibility study and a cost-benefit study in order to determine the suitability of irrigation measures by areas, and the type and intensity of production.

Fishery is important on the coastal strip and at sea, and mariculture is developed in three locations (fish farming and shellfish farming). Modern infrastructure is required to develop fishery, which includes the arrangement of suitable fishing ports and the space for the unloading of fish. These facilities are planned on the existing locations in Izola, Koper and Piran, while potential locations are also Ankaran, Strunjan and Seča, as related to the present locations of mariculture.

Integration of natural and cultural potentials of the region:

- protection, management and integration of cultural heritage; and
- protection, management and integration of protected areas.

The objectives of the integration of the listed natural and cultural potentials of the region with an established management system are as follows:

- development of tourist products in connection with nature protection areas and cultural heritage;
- harmonisation of protected areas management regimes;
- preparation and implementation of common projects (development of tourist destinations, thematic paths);
- joint promotion and raising the awareness of local population and visitors; and
- preservation and promotion of regional identity.

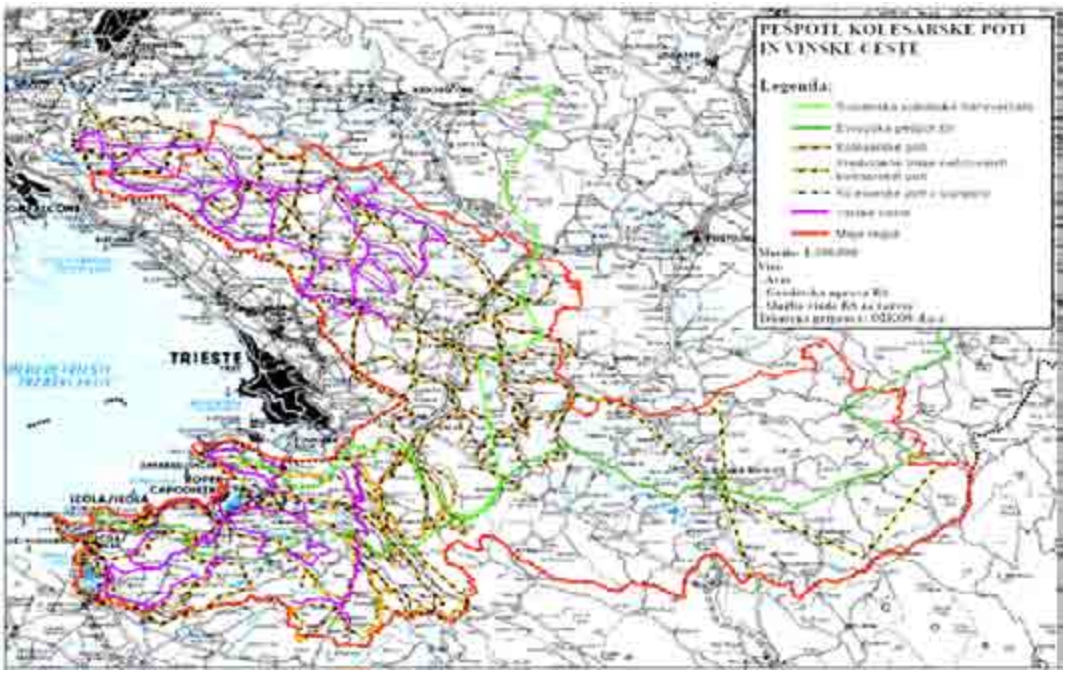

Figure 25: ***Footpaths, cycling and wine trails***

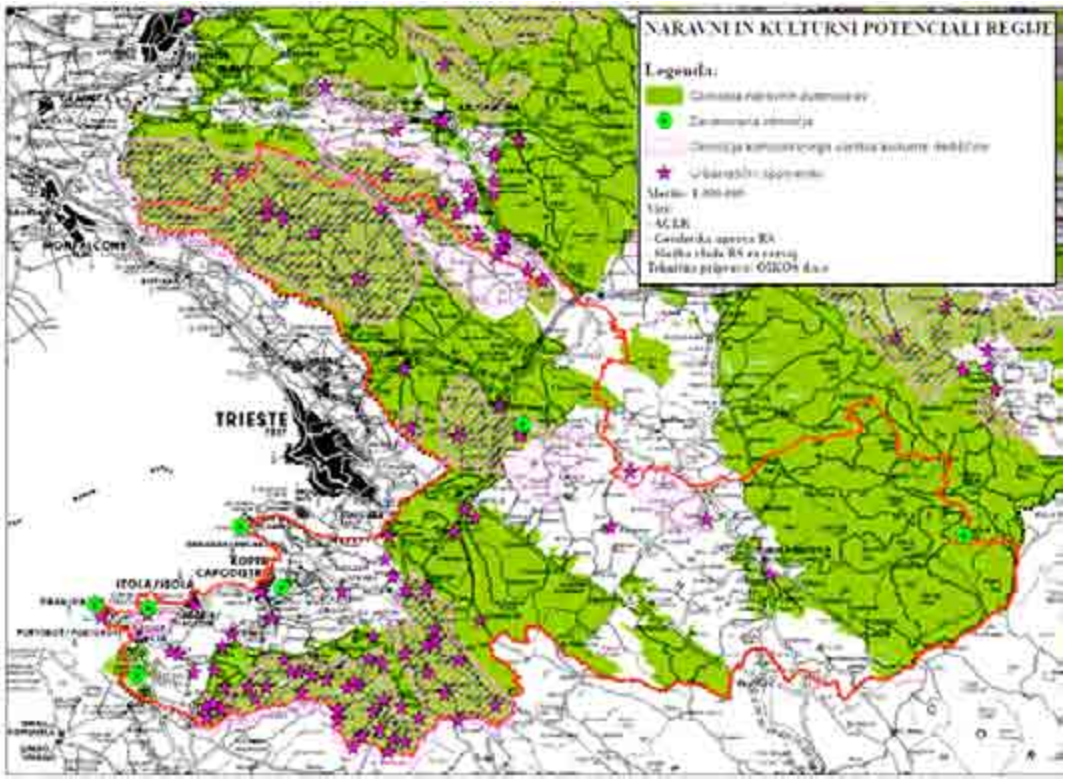

Figure 26: ***Natural and cultural potentials of the region***

Protection, Use and Management of Waters

Due to the specific characteristics of the karstic area, the water sources are essentially more sensitive to the pollution of soil, water and air. The principal sources of pollution are: urbanisation and the unsolved problems of discharge and treatment of wastewater; dispersed building; industry and agriculture; and a constant threat of eventual pollution from various sources, in particular related to ecological disasters. All water sources in the region must be properly protected by national regulation. However, the most significant measure is the implementation of protection regimes. In addition, the future regional spatial development will ensure that the restrictions arising from the water protection requirements are adequately compensated by various development incentives and various forms of compensation.

Protection Against Natural Disasters

Flood areas are in some smaller sections of certain rivers (Rižana, Badaševica, Pinjevec stream, lower current of Dragonja, Reka, Vremska dolina), while the sea floods only on a narrow coastal strip at the Semedela canal, in Piran.

Erosion areas demanding stricter anti-erosion measures cover almost the entire areas, from the Kras Edge to the coast, i.e. the whole flysch area, as also the Brkini area. There are, however, also the erosion areas (at the margins of Vipavska Brda) that require normal anti-erosion measures.

Fire risk is an important factor in the region due to the dry and warm sub-Mediterranean climate in combination with degraded sites. Fire risk further increases due to traffic corridors crossing the region, particularly the railway.

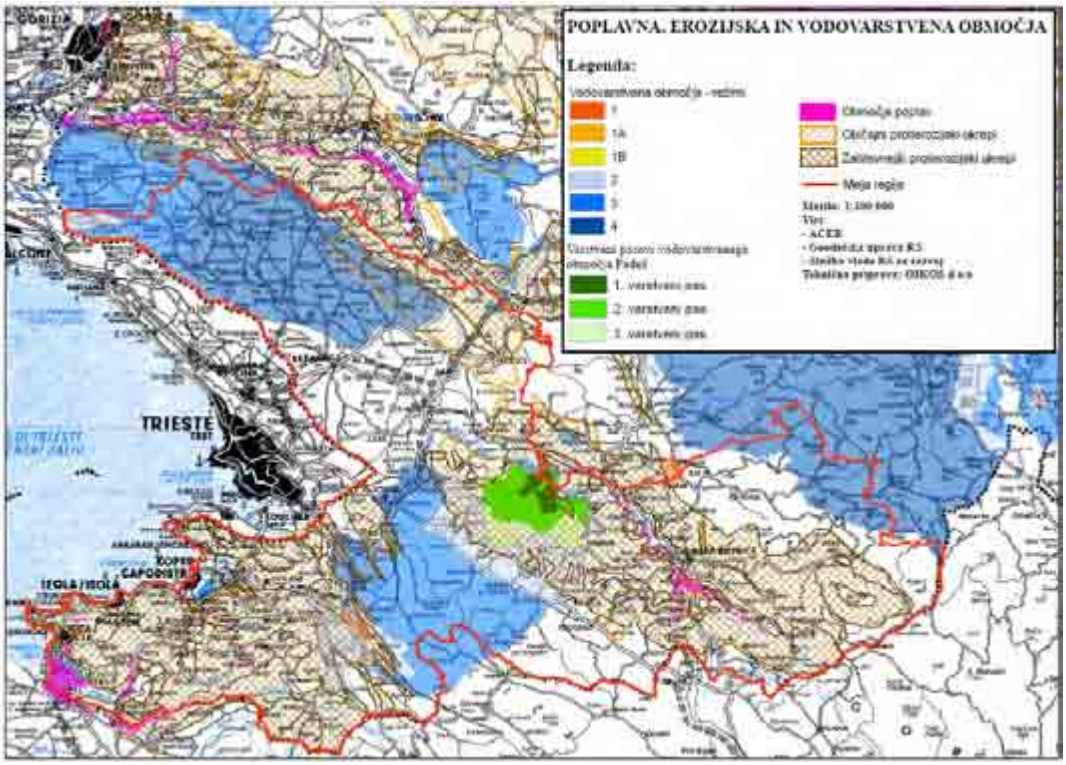

Figure 27: ***Flood, erosion and water protection areas***

Coastal Area Management

Partnership approach is crucial to development and spatial planning of the coastal area. To this end, partnership will be consolidated to achieve integrated management of coastal area, joining the stakeholders in the field of regional development, spatial planning, water management, nature preservation, fishery, transport, protection of cultural heritage and others.

The objectives of the establishment of a coastal strip with a special management regime are:

- establishment of harmonised spatial planning rules along the entire length of the coast in municipal spatial planning documents;
- establishment of inter-municipal harmonised spatial conception for specific activities (moorings, operative coast for maritime activities);
- establishment of harmonised measures to disburden the coast by reducing the motor traffic, and management of the coast accessibility;
- preparation and implementation of common projects (coastal footpath along the entire coast length, construction of an island, the programme of green areas arrangement, the programme of bathing areas arrangement);
- development of tourist products related to the coastal strip and associated protected areas of nature and cultural heritage;
- harmonisation of coastal strip management regimes; and
- joint promotion and raising the awareness of the citizens and the users of the coastal strip.

Description of spatial planning measures in the field of activities and land use in the landscape:

Measure	Objectives
Agriculture	▪ Ensure adequate accessibility of cultivated areas ▪ Ensure flood protection of cultivated areas ▪ Directing agricultural activities to the land with the most suitable conditions leading to the adjustment of land categorisation with its actual use ▪ Removal of farms from pure residential areas to more suitable locations with better development potential
Fishery development	▪ Arrange fishing ports and the places for unloading fish ▪ Arrange first sale places for fishing products and the fish market
Improvement of the economic value of forests	▪ Increase the forest openness by the reconstruction and construction of forest roads and sledges to reduce the cost of bringing in wood ▪ Merger of forest properties
Protection, management and integration of cultural heritage	▪ Establish efficient management of areas and facilities of cultural heritage ▪ Cultural heritage in use (tourist, cultural activities, dwellings, etc.) ▪ Renewal of town centres and parts of settlements
Protection, management and integration of nature protection areas	▪ Establish efficient management of protected areas by defined managers and management plans ▪ Establish recreational and interpretation infrastructure in protected areas ▪ Favourable condition of species and habitats
Protection, use and management of waters	▪ Protection of water resources and their potentials regardless their present or future use ▪ Preservation of natural watercourses and their water regime
Protection against natural disasters	▪ Ensure flood safety for urban and agricultural areas ▪ Preserve natural retention capacity (preservation of wetlands, dead river branches, groves), reduce impermeable areas, and direct the uses interfering with drainage regimes (urbanisation, intensive agricultural areas) ▪ Prevent unsuitable uses and actions in erosion areas ▪ Ensure fire safety (forest cuts, construction and renewal of dry walls, buffer zones along railway lines)
Coastal strip management	▪ Prepare spatial and project documentation for the arrangement of key sections of the coast, and tourist and recreational infrastructure (construction of an island offshore the town of Izola, arrangement of the coast between Koper and Izola upon the construction of a new high-speed road, renewal of the eastern part of Izola) ▪ Implement priority investments (arrangement of individual parts of the path, arrangement of bathing areas, arrangement of the infrastructure in protected areas directly adjacent to the coast) ▪ Prepare the measures for coastal area accessibility management

Projects:

- Agrarian operations
- Arrangement of food processing facilities
- Regulation of trade in fish
- Improvement of the economic value of forests
- Establishment of management and integration of protected areas

Horizontal Measures:

Co-operation

Measure	Objectives
Cross-border co-operation	▪ Strengthen the competitiveness of the region and urban potential ▪ Establish partnerships with neighbouring regions/provinces (Province of Trieste, Province of Gorizia, Region of Istra, Region of Primorsko-Goranska)
Co-operation with the Government on common projects	▪ Establish partnerships for a more efficient action, in particular in the areas of development and location of transport network, protection of water sources and the management of water and the sea, appropriate use of agricultural land, establishment of protected areas management ▪ Agree on inspections, which will prevent illegal interventions into physical space
Co-operation with neighbouring regions (provinces)	▪ Exchange of information and experience ▪ Interregional planning ▪ Exploitation of synergic effects of planned actions
Inter-municipal co-operation on strategic spatial projects	▪ Strengthen the competitiveness of the region ▪ Sound use of physical space and thoughtful distribution of functions between individual areas ▪ Establish appropriate access to functional areas

Active Land Policy

Objectives of the measure	Instruments
Impact on real estate prices Protection of strategic development areas (areas of tourist facilities, business zones, the coast, etc.) Accessibility of green areas and social services (ensuring the accessibility, free crossing and efficient access)	Enforcement of pre-emptive rights Restrictions in real estate trade Taxation (taxes, duties, compensations, subventions, favourable loans) Determination of the relations between private and public accessible areas Planning of budget funds for active land policy

A horizontal measure important for the achievement of the set spatial planning objectives is **Education and awareness**, even though this is not a spatial measure but above all an organisational measure and a measure of environmental protection policy. Education and awareness of local population and visitors should be achieved especially in the following areas: preservation of natural and cultural heritage, coastal area management, promotion of alternative mobility modes and efficient use of natural resources.

5. Recommendations for Follow-Up Activities

- At the regional level, the criteria for directing and promoting the development of settlements and their role in the network of settlements should be elaborated in detail on the basis of general criteria.
- In the project follow-up, special attention should be given to systematic collection and treatment of information on transport and the consideration of the three types of transport: transit, tourist and local. This will serve as a basis for the formation of appropriate integrated transport plans, with a purpose to promote sustainable mobility modes and co-ordinated planning of transport and settlement network.
- In the project follow-up, suitable alternative solutions for the regulation of wastewater management should be determined. In providing efficient wastewater management, it is imperative to ensure inter-municipal co-operation in planning and construction of municipal infrastructure, as also for efficient operation of municipal utility services.
- An agreement should be reached as soon as possible on a suitable location for the construction of regional Waste Management Centre (WMC). The location, however, should be chosen through active participation of residents in all planning and construction procedures. Alternative solutions for waste management should be developed and a comparative analysis carried out at regional level. In this respect, the co-operation between municipalities is of utmost importance.
- Due to the ever-increasing pressure on the use of the sea (inner sea, territorial sea) – transport, fishery and mariculture, recreation, protected areas, energy supply, etc. – a spatial plan will be prepared for the sea use, providing a spatially harmonised use of the sea and various use regimes. The municipalities will launch an initiative that the spatial plan be harmonised in the area of the whole Gulf of Trieste, in co-operation with partners from Italy and Croatia and their regional and local representatives, respectively.

6. Assessment of Environmental Impacts of the Conception of Spatial Development of South Primorska

This chapter defines and assesses the expected positive impacts, as well as negative ones, which the implementation of measures and projects defined in the Conception of Spatial Development of South Primorska may have on the environment, nature, human health and cultural heritage at the regional level. The impacts of plan implementation on the above-mentioned segments are assessed on the basis of impacts of plan implementation on selected environmental objectives of the plan.

It was established during the report preparation (identification and assessment of impacts) that the implementation of the Conception will most **positively** affect (presented in a random order):

- sustainable use of natural resources, particularly in the sense of rational use of land and renewable energy sources;
- improved status of surface and ground waters, as the input of pollutants into waters will reduce due to the construction of municipal infrastructure and by taking the utmost account of legal acts relating to water protection areas while locating the activities/facilities which affect such areas;
- reduction of emissions into the air (public passenger transport, cycle tracks, footpaths, utilisation of renewable energy sources, reduction of the need for motorised mobility due to good accessibility of social services and the infrastructure for alternative transport modes, improved road fluidity, etc.);
- more efficient preservation of nature and biodiversity through the actions directed towards the establishment of a network of protection areas with active management (management plans and clear management structure);
- improved access to social services, thus contributing to the improvement of living conditions;
- ensuring flood safety and prevention of inappropriate land use in erosion areas;
- preservation of cultural heritage, especially in terms of maintenance of the function of buildings and cultural heritage areas;
- transport efficiency; however, it should be noted that the achievement of the environmental objectives in the field of public transport does not depend only on the accessibility of public transport but also on other factors, such as regulated and harmonised timetable of all public means of transport, single tickets and, finally, the mentality of inhabitants; and
- rerouting of freight to railways; however, it should be also noted here that transfer does not depend only on arranged loading hubs but also on other factors, such as travel time, financial aspects, etc.).

On the other hand, it is appropriate to note that the implementation of the measures proposed in the Regional Development Programme 2007–2013 and spatially integrated in the Conception may have a **negative effect** on (presented in a random order):

- water consumption by industry – measures should be taken to reduce losses in water supply system, re-use the wastewater, introduce integrated management of demand for water in agriculture and measures for rational use of water in tourism, households and elsewhere;
- further increase in the emission of air pollutants due to the activities increasing transport flows and consequently the amount of air pollutants: therefore, rerouting of freight to railways and strengthening sustainable mobility is necessary;
- deterioration of the sea due to the foreseen increase in maritime transport, both cargo and passenger; it is, therefore, necessary to take fully into account the regulatory requirements and the stipulated mitigation measures to minimise the negative environmental impacts of maritime transport;

- a threat of increased noise emissions resulting from the planned construction of traffic infrastructure (new road sections, the second Koper–Divača railway line, increased traffic flows); however, the planned modernisation of roads and railway has also a positive effect on the reduction in noise emissions (better traffic fluidity, less traffic congestions, modern technology).

The projects and measures stated in the Conception of Spatial Development and based on national and regional development acts (National Development Plan or National Strategic Reference Framework, National Environmental Action Programme, Regional Development Programme of South Primorska, all for the period 2007–2013) will contribute also to the achievement of broader objectives of the European Sustainable Development Strategy and the Mediterranean Strategy for Sustainable Development. In particular, the contribution in the following fields should be highlighted:

- in the field of transport, especially by introduction of sustainable mobility and a greater role of railways in freight transport;
- reduced pressures on aquatic environment, in particular by implementation of an extensive and financially very demanding construction of infrastructure for discharge and treatment of urban wastewater and by carrying out other measures in the framework of water management plan in the Adriatic Sea water watershed;
- in the field of waste management, particularly with the establishment of WMC, the system of integrated waste management in the region, the remediation of old burdens (recording and remediation of illegal landfills), regulation of waste management along the coast (washed-up waste, waste in the area of municipal moorings), information, awareness raising and public promotion;
- in the field of energy supply, by promoting the measures for increased utilisation of renewable energy (solar, biomass, and also wind energy, if the locations are not in contradiction with the protection of landscape, nature and biodiversity);
- in the field of tourism, especially by a more even spatial distribution of tourist activities, prudent spatial planning of coastal tourism capacities (within the existing settlement areas), closer integration of tourism, more efficient destination management and development of infrastructure for sustainable development of tourism;
- in the field of spatial development and urban development, particularly by promotion of even spatial development and control of littoralization, reurbanisation of degraded areas along the coast and revitalisation of urban and other centres; and
- in the field of coastal and marine resources management, in particular by stopping the urbanisation of the coastal strip, reurbanisation of degraded coastal areas, implementation of measures for the protection of nature and biodiversity (establishment of a system for nature protection areas management, systems of monitoring the state of biodiversity, renewal of mutilated parts of nature, integration of protected areas and development of tourist products in relation to nature protection) and arrangement of footpaths along the entire coast.

DETAILED CONCEPTION OF COASTAL STRIP SPATIAL ARRANGEMENTS

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1. Introduction

The project entitled “Detailed Conception of Coastal Strip Spatial Arrangements” is one among the eight tasks within the CAMP project and is a constituent part of the Conception of Spatial Development of South Primorska. The project represents the most comprehensive section of the regional development concept, which is why it is organisationally considered as an independent project. Based on the regional development concept, the guidelines for the preparation of the spatial development strategies of the municipalities and their spatial orders as well as guidelines for the preparation of national location plans will be defined.

The project consisted of four phases:

- the report on the first phase of the project includes an overview and analysis of premises, professional foundations, studies, and projects;
- the report on the second phase of the project presents the analysis of the situation in relation to the coastal strip management in Slovenia: an analysis of premises for coastal strip management and the preparation of the vision, objectives and the strategy for the spatial development of the coastal strip;
- the report on the third phase of the project includes the preparation of alternative options for coastal management in three selected planning areas, recommendations for the evaluation of spatial interventions (evaluation criteria), and indicators for sustainable development monitoring in the coastal strip; and
- the report on the fourth phase of the project explains the preparation of a comprehensive concept of spatial planning of the coastal strip; final definitions, comprehensive rules for spatial planning and coastal strip management and planning programme; and definition of key projects and co-operation methods among the participants in spatial development.

1.1 Spatial Planning Situation

Spatial and spatial planning situations are based on the rules of spatial planning defined by previous generations of spatial documents and the general approach to spatial planning. In accordance with planning principles of the socialist economic and social structures, previous spatial plans were mostly characterised by their explicit orientation toward spatial zoning. Spatial development priorities in the coastal municipalities were directed toward the assurance of conditions for the development and spatial regulation of individual sectors. To a certain extent, the process neglected the old historical town centres and the wider countryside hinterland, which under the new economic circumstances can be considered as elements with special development potential.

In addition to the preservation of sensitive balance among the realisation of strategic objectives, sustainable development objectives and partial investment interventions that are often the only realistically viable ones at a given moment, the question of planability, related to the feasibility of spatial documents, bears key value. The coastal strip alone that has key strategic importance for the state and municipalities is the domain of different development initiatives. However, being a very vulnerable area under a high degree of protection, it is even more difficult to assure the balance among different interests.

1.2 Definition of the Problem

The result of an exhaustive analysis was the definition of key problems in relation to spatial planning and management in the coastal strip:

- a democratic but explicitly liberal-oriented market initiative in spatial interventions;
- partial solving of spatial problems; and
- uncoordinated activities of sectors and various levels of planning.

The following negative spatial development trends can be observed in the space environment:

- uncoordination between development plans concerning settlement patterns, traffic and communal infrastructure;
- imbalanced spatial development where old town centres and the countryside hinterland are undergoing less intense development than sub-urban settlements and town suburbs, which exerts an influence on shoreland area use;
- the presence of a variety of activities in the coastal strip and its hinterland with negative influences on the space environment; and
- visual degradation of specific coastal environments of natural and built structures.

1.3 Purpose

The task of a "Detailed Conception of Coastal Strip Spatial Arrangements" provides professional foundations for the Regional Conception of the Spatial Development for South Primorska. In addition, the task provides professional foundations for the preparation of strategies for the spatial development of municipalities, municipal spatial orders, and municipal and national location plans in the coastal strip.

1.4 Objectives

For the municipalities and the state to bridge the present gap between the opposing practices of partial operation and a sustainability-oriented vision of spatial development, the task has to provide solutions at different levels. On one hand, the task of the "Detailed Conception of Coastal Strip Spatial Arrangements" provides professional guidelines for the distribution of spatial activities and detailed rules for spatial planning in the coastal strip whereas on the other hand it provides guidelines for the preparation of spatial planning instruments. The application value of the task lies in:

- its direction guidelines – it can be used as a professional framework for the preparation of a new generation of spatial documents at different levels; and
- the possible use of its results as criteria for the evaluation of the adequacy of individual spatial interventions.

1.5 Results

The project provides fundamental guidelines and comprehensive rules, instructions and methodology aiming to co-ordinate development opportunities of individual spatial potentials with principles of sustainable development. A separate chapter is dedicated to specific environmental properties of the coastal strip, included in the detailed rules of spatial planning as amendments to fundamental regulations of the Spatial Order of Slovenia. Concrete results are given in the following sections:

a. **methodology:** methodology of the implementation of strategic premises in the space environment (planning level, implementation level);
b. **premises and objectives:** strategic premises and objectives of spatial development;
c. **space: perception model:** the division into 5 characteristic spatial units characterises the present conditions in the coastal strip; a qualitative upgrade with individual comprehensive guidelines for its possible physical/spatial reanimation is necessary;
d. **programme: functional model:** guidelines for the distribution of suitable activities in the space environment: the division of the coastal strip into 4 spatial area categories, defined in terms of existent legal regimes, natural preservation of the environment, present and future use of the space environment, and mutually exclusive legal regimes;
e. **detailed conception – development models:** alternative conceptions for coastal strip planning in three selected planning areas;
f. **detailed guidelines:** detailed guidelines for coastal strip planning take into consideration the specific properties and amend the fundamental rules of the Spatial Order of Slovenia;

g. **criteria:** criteria for coastal strip planning or for the evaluation of alternative spatial solutions; and

h. **instruments:** preparation of the programme for the implementation of the regional conception – definition of key projects; and indicators for sustainable development monitoring of the coastal strip.

1.6 Definition of the Sea, Shore, Shoreland and Coastal Strip

The sea, shore, and shoreland areas as defined in the Water Act, ZV-1 (Official Gazette RS, Nos. 67/2002, 110/2002, 2/2004, 41/2004) and the Maritime Code in PZ (Official Gazette RS, Nos. 26/2001, 21/2002, 110/2002, 2/2004) are:

Sea

In the maritime regulations (Article 28, ZV-1) the sea is defined as internal and territorial seawaters. The internal seawaters of the Republic of Slovenia encompass all harbours, bays, as well as berths of the port of Koper, as delimited by meridian 13°39' in the east and parallel 45°35,4' in the north (Article 5, PZ). The territorial sea of the Republic of Slovenia covers the sea area extending from the fundamental line toward the open sea where it reaches its external border stipulated by international legislation or an international agreement. The fundamental line is the middle-level line of low waters or a straight line closing the entrance into the bay. In drawing the fundamental line delimiting the territorial sea the most exposed permanent port structures as constituent parts of the port system are considered as parts of the coast. The external borderline of the territorial sea is the national border of the Republic of Slovenia at sea (Article 13, PZ).

Shore

The shore is defined as the belt of land along the sea between the high-water and low-water marks (Article 7, ZV-1).

Shoreland

Land directly bordering aquatic land is defined as shoreland, which extends 25 metres inland from the border with the aquatic land of the sea (Article 29, ZV-1).

The regulations in force do not define the term 'coastal strip' used in the present subject task of the "Detailed Conception of Coastal Strip Spatial Arrangements". Given the findings reached while working on the task and the fact that the coastal strip is the area most exposed to different development pressures while also ensuring the functions of the public interest, we believe that a definition and spatial delimitation of the term 'coastal strip' is essential.

A proposed definition of the term **coastal strip** is:

A coastal strip covers:

- the sea and seabed where any use or legal regimes at sea or seabed based on declaratory state documents or local communities are recorded;
- the seashore; and
- the shoreland area.

We suggest that all other definitions, such as offshore line, coastal line, and coastal strip are not used, for it is possible to appropriately and unambiguously define all terms with the described definitions.

Note: The Water Act (ZV-1) directly defines the width of shoreland where the public interest of spatial interventions has to be clearly documented. It allows for different shoreland widths where the declaratory defined width (e.g., built shore in towns) is not applicable. In addition, in relation to the natural shore and protected natural preservation areas (e.g., coastal cliffs) the shoreland belt is wider.

2. Analysis of the Legislation and Definition of the Broader Strategic Development Framework

2.1 General Analysis of the Institutional Coastal Area Management System in Slovenia

Most Important Strengths

The most significant strengths in coastal sea and coastal area management are:

- mechanisms of international co-operation among countries sharing the same regional sea have been established;
- activities of non-governmental organisations in raising the public ecological and environmental protection awareness;
- legally defined natural and cultural heritage protection;
- established spatial development mechanisms;
- existence of a unit within the Agency of the Republic of Slovenia for the Environment competent for waters (covering all river basins of direct tributaries) and the coastal sea;
- mandatory emission and imission monitoring of polluters;
- imission monitoring of areas used for breeding edible sea organisms;
- imission monitoring of estuary areas of watercourses flowing into the sea;
- imission monitoring of the sea;
- stimulation of polluters through progressive taxes for burdening the waters and tax benefits that allow investments into the reduction of water pollution to reduce the burdening of waters; and
- participation of the organised public sphere in the decision-making on spatial interventions.

Most Important Weaknesses and Main Conflicts

The most significant weaknesses and main conflicts of/within the existing coastal area management are:

- no legally stipulated obligations for inter-ministerial and inter-sectoral counselling and co-operation in decision-making, co-investing, and solving of conflicts of interests;
- no legal mechanisms for specific area planning, such as coastal area (coastal belt) planning;
- no integrated coastal sea-use planning;
- no defined (by land parcel boundaries) shore and shoreland and no established legal regimes concerning existent shoreland use (use limitations);
- shore ownership in the land register is not accurate nor harmonised with regulations in force;
- division of competencies in relation to land and sea space – the municipalities are competent for spatial planning (also land use for activities that are functionally related to the sea) while not having competencies for sea-use planning;
- inefficient mechanisms of sector legislations in sea-use planning due to more recent regulations;
- imission monitoring of the coastal sea should include additional sampling locations;
- insufficient competencies and obligations of the Service for the Protection of the Coastal Sea (SVOM);
- insufficient inclusion of the knowledge of effects on sea use and reciprocal effects of sea use into professional foundations;
- scarce employment of fundamental economic instruments in sea-use planning;
- insufficient management of protected areas at sea and on the shore and insufficient task implementation by the selected operators; and
- unrecorded essential projects of regional importance for the development of the coastal area.

3. Analysis of the Situation and Spatial Development Trends

The analytic section of the research is primarily dedicated to the definition of the fundamental properties of the existent development trend and its structural materialisation in the physical space. Concrete results of individual analyses have provided the conditions for the formation of adequate methodology and instruments for spatial planning in the coastal area.

The trend of the present spatial development is closely related to the current social and economic development, exerting a key influence on conditions in the space environment. The trend is part of a broader local as well as global context that is only under a limited influence of spatial plans and campaigns, irrespective of how ambitious they may be. Despite the wishes that established but unwanted trends of spatial development would take a different course, we need to realistically consider the options of planability. Given the limited instruments at our disposal and the fact that the trend of spatial development is a result of the broader environment, it has been determined that it can only be subject to partial direction.

3.1 Overview of the Present Situation in the Environment, Pressures and Influences

Environment situation and its indicators are adequate indicators of the spatial development trend and the level of trend sustainability. The present situation is an element in the assessment of the present spatial development trend and assessment of the instruments at our disposal for its direction.

Identification of Key Potentials of the Coastal Area

The key environmental and spatial sources/potentials of the coastal area are the nature, cultural heritage, natural resources (fishery reserves, agriculture, forestry), recreational potentials (beaches, walking areas, tourism and recreation areas, green areas), urban and architectural qualities, and landscape qualities.

Figure 28: ***Strunjan Landscape Park "Mesečev zaliv"***

Figure 29: ***Piran – a town of exceptional heritage***

Figure 30: ***Simonov zaliv is a popular and well-visited bathing area***

Figure 31: ***Sečovlje Saltpan Landscape Park***

Identification of the Key Pressures on the Environment and Space

The key pressures on the environment and space in the coastal area derive from maritime traffic, yacht harbours, the Luka Koper port, road, rail and air traffic, tourism and recreation, the population, and industry.

Figure 32: ***Marina Portorož is much frequented; therefore, its expansion is planned***

Figure 33: ***Koper–Izola road occupies an attractive part of the coast below the cliffs***

Figure 34: ***Izola Shipyard borders with the old town centre***

Key Conclusions

It has been found out that spatial development patterns in the Slovene coastal area are significantly more sustainable compared to the described spatial development patterns in the broader Mediterranean context. The solving of existent conflicts is at a high level, which cannot be an excuse for waiting, rather an opportunity to further increase the sustainability of the current spatial development trend.

3.2 Spatial Development Trends in the Coastal Area

The definition of the essential properties of the development trend has been made in the form of a SWOT analysis. Two aspects of the trend have been considered: global-local and environmental-perceptive aspects.

Spatial Development Trend from the Aspect of Global Social Development (State, Region, Local Communities, Capital)	
Strengths	Weaknesses
▪ simultaneous development of the coastal region (promotion of the coastal area) ▪ location and concentration of national capital ▪ meeting development needs at different locations ▪ operation at different locations, exploitation of different environmental properties ▪ individual operation, development of the entrepreneurship sector that can be sustainability-oriented ▪ the principle of supply and demand, increase of competitiveness, flexible adjustment to current needs of the consumer society ▪ independent development and practically unlimited possibilities for different sectors ▪ realisation of the interest of local communities in the acquisition of new investments ▪ marketing of neglected spatial potentials ▪ selective exploitation of locations and capacities ▪ phase intervention ▪ integration of the public and entrepreneurial interest ▪ integration of the hinterland ▪ raising awareness of the capital ▪ opportunity for the synthesis of existing interests ▪ construction of the coastal promenade and recreational surfaces ▪ removal of inadequate activities from common public surfaces ▪ infrastructural development ▪ development of public transport	▪ high pressure in a limited area, population and activity concentration ▪ unused possibility for a conceptual approach (spatial planning, tourism supply, social infrastructure, etc.) ▪ intersection and exclusion of interests ▪ limited supervision, non-exploitation of 'all' potentials ▪ high number of locations with activities that exert a negative influence on the environment ▪ stagnation of the hinterland ▪ low tolerance among interests of different social and entrepreneurial groups (predominance of economic feasibility) ▪ too high prices of land available for construction purposes for the current needs of the local population ▪ non-transparent supply ▪ non-transparent ownership ▪ unselective interventions into the narrow coastal belt ▪ formation of an unsupervised structure of development nodes ▪ overburdening of the area and the consequent reduction of the competitiveness of the coast as a whole (due to over-saturation) ▪ lack of interest of '(new) quality' investors ▪ overexploitation of potentials and existing visual qualities of the coastal area ▪ absence of state stimulations ▪ loss of quality surfaces ▪ pollution ▪ interventions into the marine ecosystem

Spatial Development Trend from the Aspect of Built Interventions and Transformations of the Integrated Image (Environmental Perception)	
Strengths	Weaknesses
▪ critical mass and capital synergy causes a realisation of quality interventions and co-financing of the protection of natural heritage monuments ▪ distribution of activities in the entire coastal area prevents nodal concentration of built structures (e.g., hotel facilities) ▪ diversity of activities ▪ intertwining of the different built patterns (contrasts, continuity, compactness, line, node) ▪ quality urbanisation and revitalisation of separate segments and the entire area ▪ quality 'spatial interventions' by commercially motivated investors ▪ economical management of natural potentials ▪ integrated regulation of traffic infrastructure ▪ promotion of historically qualified spatial elements (legibility of the temporal development of space) ▪ transfer of disturbing structures into the hinterland ▪ formation of modern environments ▪ formation of attractive structures ▪ long-term solutions ▪ establishment of the first permissible line of construction ▪ limitation of traffic ▪ public transport	▪ extensive and unsupervised 'physical' interventions in the narrow coastal belt ▪ expansion of areas intended for construction purposes (urbanisation) ▪ non-quality interventions into environmentally complete units ▪ alteration of the integrated image of the coastal belt ▪ reduction of the natural contact between land and sea ▪ reduction of natural landscape elements (also unprotected qualities) ▪ lack of consideration for natural and built spatial properties in built structure planning ▪ large interventions (yacht harbours, mussel farms and accompanying technical structures) with a visual impact on the wider area ▪ obstructions to views (in all directions: land-sea, sea-land, land-land, etc.) ▪ extreme uncontrolled architectural, urbanistic and landscape activities as consequences of exaggerated space commercialisation ▪ extreme construction density in the coastal area ▪ loss of spatial identity ▪ sale of public surfaces at low prices

3.3 Spatial Analysis

The aim of the spatial analysis is the definition of the necessary premises for the formation of the methodology, criteria, and comprehensive rules for spatial management and planning. The research is primarily oriented toward the recognition of typical environmental properties of the coast and is, therefore, divided into the analysis of built structures and the analysis of the landscape. Spatial vulnerability assessment has been conducted within the spatial analysis framework.

Analysis of Built Structures

Based on fieldwork records of the present situation, separate typological characteristics of built structures in the narrow coastal belt have been defined. The examination of the area was primarily concentrated on:

- individual elements of the urbanistic structure;
- individual elements of the architectural structure; and
- general spatial characteristics and problems concerning the built structure patterns in the coastal area.

In the coastal belt, the built structures are shown mainly in a form of small single constructions and individual catering and tourist facilities with a greater volume design. Beside the Port of Koper and some facilities of public utility, port, and water-management infrastructure, some larger *construction interventions* in rest of the space are a rare exception. We have found that, due to ambiental attractiveness and relief spatial characteristics, the addressed construction, in the existing scale, is adequately structured, because it *does not yet (!)* represent an extensive concentration of building masses and emergence of built conglomerates with significant impact on a wider space.

Essential spatial qualities are:

- still existing attractive natural ambients;
- large scale of historical architecture (cultural heritage);
- recognisable Mediterranean typology;
- remoteness of some tourist facilities and other building masses to (hinterland) offshore lands with limited visual impact on the coastal belt;
- mainly de-concentrated construction and consequently concentration in the hinterland (e.g., housing constructions in Izola and Lucija); and
- preserved vegetation and relative transitivity of the area.

Essential spatial non-qualities are:

- expansion of disperse construction with an architectural character, which is not shaped and in most cases does not represent upgrading of the local typology but characterisation and globalisation of the architectural space;
- building facilities with a (too) large volume design, which cause an obvious and undesirable visual impact on the coastal belt and a wider area;
- intense urbanisation and consequently alteration of the characteristic Mediterranean image of the coastal belt;
- unregulated lands and facilities directly on the coastal belt; and
- large scale of un-designed prefabricated architecture with catering and tourist function, unmanaged and unplanned areas for storing trailers, un-designed service facilities of marinas, unorganised parking facilities, neglected elements of bathing areas, and unregulated access footpaths to the sea, which degrade the coast's image.

3.4 Overview of Intended Land Use on Inshore Land

The intended use (in all three coastal municipalities) is being essentially modified in all relevant points with recent amendments to the spatial planning elements of planning documents. The amendments to plans have not yet been entered in joint plans of intended land use; however, the analysis provides certain characteristics of the land use on the continental shelf, irrespective of said fact. However, the analysis does not provide the present, actual land use, but the land use as planned in municipal spatial plans.

Table 9: ***Planned land use by municipalities***

Municipality of Koper			
Designation	Description	Length [m]	%
C	Central activities areas	5,155	26.5
T	Transport and communications areas	10,272	52.9
Z	Recreational and urban greenery areas	1,649	8.5
V	Aquatic land	508	2.6
O	Other	1,844	9.5
	Total	19,428	100.0
Municipality of Izola			
Designation	Description	Length [m]	%
C	Central activities areas	3,507	39.1
T	Transport and communications areas	1,602	17.9
S	Apartment areas	588	6.6
G	Wooded areas	142	1.6
K	Agricultural land	33	0.4
Z	Recreational and urban greenery areas	997	11.1
O	Other	2,100	23.4
	Total	8,969	100.0
Municipality of Piran			
Designation	Description	Length [m]	%
C	Central activities areas	123	0.7
I	Transport infrastructure	1,527	8.3
M	Mixed areas	3,175	17.3
Z	Green areas	3,764	20.5
Z,M	Green areas – mixed areas	4,351	23.7
L	Mineral raw materials	3,782	20.6
GV	Buffer forest zone	1,356	7.4
V	Land waters	267	1.5
	Total	18,345	100.0

3.5 Indicative Review of Ownership

Indicative review of ownership is presented with the situation of the ownership of plots on the border of cadastral municipalities, which border with the cadastral municipality "Morje".

Table 10: ***Situation of plot ownership on the border of cadastral municipalities bordering with the cadastral municipality 'Morje' (Sea)***

Owner	Length [m]	%
Municipality	20,432	40.9
Republic of Slovenia	7,716	15.4
Public authorities	2,059	4.1
Companies	11,792	23.6
Private undertakings	961	1.9
National assets	6,437	12.9
Not known	18	0.0
Other	562	1.1
Total	49,977	100.0

3.6 Record of Key Interests and Conflicts in the Region

In the area under consideration, there exist numerous interests, initiatives, projects and protective restrictions determining the current and future spatial reality. During the course of our research, we have drawn up a synthesis map of key interests and conflicts in the region on the basis of the review of relevant spatial material, interviews, records of initiatives and contributions.

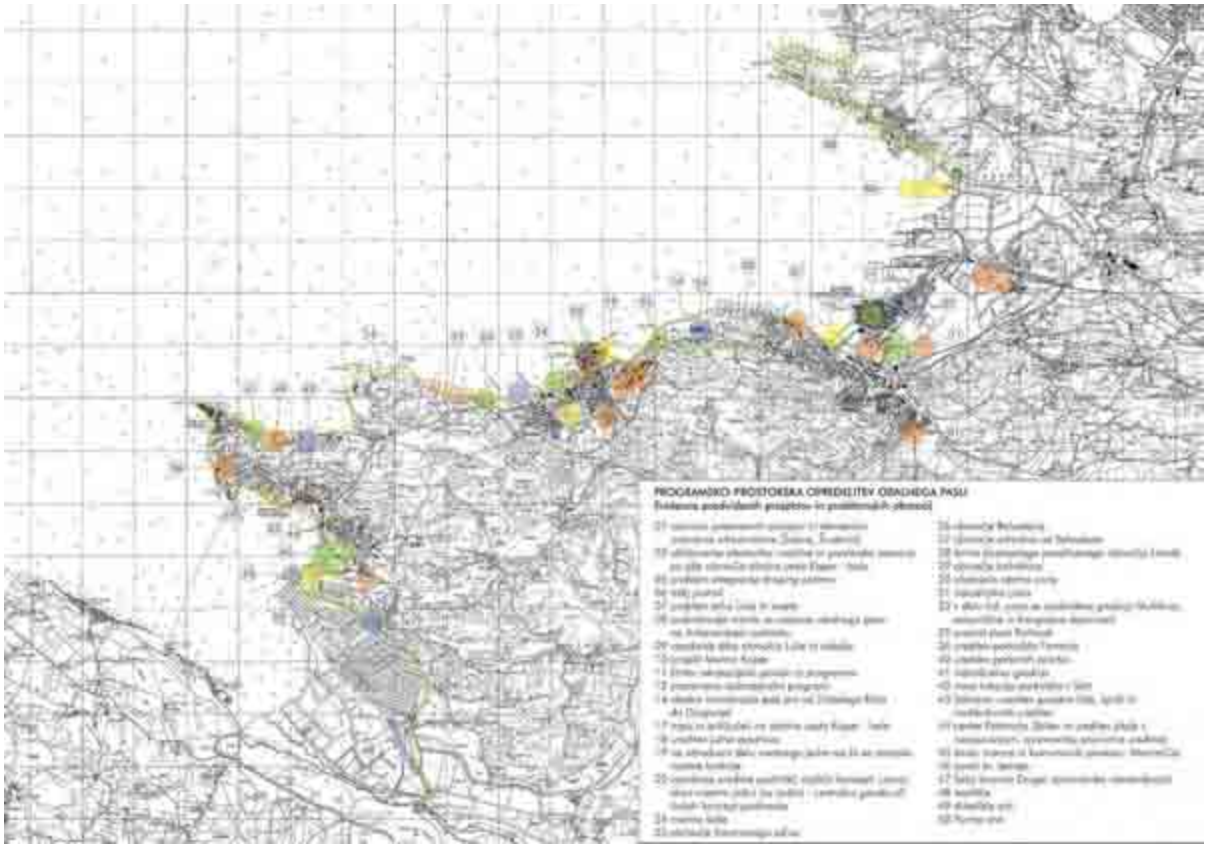

Figure 35: ***Graphic presentation of key interests and conflicts on a wider inshore land***

Legend:

01 – conception of individual connections and elements of transport infrastructure (Šalara, Žusterna)
02 – design of elements of organisation and spatial conception for the narrower area of the coastal road Koper-Izola
03 – land settlement system (network of settlements)
04 – dense housing construction in town hinterlands (vast capacities)
05 – problem of integration of shopping centres (conception of urban and architectural development), in particular new constructions and, in part, also expansion of existing constructions
06 – third pier
07 – problem of connection (programme and spatial) between the Port and the town
08 – detailed criteria for the planning of the continental shelf on the Ankaran Peninsula
09 – question of connection between the Port area and hinterlands (terminal – economic zone - landscape)
10 – Marine of Koper Project
11 – expansion of recreational areas and programmes
12 – science and educational programmes
13 – housing construction (inter-municipality strategy!)
14 – coastal transversal (footpath from Debeli rtič to River Dragonja)
15 – expansion of tourist capacities (inter-municipality strategy)
16 – inter-municipality project for the regulation of slow traffic on the continental shelf (parking lots, parking facilities, etc.)
17 – need for communal moorings; alignment and junction to the coastal road Koper – Izola (national plan for traffic regulation)
18 – regulation of southern inroad; town entry separates the housing and tourist area from the industrial zone
19 – urban functions are supposed to develop on the eastern part of the city centre (ev. servicing activities of the marine in the area of shipyard, ev. parking facilities, ev. passenger terminal)

20 – question of regulation of parking lots; different single-pot concepts, old city centre (behind the Post Office) – central garage facilities or liner concept of parking
21 – areas of expansion of the existing Livada settlement area
22 – expansion areas
23 – parking areas
24 – Marine of Izola (modifications within the existing scope) ev. resettlement of certain functions to the eastern part of the town
25 – area of Simonov zaliv (shifts of existing regulation borders)
26 – Belvedere area: spatial planning conditions for Belvedere (construction areas under spatial planning conditions)
27 – area west of Belvedere (applicable: the new ordinance on Strunjan landscape park – cultural and natural heritage (new ordinance on the assignment of continental shelf border)
28 – expansions of the existing Livada settlement area (University programme + housing and tourist settlement, Aqua Park foreseen, as well)
29 – hospital area (Z 6/3): school programme with accompanying activities (health care, education, etc.)
30 – existing trade zone: revitalisation (50% of the apartment)
31 – industrial zone: Mehano and Delamaris decreased the volume of their production: introduction of new programmes on available areas (small/retail economy)
32 – in a part of the industrial zone (Stavbenik and Mehano), the construction of a multi-theatre complex, entertainment and congress activities are foreseen; the remaining part of the industrial zone has available areas at its disposal (ev. problem of municipal equipment)
33 – housing construction (similar as Koper: housing construction - inter-municipality strategy!)
34 – transport network – amendments of transport study and spatial conception of Izola (connection of Izola and Piran through hinterlands)
35 – transport through Portorož (shift of roads from the continental shelf to the interior)
36 – organisation of Fornače parking area
37 – expansion of tourist capacities (in parallel with the expansion of housing construction + low-cost apartments)
38 – more green areas
39 – rationalisation of parking capacities
40 – organisation of parking areas (Fiesa, Fornača: construction of a garage, multi-storeyed parking facility by the road to Fiesa)
41 – individual construction (expansion of tourist and housing areas: Fiesa)
42 – new location of cemetery in Seča
43 – Salinera: organisation of a garage facility, playgrounds, and horticultural areas (dual-use of land, tourist arrangements in the forest– to the road Strunjan – Beli križ)
44 – Portorož centre (expansion and organisation of the beach by means of infilling, modification of transport organisation)
45 – expansion of marine and communal moorings: Marina City (hotels, servicing activities, recreational areas, etc.)
46 – Forma viva
47 – Rt Seča (expansion and organisation of the beach on the cape of Seča Peninsula), Sv. Jernej canal (organisation of communal moorings, expansion of road and organisation of parking area)
48 – airport (problem of natural park and airport activity, extension of landing strip)
49 – salt storage facility (expansion of the area by the infilling of the sea with a view to acquiring the land for sporting-recreational and tourist-supply activities and telecommunications
50 – Forma viva (organisation of utility area)

In all three municipalities, the initiative was given as to the joint and integrated strategy for the addressing of the following issues:

- need for the conception of coastal transversal (footpath);
- need for the conception of local transport system, in particular for an integrated strategy for the organisation of areas for stationary traffic;
- organisation of communal moorings the number of which is considerably too low in all municipalities;
- need for the strategy for the organisation of bathing sites;
- organisation of green areas and areas for pedestrians;
- organisation of servicing plateaus for nautical tourism;
- conflicts at sea; and
- joint addressing of issues on the revitalisation of old city centres.

4. Vision and Objectives of Coastal Strip Spatial Development

4.1 Vision of Coastal Strip Spatial Development

The continental shelf is developing in accordance with the principles of moderate development of the environment, the sea and the coast, i.e. sea and coast uses do not compete with one another, but complement each other in demonstrable harmony. Included in the continental shelf area are the activities that do not impose burdens on the environment, contribute to the social development of the wider and narrower areas, and constitute an economically self-maintaining system.

Settlement and activities that are not related to the sea use are directed from the continental shelf to the hinterlands of the continental shelf with a view to relieving the burdens on the continental shelf. The settlement is down-shifted to the coast only in areas with existing settlement structure. All activities that do not belong on the coast are withdrawing into the hinterlands.

Urban and landscape image are renovated with a view to conjuring up all the quality of the sea ambient and maintaining the identity of the area that originates from the unique combination of natural and cultural factors of the Slovenian continental shelf; contact of the sea with flysch, winds, architectural and urban heritage of the Mediterranean.

New burdens on the environment and cultural identity are being gradually relieved. Pollution of the sea, the coast and the hinterlands is decreased and burdens on ecologically relevant areas, protected habitats and areas of valuable natural features relieved, etc. Burdens on protected cultural heritage are also relieved. Cultural heritage is beginning to be understood as part of the environment, its identity, and not only as a limiting factor to further development and financial investments.

Organisation of the environment encourages the population and visitors to change their every-day habits. Organised coastal promenades invite to afternoon recreation and socialising. Organised bathing beaches are located at such distances from urban areas as to be leisurely accessible by foot or bicycle.

Relationships between the capital, the Government and the local community are transparent and democratic. Capital investments are directed into the hinterlands of the continental shelf. All parties know what part of the coast can be intended for what activity, as the data on ownership and initiatives for changes in land use are publicly accessible. Transparency of procedures and clear technical instructions do not allow for lobbying and speculations.

The continental shelf develops into a pleasant Mediterranean marine environment where the every-day rhythm of the life of the population remains associated with the sea, at least in terms of view and thought, the contact with the sea remains active, yet variegated; it is thematically segmented in various parts of the coast. It constitutes an environment of co-habitation and tolerance towards different views, an environment of compromises and synergies. At the same time, however, it is an environment that allows for the realisation of exceptional and unique ideas.

The objective of the spatial development of the continental shelf in Slovenia is to integrate general principles and objectives of the integrated management[1] of the

[1] "Integrated coastal zone management" constitutes dynamic processes of sustainable management and use of coastal zones upon synchronous consideration of vulnerability of coastal ecosystems and landscape, diversity of activities and uses, their interaction, maritime orientation of certain activities and uses, and their impact on sea and land areas.

coastal zones[2] (Draft Protocol on the Integrated Management of Coastal Zones in the Mediterranean, May 2005):

- coastal zone is managed integratedly as the area of moderate and environment-friendly development, the coastal zone being considered as a uniform entity and taking account of its carrying capacity;
- connection and interdependence of the sea and land parts of the coastal zone should be considered in national and local coastal plans and programmes;
- a balance should be established between the protection of natural resources and economic and social development of the coastal zone;
- coastal zone should be protected against degradation;
- the integrity of coastal ecosystems should be preserved;
- generation of waste is decreased to the minimum, environment-friendly disposal of waste is ensured;
- different use of coastal zones should be compatible and should ensure priorities in relation to public services and activities directly associated with the sea;
- use of natural resources is planned on the basis of moderation criteria, the priority as to their use is given to the local population;
- considering the above principles and objectives, the contracting countries should ensure the use of the coastal zone in such a manner as to maintain the integrity of natural marine habitats, landscape, natural resources and ecosystems. To that end, the competent administrations should:
  - determine the zones (e.g., 100 m from the highest sea level) where construction is prohibited (said provision cannot be applied universally - note of the author);
  - determine what activities should be prohibited and limit their implementation in protected and natural areas;
  - limit the linear expansion of settlement on the coast;
  - arrange free access for pedestrians to the sea or shoreline free of charge in the light of specific local geographical or ecological features; and
  - regulate or prohibit vehicle circulation and parking on the coast.

The said objectives are to be met with the upgrading of spatial and other potentials of South Primorska and its comparative advantages as well as with the preventing of weaknesses and hazards as reflected in the actual state and certain tendencies in the region.

The following are detailed objectives of the spatial development of the continental shelf:

Space:

- to ensure a coherent and rational use of space with a view to enabling a moderate and balanced development of the continental shelf with the accompanying impact area (decreasing density on the continental shelf);
- to determine a detailed use acceptable for coastal space and the rules governing the organisation of the continental shelf with a view to ensuring a more moderate development of the sea and the continental shelf;
- to establish a relationship between needs and aspirations;
- to establish a flexible spatial and programme network structure; and
- to maintain the identity of individual areas on the continental shelf, taking account of and protecting the natural and cultural characteristics, as well as to enhance the quality of the living environment and ensure ambiental effects and pleasures.

Transport infrastructure:

- to develop alternative transport infrastructure – non-motorised transport, network of footpaths, cycle routes, and similar, along the coast, in particular;

[2] "Coastal zone" constitutes a geomorphologic area on both sides of the sea coast where the interaction is taking place between sea and land areas in the form of complex ecological system formed of biotic and abiotic components, human habitat and their socio-economic activities.

- to enable the development of public maritime passenger transport;
- to organise public stops – land and sea;
- to suspend the traffic on the continental shelf (where possible, suspension of personal vehicles, at least); and
- to improve inter-municipality transport connections and internal connections between municipalities.

Municipal and other infrastructure:

- to develop the municipal infrastructure in line with the development of transport and activities in the region;
- to complete the construction of the treatment plant with a view to adequately treating communal wastewaters;
- to renovate the decrepit municipal infrastructure, in particular in the areas of historical city centres, which pollutes the sea and groundwater and gives rise to unnecessary losses of drinking water; and
- to ensure adequate access to municipality and energy infrastructures to all residents of the continental shelf.

Environment:

- to maintain the quality and diversity of the environment on the continental shelf;
- to improve the state of degraded environment and standards of living;
- to contribute to the decreasing of emissions into the sea;
- to prevent improper use of aquatic systems, ensure rational use of water resources and treatment of wastewaters; and
- to improve the infrastructure in protected areas and areas of valuable natural features.

Economy:

- to enable a qualitative and structural improvement of tourist capacities, which would allow for a greater utilisation of capacities, greater volume of visits and greater revenue, in particular with the establishment of the integrated tourist offer – development of moderate tourism;
- to enable the competitiveness of activities and new investments;
- to enable the increase in the added value per employee;
- to invest in the local infrastructure;
- to enable new investments; and
- to market cultural monuments and protected nature parks.

Human resources:

- to encourage social pluralism – integration of various interest groups and their co-creating of space;
- to enhance the integration of the population in the developments taking place in the municipality;
- to create spatial conditions for co-habitation, multiculturalism, tolerance;
- to create adequate spatial conditions for all population strata; and
- to integrate the population (marginal groups, elder and younger population, as well) into the processes of spatial planning in a more creative way.

Social activities:

- ensuring material conditions for the development of childcare and education, research and university activities, activities of health care, social security, culture and sport, in particular:
- development of cultural and educational zones;
- development of natural and educational zones; and
- development of sport and recreation.

4.2 Scenario of Coastal Strip Spatial Development

Three different scenarios are defined for the spatial development of the continental shelf, namely: ecological, liberal and moderate scenarios. With these three scenarios, we would like to verify three eventual future developments and establish which development scenario can ensure the realisation of visions set for the spatial development of the continental shelf taking account of fundamental principles and general development platforms.

Ecological Scenario

The ecological scenario considers the aspect of environmental vulnerability to the greatest extent possible; it does not, however, take account of the aspect of attractiveness for the development of various activities in the environment. Said scenario refers to the planning of protected areas and includes in the said category also the areas that are of greater quality in terms of landscape.

The interpretation of designed vulnerability models shows that as regards the protection of naturally better preserved parts of the environment considered together with the cultural heritage, the majority of the coastline is vulnerable and requires protection. Several spatial caesurae allowing for development exist only in current uses occupying the beach (Marine of Lucija, Port of Piran, Semedela Canal, and Port of Koper). Ecological axes extending into the hinterlands are also relevant: corridor of the River Dragonja valley, a relatively wide axis in the direction NW-SE (Rtič Ronek – Malija – Koštabona) along which the remains of the natural landscape are scattered, and a somewhat shorter and narrower axis Izola – Šmarje. It is important to maintain and establish corridors between Piran hinterlands and Sečovlje Salina (Landscape Park). Similarly, it is necessary to consider the entire line between the Bay of Sv. Križ and Simonov zaliv. The areas that fall within the Natura 2000 programme will undoubtedly require special attention in future.

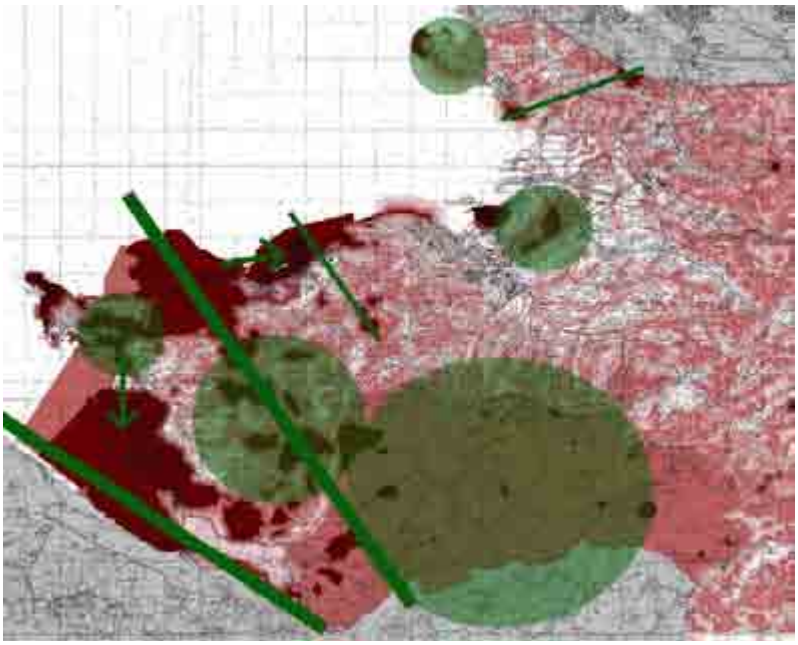

Figure 36: *Ecological scenario*
The existing protected areas and the areas in need of protection (dark red), areas of priority protection (green zones) and important ecological connections and axes (green lines)

Liberal Scenario

The liberal scenario considers the aspect of the attractiveness of the environment for the development of various activities to the greatest extent possible; it does not, however, take account of the vulnerability of spatial structures and the need for the protection of protected natural areas, cultural heritage, cultural landscape and sea. Further, said scenario does not

consider the areas protected under the law and refers to the planning of said areas in the light of the attractiveness of the environment for the development of various activities.

Developmental pressures on the narrower continental shelf are rather powerful, namely, the pressure of urbanisation, in particular of settlement (housing construction, infrastructure, in particular transport infrastructure with vast areas of stationary traffic), tourism (development of tourist infrastructure: hotels, apartment settlements and accompanying programmes, nautical ports with accompanying programmes) and economy (commercial port, trade centres, production activities, economic zones).

The liberal scenario provides for the relaxation of the rules for the distribution of activities in space in accordance with the pressures and interests of individual investors. The area develops without let or hindrance.

Moderate Scenario

The moderate scenario tries to establish a synergy between the aspects of attractiveness and vulnerability of the environment. It aims at balancing all three aspects, namely, the environmental, economic and social aspects in such a way that it develops spatial potentials in such a manner that is not threatening to the loss of irreplaceable natural resources, to the loss of the contact between the sea and the coast (on natural parts of the coast, in particular), and allows for a long-term conservation of all potentials. As a rule, said scenario does not address the protected areas; however, it does address to a moderate extent the areas that are of greater quality in terms of landscape as well as introduces a quality and not too dense a construction in the remaining space.

The continental shelf is developing in accordance with the principles of moderate development of the environment, the sea and the coast, i.e. sea and coast uses do not compete with one another, but complement each other in demonstrable harmony. Included in the continental shelf area are the activities that do not impose burdens on the environment, contribute to the social development of the wider and narrower areas, create long-term profits and constitute at the same time also economically self-maintaining systems. Settlement and activities that are not related to the sea use are directed from the continental shelf to the hinterlands of the continental shelf with a view to relieving the burdens on the continental shelf. The settlement is down-shifted to the coast only in areas with existing settlement structure.

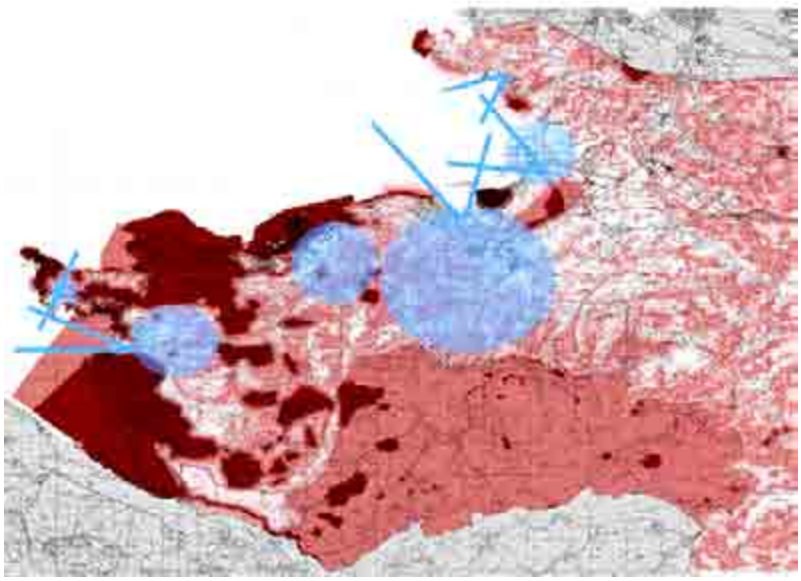

Figure 37: *Possible development*

In contrast to the exposed protection, the map of possible development shows the areas in the hinterland where the development should be directed (blue areas). Blue lines mark those parts of coastal strip where marinas, harbours and moorings already exist and where further development should be planned.

Scenario Assessment and Analysis

The following table presents the assessment and analysis of scenarios according to environmental impacts.

Table 11: *Scenario assessment and analysis in relation to environmental impacts*

	Moderate Scenario	Ecological Scenario	Liberal Scenario
Impacts on the development of natural environmental components	+	+	-
Impacts on the development of created environmental components	+	+-	+-
Settlement	+	+-	+
Landscape	+	+	+-
Infrastructure	+	+-	+-
Impacts on safeguarded and protected areas under the regulations governing the conservation of nature	+	+	-
Impacts on the development of social environment	+	+-	+-
Impacts on the development of economic environment	+	-	+
Impacts on the development of cultural environment	+	+-	-
Impacts on the development of symbolic-sensory environment	+	+	-

In the light of the results of the assessment carried out in accordance with the criteria set, it is evident that the scenario of moderate development allows for the realisation of vision and objectives set in relation to the spatial development of the continental shelf.

4.3 Platforms for Coastal Strip Spatial Development

We have established that the scenario of moderate development allows for the realisation of the vision and objectives and, therefore, constitutes the most relevant platform for the spatial development of the continental shelf. The moderate scenario may manifest itself in various ways in the environment or provides various spatial variants, respectively. We anticipate the following achievements within the framework of the spatial development of the continental shelf in all spatial variants provided for by the moderate scenario:

- categorisation of the continental shelf into several categories-sequences and their planning pursuant to relevant criteria;
- determination of potential activities and planning regimes for individual categories of areas;
- determination of the width of inshore land, which is planned in accordance with the Water Act;
- determination of a detailed use acceptable for the continental shelf and rules governing the planning of the continental shelf with a view to guaranteeing a more sustainable development of the sea and the continental shelf;
- development of various accessibility strategies in different categories of areas (e.g., the first development area is more accessible in comparison to other areas, etc.);
- definition of spatial conditions for the further development of the Port of Koper, construction of a passenger port, communal moorings, aquatic sports areas and their additional infrastructure;
- definition of spatial conditions for the further development of the tourist infrastructure in individual categories of areas;

- determination of target areas for the development of individual activities and conditions for their management;
- determination of regional activities and conditions – priorities;
- determination of platforms for individual trends on the continental shelf, such as, for instance, weekend cottages, growth of holiday settlements, dispersed construction, public transport, stationary traffic;
- definition of guidelines for the spatial development of problem areas on the continental shelf, such as, for instance, seaside towns and settlements, Port of Koper with impact area, top-quality agricultural land on the coast, and similar; and
- definition of guidelines for the development of landscape, in particular for the development of the green system, tourism, recreation in nature, and similar.

Detailed platforms allowing for the realisation of the moderate scenario are divided into several areas:

Platforms for the distribution of activities in the environment

Spatial development should be balanced in all its categories: economic, social, cultural and environmental. It is of great importance to establish synergy and co-existence of potentially conflicting uses and legal regimes (processes should integrate all players, holders of spatial planning and all strata of the public).

The continental shelf (coast, inshore land) comprises only uses (intended use, programmes, contents) relating to the sea or activities that are linked directly to the sea. Considering the above mentioned, the strategy allows for the development of variety in the environment, intertwining of various activities and uses, and exclusion of those activities on the continental shelf that do not require the sea for their proper functioning.

Platforms for the determination of the width of inshore land

The width of inshore land is determined according to the categorisation of individual sequences:

1. The border of inshore land is on the border of the inshore line.
2. The border of inshore land is at least 10 meters from the border of the coastline.
3. The border of inshore land is at least 25 meters from the border of the coastline.
4. The distance of the border of inshore land from the border of the coastline to the border of the area, where there is the border of the infrastructure necessary for the integrated spatial development and active protection of the area governed by the legal regime in the area of nature conservation and cultural heritage protection, is minimal.

Platforms for the development of transport

The transport on the continental shelf should be regulated for the entire coastal region of the Republic of Slovenia. In the long-term, road surfaces and stationary traffic surfaces should be suspended on the continental shelf. The continental shelf should be intended for pedestrian traffic, cycling and other alternative forms of transport. The spatial infrastructure for maritime passenger transport should be organised at local level and wider. The organisation of transport is of vital importance for the further spatial development of the coastal zone.

5. Results

The coastal belt is of strategic importance to the national, regional and local levels, as it represents an exceptionally sensitive area in terms of both environment and milieu. In each activity affecting the physical environment of the coastal belt it is necessary to co-ordinate the development potentials with the possibilities of maximum preservation of natural resources and of ensuring the public interest in terms of access, use and permanent preservation of the typical features of a specific coastal area.

The project introduces the basic trends as well as detailed rules, instructions and methodology concerning the co-ordination of development possibilities of individual spatial potentials with the principles of sustainable development. A special chapter is dedicated to the observance of environmental peculiarities of the coast, defined within the set of detailed rules on spatial planning as a supplement to the basic rules of the Spatial Order of Slovenia. The concrete results are presented in the following content groups:

a. **methodology:** the methodology of spatial implementation of strategic starting points (planning and implementation levels);
b. **strategic starting points and spatial development goals:** the strategic starting points and spatial planning goals are defined in detail in Chapter 4;
c. **space: perception model:** the sub-division of the coastal belt into 5 typical spatial units characterises the existing appearance of the coastal belt area, which needs to be qualitatively enhanced by means of individual detailed rules concerning its potential physical or spatial revitalisation;
d. **programme: functional model:** directions concerning the distribution of suitable activities in the space: sub-division of the coastal belt into 4 types of spatial units defined according to the existing legal regimes, the natural conservation of the environment, the existing and planned types of use, with the consideration of mutually exclusive legal regimes;
e. **detailed conception – development models:** alternative conceptions of coast planning in three selected areas under spatial management;
f. **detailed rules:** detailed rules on the spatial planning of the coastal belt take into account the particularities of this area and function as a supplement to the basic rules of the Spatial Order of Slovenia;
g. **criteria:** criteria for the spatial planning of the coastal belt or evaluation of alternative spatial solutions; and
h. **instrumentation:** setup of a programme for the implementation of a regional conception – definition of key projects; indicators of monitoring the coastal belt sustainable development.

5.1 Methodology for Spatial Implementation of Strategic Points (Planning and Implementation Levels)

The methodology of strategic starting point implementation has been tested throughout the structure of the project:

1. survey of all strategic starting points and definition of suitable starting points with respect to the status and trend analysis;
2. definition of the vision and goals of spatial development with integrated strategic starting points;
3. preparation of space development scenarios and assessment or evaluation of their merits; which scenario ensures the realisation of the strategic starting points;
4. processing of the adequate scenario through various spatial models;
5. evaluation and selection of the most suitable model;

6. preparation of a detailed spatial conception, which observes the detailed rules on spatial planning in the coastal belt; and
7. definition of indicators of monitoring the status of developments in the coastal area; and
8. revision of planned starting points with respect to the observations derived through monitoring the situation and developments in the area.

5.2 Directions Concerning the Intensity of Development in Individual Parts of the Coastal Strip – Characteristic Types of Spatial Sequences (Perception Model)

Among the most important results of the research are detailed rules for spatial planning, prepared on the basis of an elaborate spatial analysis of two models (the perception and functional models). An analysis of evaluation of recognisability of the coastal belt from a perceptional point of view enables a comprehensive view of the space and its appearance. The coastal belt is divided into 27 units pertaining to one of the five defined categories.

In terms of space perception we have established five different types - categories of spatial sequences:

1. landscape sequence,
2. landscape sequence with minimal elements of built structure,
3. sequence of landscape and built structures interlacing,
4. built sequence with minimal elements of natural structure, and
5. built sequence.

5.3 Directions for Distribution of Suitable Activities or Forms of Land Use in the Coastal Strip – Functional Model

The directions for a distribution of suitable activities or forms of space use in the coastal belt have been prepared for four different types of spatial areas and 27 areas making up the coastal belt.

The four different types of spatial area are defined according to the existing legal regimes, according to the natural conservation of the environment, the existing and planned types of use, with the consideration of mutually exclusive legal regimes:

1. **The existing and planned developments, activities and forms of use involve least number of restrictions. The essential condition is the elimination of the present causes for the degradation of the environment as well as of conflicts among the various existing forms of sea use. Possible uses:**
   - commercial port,
   - passenger port,
   - shipyard, watercrafts servicing, workshop for small boat repair,
   - gradual exclusion of industry from the area directly affecting the coast,
   - all forms of traffic are allowed, with an emphasis on the development of public, alternative and pedestrian traffic,
   - gradual withdrawal of open space stationary traffic from the 200 m belt of the coastline influence area, and
   - all possible forms of use pertaining to the spatial areas under categories 2, 3 and 4.
2. **Some parts of the coast are intended for a more intensive tourist activity as well as various compatible uses associated directly with the coastal belt. Possible uses:**
   - mariculture,
   - tourist port,
   - boat berths,
   - recreation and relaxation infrastructure of a permanent character, transforming the appearance of the space,

- all forms of traffic are allowed, with an emphasis on the development of public, alternative and pedestrian traffic, but with a gradual restriction of the private vehicle traffic in the 200 m belt of the coastline influence area,
- within the belt of inshore terrains the private vehicle traffic is completely restricted, and
- all possible forms of use pertaining to the spatial areas under categories 3 and 4.

3. **Areas intended primarily for a quite intensive general use: tourist activity, short** sea shipping, anchoring as well as individual forms of suitably regulated fisheries. Possible use:
   - production of salt as an already existing activity,
   - mariculture with exclusively positive effects on the environment,
   - managed bathing facilities,
   - recreation and relaxation infrastructure of a temporary character, which does not alter the appearance of the space,
   - within the belt of inshore terrains the private and motor vehicle traffic is completely restricted, and
   - all possible forms of use pertaining to the spatial areas under category 4.
4. **Areas intended for general use. Possible uses:**
   - bathing beach,
   - development of natural-science- and cultural heritage tourism,
   - recreation and relaxation infrastructure of a temporary character, which does not interfere with protective measures,
   - building public footpaths with an urban equipment that does not interfere with protective measures,
   - within the belt of inshore terrains the private and motor vehicle traffic is completely restricted, and
   - building the most essential infrastructure.
5. **Communal uses in all areas:**
   - free access to the sea (wherever the established legal regimes allow it),
   - shoreline footpath, and
   - cycle track.

5.4 Detailed Rules for Coastal Strip Spatial Planning Promoting the Preservation of Particularities and Values of the Coastal Strip

Substantiation

The *Rules on Spatial planning in the Coastal Zone* are based on the general rules of the Spatial Order of Slovenia and determinate environmental particularities of the area, defined by intermediate results within the framework of perception analysis. To enable a full understanding of the methodology presented, as well as the final results, it is necessary to set out a determinate terminological substantiation that will help understand the analytical process in the formation of the detailed rules.

Substantiation and definition of "planning and management of individual types of coastal belt"

The project task defines and presents the following types:

- urban coast,
- naturally preserved coast, and
- coast with prevalently infrastructural activities.

On the basis of a detailed analysis of the area and field work, we have determined that although the proposed classification defines (by form and contents) three different characteristic types, it is quite general in its definition and as such does not comprise all *structural elements of spatial planning*, which need to be defined in the *rules on spatial planning* within the framework of the Spatial Order of Municipality (SOM).

We have, thus, established that the term ***urban coast*** refers mostly to grounds inside the town area (and, therefore, denotes the status and function of an urbanised area), the term ***naturally preserved coast*** denotes its appearance in terms of landscape and degree of preservation with regard to the elements of natural and cultural landscape, while the term ***coast with prevalently infrastructural activities*** defines in particular the inshore terrains with a determinate (majority) share of infrastructural activities, i.e., defines the extent and nature of activities in the inshore terrains.

The Spatial Order of Slovenia (SOS) as an umbrella document for spatial planning and management (with regard to the coastal area as well) defines the general rules within the Spatial Orders of individual municipalities. In order to form *an adequate set of detailed rules of planning and management of coastal area* we have conducted a perception analysis of the entire coastal belt area, defining in it individual elements that need to be regulated by law-governed spatial planning documents.

Analytical procedure – Sub-division of the studied area into twenty-seven units classified by five categories

By sub-dividing the coastal belt into individual landscape, architectural and urbanistic elements we established five typical spatial sequences in which either prevalently urban or prevalently landscape architectural physiognomy was present in different majority shares. This refers to the present state of the area for which we wish that in case of spatial development detailed rules (c.f. the following pages), adjusted to each determined category, be adhered to.

For the purposes of the analysis we divided the area of the coastal belt into 27 “sequences” classified by one of the following five categories (types):

- Type 1. Landscape sequence
- Type 2. Landscape sequence with minimal elements of built structure
- Type 3. Sequence of landscape and built structures interlacing
- Type 4. Built sequence with minimal elements of natural structure
- Type 5. Built sequence

Definition of the coastal belt by five categories

Despite the proposed sub-division of the coastal belt into five characteristic sequences it is possible to use the latter to define the coast also as ***an urban coast*** (prevalently type 5, partly type 4), ***a naturally preserved coast*** (prevalently type 1, partly type 2) and ***a coast with prevalently infrastructural activities*** (in particular types 3, 4 and 5).

Problems and tolerance in determining the characteristic types of spatial sequences

The proposed sub-division has been prepared for the coastal belt with a transverse and a depth dimension. It takes into account the minimum depth of a characteristic sequence (app. 25 m transversally according to the definition by the Waters Act), while the longitudinal dimension is not numerically defined, but it rather depends on the share of elements of built and/or landscape structure. Despite its relatively general character such method has enabled a relevant spatial analysis and determination of reliable results.

We would also like to point out that the boundary between individual sequences in space is not clearly definable, but represents a sharper or softer passage both in the transverse as well as longitudinal directions. For a realisation of concrete spatial acts it will be necessary to conduct more detailed spatial analyses that will take into account also all minor tolerances and practical structural situations.

Guidelines for spatial planning with an emphasis on the preservation of landscape features

The guidelines for spatial planning with a special emphasis on the preservation of landscape features (as prescribed by the aforementioned Decree) refer to landscape and infrastructure planning. Since the project task has already defined the individual sequences, different rules of spatial planning are prescribed for individual sequences. These are:

1. **A landscape sequence** represents a characteristic natural appearance of the space, a natural landscape. This mostly comprises the cliff and salt pan areas. These areas are part of landscape parks and other protected landscapes that are subject to protection ordinances and elaborate expert groundwork, guidelines and conditions for the protection.
2. **Landscape sequence with minimal elements of built structure** represents a recognisable and preserved natural appearance of the area, with the built elements not precluding a natural perception of the area and the sequence still representing a complete natural whole. This type of coast areas are in most cases protected, either as cultural landscapes or other protection areas, subject to protection ordinances and elaborate expert groundwork, guidelines and conditions for the protection.

   Spatial planning in types 1 and 2 should adhere to the Decree on Spatial Order of Slovenia (planning in landscape; art. 54-63) and expert groundwork, guidelines and conditions of the Institute of the RS for Nature Conservation and Public Institute for the Protection of Cultural Heritage of Slovenia.

   In the landscape sequence and the landscape sequence with minimal elements of built structure the landscape-architectural spatial design should be top priority and should dictate the planning of built elements in the space.

   Natural areas should be included in the system of public open areas very prudently and in accordance with the guidelines on nature preservation. It is vital that the remaining parts of the natural as well as the newly restored sea shore be preserved and that the diversity of ecosystems be protected. In the area of transition between priority nature protection areas and urbanised areas it is important to ensure a gradual passage of intensity of activities and planning, from the less intensive and sustainability-oriented in the outer boundaries of the protected areas to the more intensive in the zones closer to the urbanised areas.

   The natural areas can be made part of the system of open spaces also via footpaths (the lake in Fiesa, the Strunjan Štjuža Lagoon, the salt pans), which have to be carefully planned in accordance with the principles of nature preservation.

   The grounds laid with greenery and the equipment of open spaces in these areas should adhere to the nature protection guidelines. In the naturally preserved areas, the greenery grounds should not stand out, instead, the natural structure of the landscape should be preserved. In natural areas protected by law it is of particular importance that the status is not changed in any way. With an introduction of new plants not indigenous to a determinate area the natural balance could be destroyed.
3. **Sequence of landscape and built structures interlacing** – this is a sequence in which planning and development of open space is of particular significance. In the areas of natural and built up zones alternating, as well as in the areas with a prevalently built up appearance and the intermediate green open spaces it is most important to try to connect (wherever possible) the green and other open spaces into a system and ensure a high quality of individual operations of spatial planning.
4. **Built sequence with minimal elements of natural structure; and**
5. **Built sequence**

Typical of these two types is a built up or urban appearance of the space.

Some of these areas are part of architectural heritage, such as clustered mediaeval town nuclei of Piran, Izola and Koper, which are part of law-governed closed areas. The planning of green and other open spaces in these areas should be carried out with much prudence so that the grounds laid with greenery do not alter the character of the space completely (e.g., for a mediaeval town that has never had any particular zones of urban greenery it would be wrong to plan a tree-lined esplanade) – the guidelines of the Public Institute for the Protection of Cultural Heritage should be strictly adhered to.

Establishment of distinctive features in spatial management along the coastal strip

On the basis of the analysis of the situation, set of management elements (1st and 2nd phase of the study) and determined starting points in developing spatial interventions in the coastal

strip (3rd phase of the study), we have defined characteristic architectural, urbanistic and landscape elements, as well as distinctive features (chapter 3.2 - 3rd phase) which are not sufficiently covered under the general rules of the Spatial Order of Slovenia.

Specific elements underlying spatial management in the coastal strip are integrated in the following thematic clusters:

- Visual restraint, perception of characteristic spatial sequences of the coast;
- Panoramic silhouette of the coast;
- Panorama sea-coast and vice-versa;
- Typology of building structure in the coastal strip;
- Accessibility and transitivity of the coast.

Their management requires certain amendments to and upgrading of the Spatial Order of Slovenia based on intermediate study results in determined characteristic types of spatial sequences of the coast (chapter 3.2 – 3rd phase).

Specific rules on spatial management in the coastal strip

Specific rules governing spatial management arise from determined ***distinctive features of spatial management in the coastal strip*** (visual restraint, silhouette, panoramas, typology of building structure, accessibility and transitivity of the coast).

Priorities in spatial management by individual characteristic sequences

Spatial management must be based on the existing situation classified by one of five categories. Spatial interventions must be in line with the existing qualities (natural and building structures) or upgrade the space in a visual and functional qualitative manner.

5.5 Instrumentarium

Criteria for evaluation of interventions in coastal strip and evaluation of models

The methodology of evaluating spatial interventions in the coastal strip is conceptualised as a comprehensive synthesis of individual aspects of treatment that are based on statutory contents and other specificities of the coastal space. *The criteria for the evaluation of interventions in the coastal strip* are intended for the purpose of selecting an optimum solution within the framework of alternative opportunities, for which reason they cover all necessary aspects of treatment. The evaluation of models applies the *ponder-appraisal* method, which allows the use of values and appraisals for individual contents.

What is subject to evaluation?

On the basis of assumed impacts, statutory treatment contents (Article 15 of the Spatial Order of Slovenia) and intermediate results, we have developed two groups of criteria that facilitate a two-phase implementation of the procedure. The first phase comprises the evaluation of development models, for which reason the criteria are brought in line with the programming and strategic macro-location assessment, respectively. The second phase covers the evaluation of individual spatial arrangements on the basis of a selected model and in accordance with a greater number of micro-ambience criteria:

- Criteria for Evaluation of Development Models – Programming Conception Criteria;
- Criteria for Evaluation of Interventions in Coastal strip – Micro-ambience Criteria,

The determined criteria principally present the methodology, which must be complied with in conducting assessments of spatial interventions, whereby the values of ponders are defined with regard to concrete situations. The implementation of detailed evaluations for individual spatial conceptions requires appropriate studies that reach beyond the scope of the project at hand (for example: the functional aspect - technical feasibility study; protection aspect - studies regarding integrated environmental impact assessment; studies regarding environmental impact assessment for protected zones; economic aspect - economic study and study of spatial economics; acceptability aspect - public opinion research, opinion polls, etc.).

The essential contextual contribution is presented by micro-ambience criteria relating to the evaluation of each individual spatial intervention in the light of the impact on characteristic spatial sequences and building structure. The criteria are based on the preliminary analysis of the coastal space (2nd phase) and defined starting points for its planning and management.

5.6 Drawing up a Programme of Implementation of Regional Conception – Determination of Key Projects

Key projects are those that have simultaneous impact on development focal points, development axes and solutions to problem focal points in at least two coastal municipalities. Thus, they exceed their local importance stressing the regional as well as national significance of spatial intervention. In view of the results yielded so far and the assessment made by the project team, the following have been identified as key projects:

1. Planning and management of the coastal promenade spanning along the entire coast of the Republic of Slovenia (with linked projects: arrangement of green and public areas, arrangement of bathing areas, cultural heritage, links with revitalisation of towns, sustainable mobility, etc.);
2. Revitalisation of coastal towns; and
3. Sustainable mobility.

Project 1:	Planning and management of the coastal promenade spanning along the entire coast of the Republic of Slovenia
Short description	Planning and management of the coastal promenade project enables useful efficiency of exceptional development potentials. Arrangement of the attractive area on the coast would improve the location potential of three coastal towns, Piran, Izola and Koper and of the whole Slovenian coastal area. It enables improvement of environmental situation and promotion of the heritage. By sound interventions into space the environmental situation improves, it contributes to an active protection and development of the heritage, and contributes to its promotion. The coastal promenade provides connection with towns. The promenade represents a backbone to which other arrangements are attached. The sole promenade is composed of a walking path, track for roller skaters and cyclists, intervention driveway. Beach surfaces are attached to it, theme parks, other green and recreational areas (for more target groups; residents of coastal towns and the hinterland): for young families, older population, and handicapped population (invalids, blind and poor-sighted), young, those active in sports, nature lovers, areas intended for tourism development, offshore public urban areas (including "cultural facilities") and accompanying areas. In a programming manner it means an enrichment of coastal towns and a quality upgrade of existing ambients, and new offer in the promotional and tourist offer. Sub-projects: ▪ Arrangement of public urban seaside areas, ▪ Arrangement of green and recreational areas, ▪ Arrangement of recreational areas including bathing areas, ▪ Inclusion of creative development and presentations of cultural, and also architectural, heritage, ▪ Inclusion of protected areas of nature conservation, ▪ Arrangement of theme park areas ▪ Sea-use possibilities, and ▪ Possibility of two or more intended uses of space in different time periods, etc. 1st part: project documentation 2nd part: implementation Connection with projects: revitalisation of town centres, sustainable mobility. Urgent harmonisation between all three municipalities prior to the implementation of part 1.
Applicant or developer of the project *(also partners)*:	Project team, Regional Development Centre, Municipalities of Piran, Koper, and Izola Tourism economy. They will also indirectly have benefits from these paths, for they will be able to advertise this in their offers. They should also be a potential resource.
Estimated project value:	approx. 120 MIO EUR
Foreseen sources of financing:	Municipal budgets, participation in invitations to national tenders, potential tenders of structural funds (prepared phases) Structural funds, involvement of private funds (mainly tourism economy), municipal budgets (implementation phases)

Project 2:	Revitalization of coastal towns
Short description	Revitalisation of coastal towns must run in a co-ordinated manner in all three municipalities. It must encompass social, economical, and spatial aspects (substantive, physical renovation, affiliation in the framework of the renovation). Strategy, in the framework of which strategic goals and action programmes (with time limits, bearers, defined financial framework) for realising strategic goals are to be defined, must be followed by an implementation within a set time limit, at least in small steps. While preparing strategic work networking must also simultaneously take place as a basis for future partnership, public – private, which will enable the operability of implementing revitalisation strategies. Those who must be included in the networking system are all key actors, which have influence on the economical and social currents in towns, and those who deal with spatial issues (municipal administration, economy representatives, social institutions representatives, particularly from educational and schooling institutions) and the public. Experiences from the "Piran – My Town" project show that it is sensible to network the public vertically with including key committed individuals, i.e. mediators at acquiring general consensus for proposed projects. PART 1: STRATEGY AND ESTABLISHMENT OF PARTNERSHIP 1. Definition of coastal towns revitalisation framework: agreement on a joint approach towards the project, creation of a project team 2. Analysis and networking 3. Definition of a common vision (decision of individual towns, what kind of development vision they wish to follow, mutual harmonisation) 4. Definition of strategic goals 5. Definition of action programme (time limits, bearers, financial framework) 6. Project team grows into partnership 7. Consensus and formal confirmation (municipal councils) PART 2: IMPLEMENTATION OF STRATEGY 1. Establishment of a common project office 2. Co-ordination of implementing action programmes 3. Provision of a financial framework 4. Gradual realisation Some substantive priorities: ▪ Determine town's contents, which must not leave the town, ▪ Determine cultural monuments, which are primarily renovated, ▪ Determine measures for growth of number of permanent residents, ▪ Arrange traffic systems in towns, and ▪ Encourage affiliation to the town and region.
Applicant or developer of the project *(also partners)*:	Project team, Regional Development Centre, Municipalities of Piran, Koper, and Izola
Estimated project value:	PART 1 : 500 – 1.000 MIO SIT PART 2 : 120 – MIO EUR
Foreseen sources of finance:	Municipal budgets, participation in invitations to national tenders, potential tenders of structural funds (1-4 point), foundations Structural funds, involvement of private funds (implementation)

Project 3:	Susainable Mobility
Short description	Sustainable mobility means a comprehensive solution of traffic systems and mobility in coastal municipalities, with suitable connections to a wider network. We need to prepare a tangible strategy in connection with spatial planning, which will ensure minimum dependency from cars and a greater possibility for choosing a fast, low-coast, fun, attractive, comfortable, and healthy mobility, democratically available to all population groups. Beside the social aspect we also need to consider the economic aspect (mobility must be systematically and economically self-sustainable or subsidised) and it must have minimal negative effects on the environment. At this point, significant importance shall be given to a political will and timely information and getting used to, for the leap will most certainly be painful. Special section will be intended to connection to the coastal promenade – road system will have to, where necessary, move away from the coast; alternative accesses will need to be foreseen. There are certainly more possible scenarios concerning the type of sustainable mobility in this space. They should probably be based on limiting individual car traffic in selected spatial / time frameworks (e.g., old town centres, recreational areas, coast), organisation of appropriate public transport (electro-cars, constant circulation, minibuses on-call, maritime passenger quick transport between individual towns, rail passenger transport, etc.). Mini modal points are important, where it is possible to change the car for another form of transport: equip parking facilities with bicycle and roller skates rentals, introduce smart cards, constant rides of electro-buses, etc. There are plenty of possibilities, but it is necessary to check their system effect to settlement, economic movements, environmental situation. Phase 1: expert groundwork (traffic, surveys, settlement, population density, etc.) Phase 2: traffic study by scenarios, with simulations of impacts on other spatial, environmental and social elements (settlement, infrastructure, landscape, human resources, environment, etc.), feasibility studies, CPVO, proposals for spatial settlement planning Phase 3: formulating a basic project team (three municipalities, economy, civil society representatives Phase 4: acquisition of a strategic decision and acquisition of expert and public support and political-economical consensus to the selected strategic definition Phase 5: assume responsibility of individual strategic partners, task assignment (preparation of spatial planning and implementation acts, planning smaller interventions in space, implementation) Phase 6: common and / or individual search of financing resources Phase 7: preparation of fundamental studies, investment-technical, spatial, project documentation Phase 8: implementation Condition for realisation is also change of the legislation (problem of the legislation on inter-urban traffic, transfer of decision-making powers to local communities)
Applicant or developer of the project *(also partners)*:	Project team, Regional Development Centre, Municipalities of Piran, Koper, and Izola
Estimated project value:	80 MIO EUR
Foreseen sources of finance:	Municipal budgets, participation in invitations to national tenders, potential tenders of structural funds (1-4 point), foundations Structural funds, involvement of private funds (implementation)

6. Conclusion

The preparation of the project of “Detailed Conception of Spatial Plan Related to Coastal Strip” posed a major professional challenge and practical experience also for the group consisting of the representatives of three faculties and the Studio Mediterana. Every step taken has shed light on ever new expert views and yielded an exhaustive list of new tasks that are yet to be accomplished. However, due to time and financial limitations of the project, we had to content ourselves with the scope as it was determined by the concrete project assignment.

In accordance with the project assignment, we provide appropriate methodology for coastal strip spatial management, detailed rules, criteria and the proposal of key regional projects. We are well aware of the fact that concrete decisions made in view of detailed spatial conceptions will be the result of indispensable harmonisation and decision-making in the process of spatial planning and management within the framework of individual local communities.

The proposal for the spatial “conception” has been drawn up on the basis of three input data:

1. maps demonstrating spatial vulnerability or spatial potentials for the development of individual activities;
2. maps demonstrating the thus-far planning decisions or project, as well as proposals in the course of preparation; and
3. maps demonstrating expert proposals resulting from analytical work performed by the study team.

On the basis of cross-referencing all the above three maps, we have established the conformity or non-conformity of different interests and values in the space. The cross-referencing led to the proposal for optimum programming and spatial planning and management solutions in the coastal strip ensuring synergy of individual spatial planning and management solutions as well as orientation towards sustainable spatial development. The project is the outcome of a limited number of data generated within a concrete time cross-section, for we were, as has been mentioned, faced with numerous new incentives throughout the duration of this project. The latter, especially, points to the fact that spatial planning and management are not and must not be considered as merely a rigid academic exercise - they constitute a living process that necessitates participation and co-operation of all stakeholders as well as broader public.

The project more concretely defines the notion of the coastal strip, which is in several contexts also starting to cover areas reaching deeper in the coastal hinterland and inshore strip, respectively. The project, furthermore, determines the impact of broader coastal hinterland and provides arguments supporting the need for inter-municipal co-operation in all spatial planning solutions that serve common interests. The project proposes several joint tasks that may be, due to their strategic significance, financed from European structural funds. The project extends the list of general rules governing spatial management contained in the Spatial Order of Slovenia with specific rules applicable to the narrower coastal strip and tests them on three sample coastal areas. Developed methodological and criterial apparatus may prove a valuable asset for individual coastal municipalities in drawing up their spatial planning and management documents or in preparing new development projects.

On the termination of this project, we conclude that it will yield successful results only if we have provided a well-argumented and convincing evidence that: the narrower coastal strip is a finite natural good, which requires prudent management; it is for this purpose necessary to enhance inter-municipal co-operation in managing the coastal strip and, at the same time, follow long-term and short-term interests of all municipalities in a concerted manner; and, finally, that it is necessary to develop joint spatial management projects that will contribute to the sustainable development of the Slovenian coast.

MANAGEMENT OF PROTECTED AREAS – ALTERNATIVE MODELS

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1. Introduction

By joining the EU Slovenia has accepted the two most important conservation directives, namely, the Birds Directive and the Habitats Directive. These two directives form the framework for the designation of ecologically important areas within the Natura 2000. Following the criteria for the designation of Natura 2000 sites Slovenia has included almost 35% of its territory in the proposed Natura 2000 network. In addition, there is around 8% of the territory already designated as protected area according to the national law (Natura protection law).

Despite these facts, Slovenia has not developed well managed network of protected areas. The two main weak points in the system of management of protected areas and Natura 2000 sites in Slovenia are:

- there is no management authority for these sites; and
- financing of management of these areas is not secured.

The current Nature Protection Law (ZON) has introduced the following options for the management of protected areas and Natura 2000 sites:

- constitution of the public institution, concession for the management (to the NGO or commercial organisation); and
- private stewardship and management within the framework of the Institute for protection of nature.

The National Nature Protection Law (in the following: ZON) comprises six categories of protected areas: National, Regional, Landscape (Nature) Parks and Nature Monument, Strict Nature Reserve and Nature Reserve.

Natura 2000 serves as a legal basis for the establishment of the Network of ecologically important areas in the entire European Union. The European Commission's Directives imposed on the EU members a series of strict legal obligations, including the necessity to conserve, within specially protected areas, the existing populations of wild birds, known as the Birds Directive. The aim of Habitat Directive issued by the European Commission is to preserve biodiversity by maintaining or restoring natural habitats of wild animals.

There has been designated 26 SPA and 260 pSAC areas according to the Decree, issued by the Government of Slovenia and proposed to the European Commission for adoption.

The most important document for achieving ecologically favourable status is the necessity of implementation of Environmental Impact Assessments (EIAs), but there are also some other means (i.e., national planning system).

According to the Decree issued from the Government of Slovenia, a special programme for management with the potential Natura 2000 sites has to be established. The main purpose of the Decree on ecologically important areas issued by the Government of Slovenia is to provide a certain degree of protection for the species and habitats outside the Natura 2000 network.

Natura 2000 in the National legislation: Due to the fact that the Natura 2000 has been introduced in Slovenia only after Slovenia has joined the European Union, amendments to the National Nature Protection Law (ZON) have been made in order to satisfy all the requirements of the Natura 2000 sites.

Management of Protected Areas in Slovenia

In general, there are only a few (larger) protected areas in Slovenia which have the management body. In case of the larger sites, such as national and regional parks, the management body has been established by the Government of the Republic of Slovenia. There are only a few cases where the management of the protected area has been entrusted to the NGO, enterprise (business company) or some way of stewardship form.

2. Project Description

The project has considered the needed background for effective management with protected areas using new models for management. The goals of the project are to insure effective management of protected areas and Natura 2000 sites by proposing alternative models of management of protected areas. New partnerships for land management have been proposed. Specific goals include description models of good practice by using local communities, commercial companies, NGOs and public institutions into the management of protected areas. The second part of the project is dedicated to the promotion of models including training for target groups, which might take the role of the future land management authorities according to the models presented in the project.

The first part consisted of:

- description and analysis of the four models of management of protected areas;
- selection of the four model case studies;
- survey of the legal background;
- SWOT analysis; and
- writing of the report.

The second part of the project is composed of preparation and implementation of the training course for the future potential managers of protected areas. To be more specific:

- preparation of the programme for the training;
- plan of selection of participants;
- implementation of the training course;
- distribution of the prepared materials; and
- final report and evaluation of the training course.

3. Legal Background

National Nature Protection Law (ZON) has introduced new categories of potential managers of protected areas:

- concession for management of protected area to the business company or NGO;
- stewardship agreements; and
- management in the frame of the state service for protection of nature.

Measures for protection of nature values are (according to ZON) as follows:

- contract for management;
- contract for maintenance; and
- legal designation.

4. Model 1: Škocjanski Zatok Nature Reserve

Management of the protected area is entrusted to NGO.

http://www.skocjanski-zatok.org/

Figure 38: *Škocjanski zatok Nature Reserve*

National Law on the Nature Reserve Škocjanski zatok came into force in March 1998.

The management of the reserve has been entrusted to the biggest nature protection NGO in Slovenia, the Bird Watching and Bird Study Association of Slovenia (DOPPS).

SWOT analysis

Strengths:

- Effective management is enabled by skilful staff:
- NGO is successful in engaging public support; and
- Effective promotion of the protected area.

Weaknesses:

- Management dependent on insecure sources;
- Legal status of the manager (obstacle in application for major development projects); and
- Weak links to other sectors of civil society.

Opportunities:

- Sympathies of public towards NGO; and
- NGOs are attractive for donors and sponsors.

Threats:

- Un-coordinated approach in public.

5. Model 2: Sečovlje Saltpan Landscape Park

www.kpss.soline.si

Management of protected area is entrusted to a business company.

Figure 39: *Sečovlje Saltpan Landscape Park*

The National Decree on the Sečovlje Saltpan Landscape Park came into force in April 2001. The management of the reserve has been entrusted to the business company, SOLINE Pridelava soli d.o.o.

SWOT analysis

Strengths:

- Effective distribution and implementation of management tasks;
- Experiences in management of the company can be applied also in the park;
- Financial resources partially secured; and
- No additional bureaucratic and budgetary requirements to the state.

Weaknesses:

- “Economic logics” applied in protected area; and
- Mistrust of the part of the general public towards business company as the manager.

Opportunities:

- Investments into conservation pay out by improving the profile of the company; and
- Direct profits generated by effective management of the park and tourism incomes.

Threats:

- Uncertain long-term future due to political and economic changes of the company.

6. Model 3: Kras Edge – A Proposed Natura 2000 Site

www.zrs-kp.si

Management of protected area through the stewardship agreements with landowners.

Figure 40: ***Kras Edge***

Through the financing of the EU funded LIFE Nature project, several stewardship agreements have been signed with landowners in order to secure long-term and sustainable land uses of the Karst landscapes.

SWOT analysis

Strengths:

- Land owner is the land manager;
- Awareness of the importance of the lands for conservation raised; and
- No additional bureaucratic and budgetary requirements to the state.

Weaknesses:

- Legal obstacles (designation is needed for financial incentives from the state);
- Mistrust of the part of the landowners and local community; and
- Private interests before common goals.

Opportunities:

- New partnerships; and
- New opportunities.

Threats:

- No co-ordination between local interests and local communities.

Figure 41: ***Kras Edge – map of the project area***

7. Model 4: Management of Protected Area by a Specialised Nature Protection Service

Management of protected area is entrusted to the Regional Unit of the Institute of the Republic of Slovenia for Nature Conservation (IRSNC).

Figure 42: ***Protected cliff area***

The IRSNC regional Unit is a legal nature protection service and comprises 6 geographically distributed units. It forms a part of the state formed institution. No practical example of this institution as manager of protected area in Slovenia already exists.

SWOT analysis

Strengths:

- Excellent knowledge of the sites and legal backgrounds;
- High level of management in theory; and
- Experiences in promotion, communication and interpretation.

Weaknesses:

- Financial resources; and
- No possibilities for new employments (staff required).

Opportunities:

- New organisational schemes for these state services enable generation of their own independent funding.

Threats:

- Too theoretical approach.

Training workshop for the active and potential managers of protected areas

The training workshop took place on 14 and 15 October in the Sečovlje Saltpan Landscape Park. There were 28 participants in the workshop. The presentations addressed the issues of designation and management of protected areas, presentation of alternative four management models, both for protected areas and Natura 2000 sites, and the tasks of ranger services in these areas. On the second day, concrete management issues were presented in the field. The field work was concluded by the discussion of particular management issues, such as provision of services for the visitors of these areas. Lectures were given by the representatives of the Sečovlje Saltpan Nature Park and Triglav National Park.

8. Conclusion

Legal backgrounds for the establishment of four alternative models of management of protected areas and Natura 2000 sites in Slovenia have been presented. The key studies include: management entrusted to NGO, to a business company, private stewardship model and management entrusted to the Institute for Nature Conservation.

It can be concluded that legal background for the establishment of all above-mentioned alternative models for the management of protected areas exists in Slovenia.

Securing efficient financial resources is a common problem for effective management in all examined case studies. A business company and NGO can be an efficient solution if the necessary financial resources are available. Private stewardship model proved effective as the land owners are at the same time also the managers. Services for nature protection are effective in terms of theoretical knowledge and experiences in communication, while they are facing problems in securing sufficient financial and human resources.

Annex:
Production of Digital Orthophoto Plans for Slovenian Coastal Area (Excluding the Port of Koper)

1. Introduction

A comprehensive mapping of habitat types, which is a condition for the efficient management and protection of key habitat types, has not been carried out for the entire Slovenian coast and the infralittoral of the coastal strip. Mapping has been performed only for some parts of the coast. The CAMP Project provides an opportunity to complement the knowledge and to provide the basis for adequate protection in line with the national legislation and international obligations, the most important of which are;

- national legislation (Environmental Protection Act);
- strategy for conservation of biotic diversity in Slovenia; and
- Strategy for Spatial Development of Slovenia.

International obligations:

- EU Directive on the Conservation of Wild Birds – the Birds Directive;
- EU Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora – the Habitats Directive; and
- Barcelona Convention (MAP level: link with the Action Plan for the Conservation of Marine Vegetation and provisions of the Specially Protected Areas (SPA) Protocol on inventory of areas of special importance from the environmental protection point of view (Areas of Conservation Interest).

General objectives of the project are to achieve efficient management of valuable natural features and man-made environment in order to preserve biologic diversity, habitats and landscape of protected areas and thus enable sustainable development.

The specific objective of the project was to support establishment of habitat types data base (coastal, infralittoral).

The TOR for the project on Management of Nature Protected Areas (part on Mapping of Littoral and Coastal Habitats) is as follows:

- **Activity 1:** taking of large scale colour aerial photographs of the entire Slovenian coast (with the exception of the areas of the Port of Koper and Žusterna; carried out in 2003); photographs should cover at least 50 m of coastal land and at least 80 m of coastal water; and
- **Activity 2:** production of colour digital orthophoto maps of the coastal land of 50 m in width and the coastal sea of 80 m in width (digital orthophoto maps will be at scale 1:1,000).

The mapping of coastal and infralittoral habitat types, as an important prerequisite for the efficient management and protection of key habitat types, has, until now, been carried out only for some parts of the coast. Specific aerial photographing of infralittoral enables a distinction of different habitat types at the sea bottom. The system was proven in the area of *Posidonia* meadows in 2003.

The results of the project are: 159 Digital Ortho Photographs (DOF) of the entire coastal-infralittoral strip.

2. Aerial Photography

Aerial photography was carried out on 28 April 2004, using the LMK1000 aerial camera with the objective focal length of 305.326 mm (SN 7381524B9) and an X100 colour film. The scale of aerial photography was 1:5000.

The plan and aerial photography were made so that the whole area of the Slovenian coast was covered, with the exception of the Port of Koper, which at a later stage of the project permitted the production of digital orthophoto plans of the coastal land of 50 m in width and the sea of 80 m in width.

Scanning

Information on the scanner:

- Type: DSW600
- Producer: Leica
- Location: Geological Survey of Slovenia, Zemljemerska 12, Ljubljana

The DSW600 is a high-performance photogrammetric scanner for both cut film and roll film. The primary purpose of DSW600 is to obtain digital images from original aerial photos with no loss of geometric precision and for use in precision digital photogrammetry. The medium positioning accuracy of the scanner is less than 2 µ.

The basic configuration of the scanner:

- photogrammetric stage;
- digital camera CCD;
- electronic control unit; and
- host computer (high-capacity computer with Windows XP operating system).

The scanner enables recording of various image formats. An image pyramid can be created and internal image orientation performed in parallel with the scanning process.

In order to prevent excessive temperature variations, which may harm the instrument, the scanner is situated in a special, climatised room.

Calibration Process

The scanner calibration is performed every three months or prior to each major project. The calibration was carried out according to the producer's procedure. The calibration was performed by Špela Grdadolnik.

The scanning input data were:

- Film No.: 15/04
- Date of scanning: 28 April 2004
- Camera calibration protocol: LMK1000, objective 305.326 mm (SN 7381524B9)

The film roll negative was examined according to the following criteria:

- film quality;
- film perfection; and
- area covered.

Test scanning

Test scanning was carried out on the following photos: 2196, 2201 and 2254.

The quality control results of the test photos are:

- scratches: none;
- hot spot: medium;
- clouds: none;
- shaken images: none;
- assessment of scanogram geometric quality: good;
- scanogram radiometric assessment: good; and
- **Overall assessment: suitable for further work.**

Resolution

The scanning resolution is 0.015 mm.

Analysis of Geometric Accuracy

The following transformations were used for geometric correction:

- Helmert-4-Parameters
- X = ax - by + c
- Y = bx + ay +d

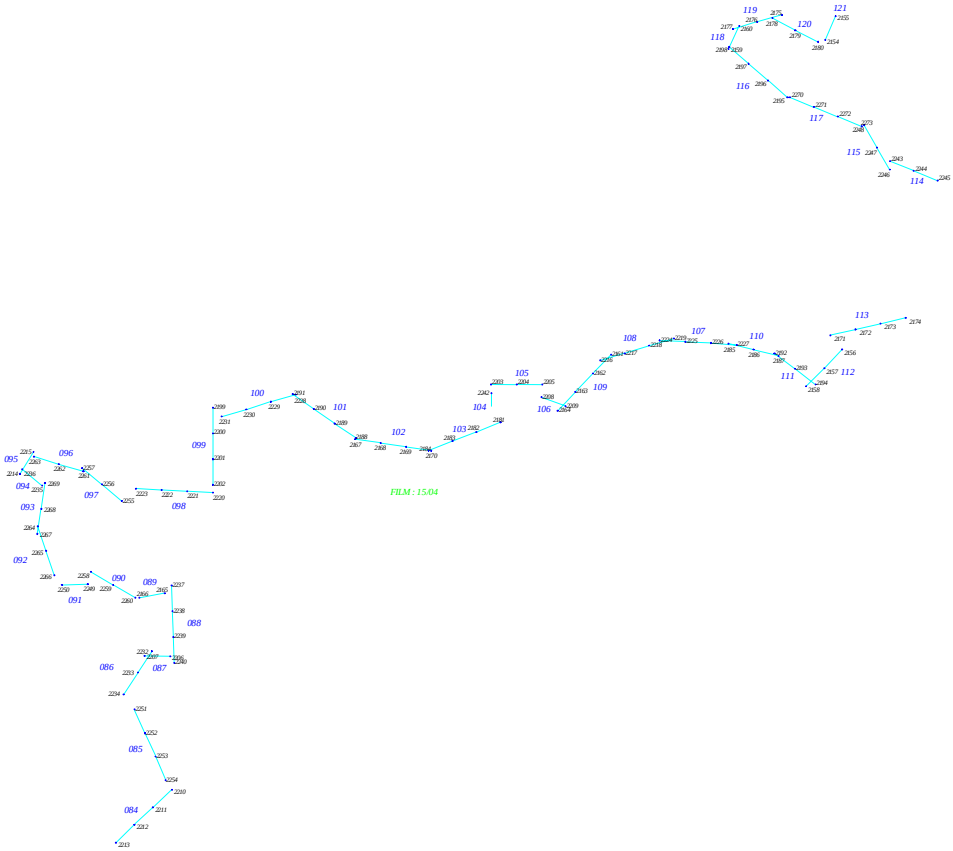

Figure 43: ***Summary sketch of series and photos***

3. Aerial Triangulation

Input Data

- Scanograms: 119 scanograms
- Ground points: 106 ground points

Description of the Procedure

Basic information on aerial triangulation (AT)

The AT was carried out in two parts. The first part covered the area from the border with Italy to the Port of Koper and the second part involved the area from the Port of Koper to the border with Croatia. All photos were in colour. The aerial triangulation was made for 119 photos.

Ground points, control points and tie points

In the area of aerial triangulation, 106 ground points were used, preliminary measured in the field.

The capture of image co-ordinates of ground, control and tie points was carried out semi-automatically so that at least two tie points were taken in each Von Gruber area. The tie and control points were captured in all photos where they appeared and were sufficiently moved away from the edge of the photos.

There were 472 tie points used, which interconnected appropriately the photos and the zones.

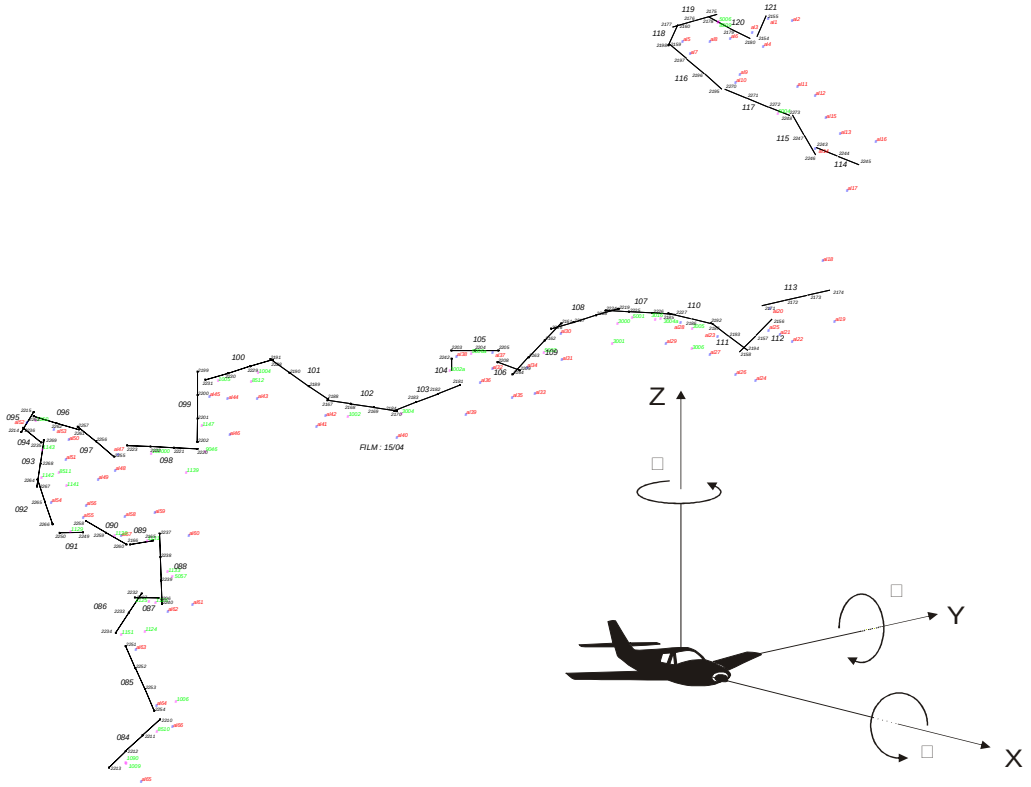

Figure 44: ***Sketch of photos and ground points***

The results of aerial triangulation procedure are 6 orientation parameters for each photo (co-ordinates of the projection centres and rotation).

The co-ordinates of the projection centres are given in the Gauss-Kruger co-ordinate system. The rotations are expressed in grades. Rotation sequence: ω, φ, κ.

4. Orthophoto

Production of Digital Relief Model (DRM)

The DRM area overlaps with the area of orthophoto, extended by at least 30 m on the edges. The DRM is recorded in a grid of 5 m cell size in a 3D model (stereopair), controlled and prepared to meet the criteria for DOF production in the scale 1:1000.

Photo Selection, Radiometric Correction and Mosaiking

All photos were used in the calculation of orthorectified images, namely, the parts nearest to the photo centre. The orthophotos are radiometrically consistent in such a way that the sea surface is clearly visible (algae sites), which is the project objective.

After mosaiking, the orthophoto maps were cut into 159 sheets, 500 x 300 m.

Orthophoto Accuracy

Due to the fact that all prior processes (measurement of ground points, aerial triangulation and DRM) were carried out well and in accordance with the required accuracy, the final product – the orthophoto – meets the requisite accuracy criteria for digital orthophoto plans in the scale 1:1000.

Preparation of Digital and Analogue Products

- The digital products prepared are: 2 X DVD
- The analog products prepared are: plotting on quality paper – 159 copies

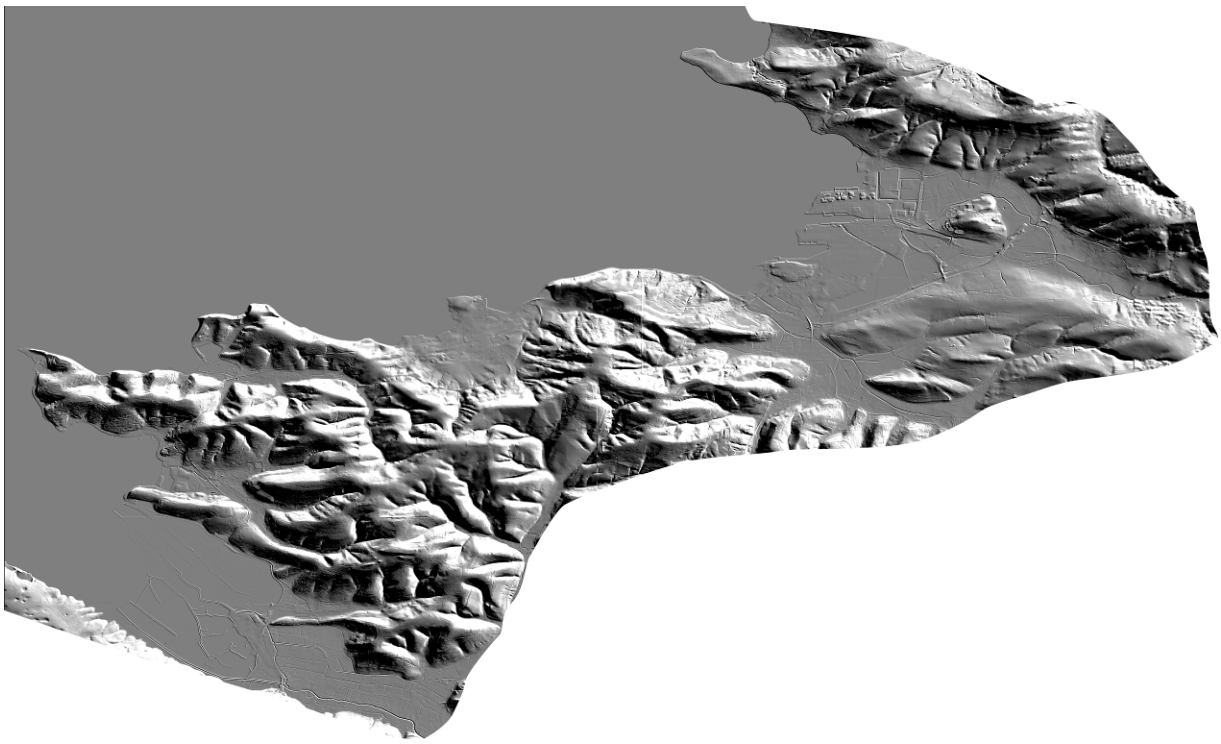

Figure 45: ***DRM control plotting***

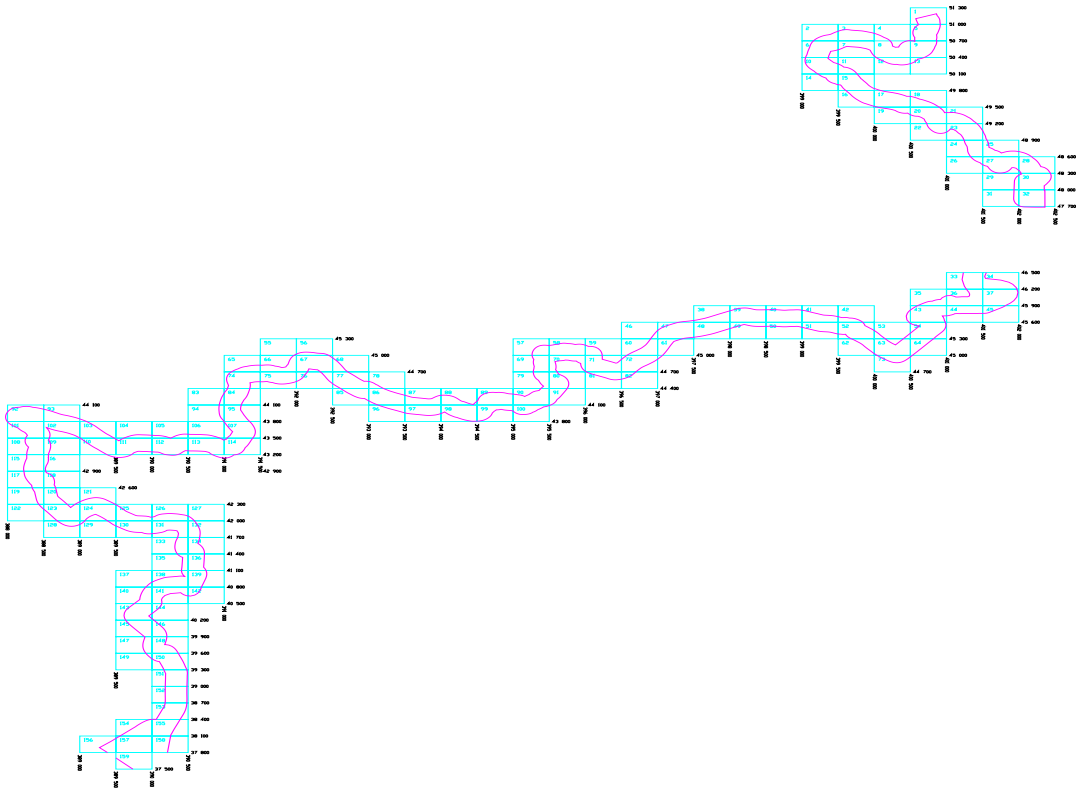

Figure 46: ***Summary sketch of final DOF 1 sheets***

5. Examples of Digital Ortophoto

REGIONAL STRATEGY OF SUSTAINABLE TOURISM DEVELOPMENT

Contractor:	Hosting d.o.o.
External Expert:	Dr. Igor Jurinčič
Project Co-ordinator:	Darko Ravnikar
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1. Introduction

The strategy for sustainable development of tourism was elaborated within the framework of the Coastal Area Management Programme (CAMP) Slovenia — carried out in the period 2004–2006 by the Regional Development Centre in Koper within the area of six municipalities of the Coast-Kras region spanning over 1,524 km^2. The strategy for sustainable development of tourism in the South Primorska region thus deals with the development opportunities and possibilities in the tourism sector in Slovenian municipalities in the North Adriatic: Izola, Piran, Koper, Hrpelje-Kozina, Ilirska Bistrica, Sežana, Komen and Divača until 2012.

The strategy for sustainable development of tourism in the South Primorska region was created in close co-operation with the elaboration of five other individual projects within the framework of the CAMP Slovenia project for sustainable spatial development.

The purpose of this project was: to elaborate, in co-operation with the actors in the tourism branch, a joint vision, objectives and strategy for sustainable development of tourism; to prepare a regional programme for sustainable development of tourism with priority projects; to propose a set of indicators of the carrying capacity of spatial development; and to promote the establishment of "the forum for sustainable development of tourism" within the framework of the elaboration of a new regional development programme for the South Primorska region for the period 2006–2013.

2. Assessment of the Situation in Tourism

The tourist offer of municipalities – sub-regions, united into the South Primorska region is characterised by significant natural and cultural features and especially by a different level of development of the tourism infrastructure and the development potential. The sub-regions compete among each other and are at the same time complementary, because to a certain extent they offer similar products and services. However, they are also exceptional and have their own advantages and opportunities in many areas on their own target markets. This, in turn, increases the attractiveness of the entire destination.

2.1 Socio-economic Aspects

Demographic characteristics:

- asymmetrical settlement;
- high level of growth of the population in coastal areas and a reverse trend in the hinterland;
- ageing of the population; and
- low level of employment in tourism with regard to the potential of the region.

Key employment challenges:

- educational structure does not meet the needs and trends of the tourism branch;
- lack of highly trained personnel in tourism (management) and of specialists;
- unfavourable age structure in the region dictates the search for personnel in other Slovenian and foreign regions and sectors; neither the tourism industry nor the environment are adequately prepared for the employment of foreign workers or of workers from other parts of Slovenia (for instance from winter tourist destinations);
- lack of attractive jobs in the tourism branch;
- seasonal work orientation; and
- inflexible employment models as a consequence of a rigid labour legislation.

2.2 Natural and Cultural Features

Due to the relief structure, climate and variegated geological composition, which are the precondition for the hydrological, vegetal and cultural distinctive features, the South Primorska region is marked by many natural beauties, unique for this part of Slovenia and also in the world. The Kras area with its numerous karstic features is the most beautiful piece of underground world on the planet; the Slovenian coast with the natural reserve of thick marl and sandstone shelves and with the unique Strunjan cliff, which rises 80 metres above the sea level and is the highest flysch wall on the entire Adriatic coast, the saltpan of Sečovlje, numerous olive tree plantations and vineyards, fruit gardens of peaches and cherries, etc. are but a few natural features. Many protected areas are also distinctive of this area.

A special challenge of sustainable development of tourism is the preservation and **enrichment of biodiversity** as a tourism potential, because this potential is declining due to:

- increased settlement in the narrow coastal zone (also as a consequence of the expansion of tourism infrastructure);
- the input of polluters, excessive quantities of organic substances and urban wastewater;
- pollution of water from the hinterland and simultaneous reduction of the clean water flow;
- sea pollution with the waste from ships;
- drainage of wetlands and consequent dying of coastal vegetation;
- urbanisation of the hinterland and intensification of agriculture;
- overgrowing of dried-up grasslands; and
- polluted underground water (underground habitat types).

Especially challenging issues regarding the **incorporation of cultural resources** into the tourist offer are:

- unexploited possibilities for the development of tourism and services in cultural heritage objects and public cultural infrastructure;
- marketing of cultural heritage and modern culture in tourism;
- accessibility of cultural goods for different target groups; and
- underdevelopment of cultural tourism products with regard to the potential (for instance, culinary tourism, eno-gastronomy, cultural theme paths, events, etc.).

2.3 Tourism and the Environment

The challenges in respect of the impacts of tourism on the environment and environmental changes are:

- use of natural sources (above all energy, water) in tourism;
- waste production;
- water pollution on the account of tourism (above all due to unregulated public utility infrastructure – urban wastewater, sea pollution – marinas);
- environmental impacts caused by transport, where tourism also has an important share (air pollution – ozone, No_x, dust particles), noise;
- noise is caused also by entertainment centres, dancing halls, events;
- endangered spatial potentials (landscape, cultural heritage, biodiversity) due to the construction of new tourism capacities.

2.4 Tourism Infrastructure and Services

Accommodation

The key challenges in the structure of the tourism sector in the region, and especially in the tourist accommodation infrastructure, are the unbalanced distribution of capacities in the

area and the imbalance in the structure of the tourist offer (most commonly tied to the tourist accommodation infrastructure). The reasons are:

- concentration of accommodation capacities on the narrow inshore belt of the Slovenian Istra and the related unbalanced distribution of tourist accommodation capacities in the area and the unbalanced structure of necessary, modern accommodation capacities;
- the still unused or underused forms of accommodation capacities in the hinterland (in the countryside of the Slovenian Istra, Kras and Brkini, the lack of small accommodation capacities in line with the modern trends, which all results from the intensive development of tourism since the late 1960s when, with the expansion of tourism, the construction of larger accommodation capacities was preferred);
- a partly inadequate quality of accommodation structures with regard to the desired development of the offer;
- a considerable part of accommodation capacities is of a non-profit character (holiday and youth homes, homes for the disabled and elderly, workers holiday homes) and they occupy, to a large extent, eminent locations, which represents a special development challenge from the point of view of the marketing of micro-locations and from the point of view of redirecting tourism to a higher quality class;
- lack of artificial attractions and supporting infrastructure (especially for bigger sport and cultural events);
- with the exception of marinas, there are no “on water” facilitates; and
- inadequate records.

Attractions, Present Tourist Products and Events

The challenges in the field of rural tourism are:

- increased incorporation of locally produced and processed food products and beverages into the full tourist offer of the tourist destination and its individual areas;
- provision of sufficient quantity and quality of products or beverages in the supply chain;
- creation of brands and marketing of local food products and beverages;
- provision of alluring tourist products and services for rural development;
- permanent support to events in the countryside; and
- investments into smaller accommodation capacities on a large scale.

The issue of nautical tourism:

- the quality of services is lagging behind the growth trend of nautical tourism;
- too narrow range of offer/services in marinas;
- low competitiveness of marinas in relation to other marinas in the Northern Adriatic;
- limited capacities, especially if bearing in mind the carrying capacity of the area;
- weak integration of marinas with the coastal cities (recreational paths, signalling, public access);
- lack of information on the available services of marinas in other destinations in Slovenia and on other product areas where potential nautical tourists might stop (for instance, golf courses, Bled), across the border in Croatia and in neighbouring Italy and Austria; and
- lack of logistics supporting infrastructure for the arrival of big cruisers (the project is underway in Koper).

Events Infrastructure

Due to the extremely rich cultural and architectural heritage, performances and other events take place also in the existing cultural heritage objects – castles, palaces, sacral objects and museums, which would have to be used even more for such purposes, above all due to the ambient-architectural value, thus incorporating an important segment of cultural heritage into the overall tourist offer. The integration of public infrastructure with the interests of tourist companies and the assurance of the public-private partnership for the maintenance and new

construction of multi-purpose halls and event premises in order to make good use of the needs and synergies of local communities (residents) and tourism providers (companies), represents a special challenge just like elsewhere in the world. In this way, we would attain a better balance in the provision of a higher quality of living and the tourism offer on the one hand and improve the structure of guests and the number of visits in the region on the other, thus satisfying in particular the need of modern tourists for more experience of the local culture.

Accessibility and Transport

Roads:

- individual parts of the area are still difficult to access (relative remoteness of the Ilirska Bistrica sub-region from the motorway transport flows);
- too high transport frequency on the coastal road during the season;
- lack of parking lots; and
- reducing the traffic in city centres, settlements and village centres.

Maritime transport:

- development of passenger terminal in Koper for larger passenger ships (cruising);
- local public transport by sea does not exist, private transport was not profitable; and
- no regular sea connections with Italy and Croatia (only organised trips).

Air traffic:

- weak exploitation of larger neighbouring airports of Trieste (Italy) and Pula (Croatia);
- large airplanes cannot land at the Sečovlje airport; and
- the possibilities for better utilisation of sport airports and small planes, especially for wealthier guests, have not been examined.

Railways:

- a railway connection with Ljubljana and other large cities in Slovenia exists only from Koper, weak role of railway passenger transport;
- no local routes towards the final tourist destinations;
- international railway connections with the destinations are inadequate; and
- no railway programmes for inter-modal tourist transport (combination of road, railway, ship and, if necessary, air transport for particular target markets).

Inter-modal systems:

- connections between different forms of transport are weak or not developed at all.

Information-Communication Support

The key challenges in the information-communication infrastructure are:

- in addition to the urgently needed investments into the construction of the broadband network, greater utilisation of the available capacities provided by the existing networks is also needed;
- in the field of applications, it is necessary to digitalise the offered contents for the use in different information media – multimedia (interactive TV, mobile telephony, etc.); and
- yet a bigger challenge in taking the advantage of information-communication technology with the aim of increasing the accessibility and improving the identification of the tourist offer in the region is also the establishment of a central information and booking system for the destination and the administration of electronic and digital media contents for comprehensive development of tourism in the region.

2.5 Analysis of the Current Tourist Offer Marketing

The past marketing activities in South Primorska were unrelated and not harmonised, which is noted as a weakness in every existing local strategic development document. Due to the absence of co-operation and dispersed marketing, the data on the efficiency of marketing activities, tools and results are not monitored systematically. Detailed marketing documents

with concrete definitions were not available in the time of the analysis neither on the strategic nor on the executive level.

The Current Structure of Guests

In principle, there is a considerable difference between the littoral municipalities and the hinterland. With regard to the distribution of guests in the Slovenian Istra, the municipality of Piran recorded the largest number of visitors in all compared years. This municipality also offers the largest range of different opportunities for spending, in particular, the summer vacations.

Foreign tourists prevailed and exceeded 200,000 visits per year in 2003. There were fewer domestic tourists, their number was the highest in 2000, but a slight falling trend has been noticed thereafter.

The Municipalities of Koper and Izola had a similar trend of tourist arrivals in the mentioned years and domestic guests prevailed in destinations; the number of their arrivals is about 50,000 per year.

The Municipality of Piran records most arrivals on the account of Portorož, which attracts tourists above all due to its high level of tourism development, proven by the numerous hotels with an increasing emphasis on the latest types of tourism products (for instance, wellness, and congress tourism). On the other hand, tourists are also interested in older cities, in particular the architecture and cultural sites, and in this sense, Piran is very attractive. The other two littoral municipalities do not devote as much attention to the tourism activity as the Municipality of Piran, which is evident from a less variegated tourist offer, a smaller number of basic accommodation facilities, programmes and activities and, consequently, fewer visitors. The co-ordination of activities among the littoral municipalities (especially in the summer season), which would enable the flow of tourists and demand as well as represent a more symmetrical burden on the environment, is not developed enough.

Congruently with the number of tourist arrivals, the highest number of tourist overnight stays (also on the level of Slovenia) is created in the littoral municipalities. The offer is distinctly related to the summer holiday season.

In the Municipality of Piran, overnight stays of foreign tourists prevail, which is completely comprehensible, if we compare the overnight stays with tourist arrivals. The reasons for the high number of overnight stays are numerous, above all the basic accommodation facilities (hotels), while the rest of the tourist offer is also well developed.

Domestic tourists prevail as regards the overnight stays in the Municipalities of Koper and Izola. Domestic guests who decide to spend their holidays on the Slovenian coast for the most part decide to stay in secondary accommodation facilities. In comparison with the Municipality of Koper, the Municipality of Izola records a somewhat higher number of overnight stays, because Koper has the least “tourist” image in the perception of potential guests. Koper represents an economic centre with a port, although it has favourable features, above cultural, for the development of tourism (old city centre, events, etc.).

The Municipality of Piran recorded the highest number of overnight stays in the comparative period in 2002, while the number of overnight stays has dropped in the last two years, especially of foreign guests.

The oscillation of overnight stays in the other two littoral municipalities is less distinct, whereby the number of overnight stays in 2004 increased only in the Municipality of Koper for foreign as well as domestic guests.

Length of Stay

The average length of stay of domestic and foreign tourists differs in individual municipalities and considerable differences are also noticeable between the littoral and hinterland areas. Among the municipalities of the South Primorska region, the Municipality of Izola had the highest average length of stay (5.22 days for domestic and 2.76 days for foreign guests in 2004), above all on the account of the specialised offer for seniors and summer holidays. The Municipality of Divača recorded the shortest average length of stay of only 2.31 days for

domestic and 1.26 days for foreign guests in 2004 (despite the fact that a well known Škocjan Caves are located in the municipality). The Municipality of Piran had the most even distribution of the average length of stay of domestic and foreign guests (3.05 domestic and 3.33 foreign in 2004). This municipality is among the main destinations in the region and the country in general according to the values and intensity of tourism turnover.

The trend in the recent years points to the shortening of the average length of stay in the tourism sector, which is clearly reflected in the South Primorska region. The average length of stay dropped in all municipalities (umbrella comparison for 2004 and 2000), whereby the Municipalities of Sežana and Komen recorded the lowest real reduction and the Municipality Divača recorded the biggest fall in the average length of stay.

The average length of stay in Slovenia dropped to 3.3 days in 2003 from 3.7 days in 1995.

Seasonality of Visits

The monthly reviews of tourist arrivals in the littoral municipalities provide us with a season-related situation in tourist demand. The summer season is the strongest in all three municipalities in accordance with the relation between the accommodation and attractiveness of an individual destination. The Municipality of Piran registers the least season-related oscillations among the compared destinations, because Portorož is, in addition to casino activities, focusing increasingly on business, spa and wellness activities, which enable the de-seasonality of tourism demand, in other words, a more even distribution of demand of different target segments throughout the year. In the previous year, the least foreigners visited the Municipality of Piran in February, while the highest number was recorded in August. As regards the domestic guests, their number was the lowest in December and the highest in July, whereas their highest number represents 60 percent of the highest number of foreign guests.

Koper has an explicit summer season with the heights in July and August. The least domestic guests who stayed in Koper overnight were recorded in January and the most in July, while for foreign guests, the “dry” month is November and the best month is August. However, the foreign guests represent only a good 50 percent of the domestic guests in a season.

Izola records a permanent slow growth of visits until the summer months, with the height in August, in which the highest number of domestic as well as foreign guests is recorded. The tourist visits then drop relatively low and reach the lowest value in both categories in January. Among all compared municipalities, Izola has the smallest difference in the number of domestic and foreign guests.

A comparison of tourist visits in the Kras municipalities and Ilirska Bistrica indicates a relatively constant visit of Sežana (Lipica), above all by foreign guests for which the decrease in the number of visits is visible only during the winter months. The Municipality of Hrpelje-Kozina and to a smaller extent also the Municipality of Ilirska Bistrica have most visitors in July and August (predominantly foreign guests), other compared municipalities have such low values of tourism demand (or have none at all) that a comparison is virtually impossible. This clearly indicates the tourist programme and infrastructure underdevelopment of the hinterland, which (with the exception of Sežana, which still has many “reserves”) does not take advantage even of its rare individual distinctive features.

Challenges in the Field of Marketing

With regard to the data on the average length of stay, it would be reasonable to look for solutions with the aim of prolonging the length of stay, which is also related to the investments into the creation of quality, trendy and more diverse offer. A longer length of stay means that tourists would leave more money in the region. The consumption of current guests is also an issue to be worked at.

With higher income from tourism (on the account of the longer length of stay and higher daily consumption per guest), the infrastructure and super-structure of the area could be improved and new tourist products would be easily created thus prolonging the length of stay and increasing the number of tourists. The supplementary tourism activities, the organisation of

offer, the direction of guests in the field and other marketing activities are underdeveloped, which certainly shortens the average length of stay. Other challenges in the creation and marketing of the tourism offer are:

- tourist products must be defined more clearly and marketing of “adventure-emotions” instead of “real offer” reinforced;
- planning of marketing activities should be linked to improve the efficiency of marketing (elimination of local fragmentation);
- the absence of links between market activities and inconsistent use of marketing tools or their combinations:
- the system of marketing on the level of the destination must be improved (so far, companies and tourist providers are marketing on their own account);
- marketing segments in development documents must be better defined or more concrete as the current documents are no longer consistent with the offer and trends on the tourist market;
- the marketing goals for improved measurability must be more concrete as they are difficult to measure, thus improving the efficiency of marketing;
- monitoring of marketing results and eventual changes to the selected tools with regard to the desired outcomes;
- the use of modern communication and marketing channels must be reinforced;
- the funds for marketing must be increased considerably (especially on the account of creation/development of new products and services); and
- expertise for the elaboration of efficient marketing and prior organisation of the marketed offer in the field must be reinforced (current marketing promises remain unfulfilled).

3. Tourism in Spatial Planning Documents

- the spatial planning acts, prepared at the end of the 1980s, are still in force in the area of the littoral municipalities; the acts were changed or amended several times due to new tourism investment initiatives, congruent with the needs of investors and within the prescribed restrictions;
- the vast majority of investment initiatives in the last decade focused on the areas, which were designated as settlement areas in spatial planning documents prepared two decades ago: concentration of settlement and re-urbanisation (category change for areas used for production activities on attractive locations in the coastal zone);
- the vast majority of new investment initiatives (accommodation capacities, marinas, recreational activities) is still located near the coastal zone;
- the interest for the construction of tourism apartments has increased lately – construction for the market, as close to the coast as possible or with a view of the sea;
- the traffic burden is intensifying due to the concentration of programmes on the coast;
- based on the increased interest in the investments into tourism, the issue of strategic spatial policies for the future development of the tourism is intensifying, which will be the task of new municipal spatial planning documents elaborated by the municipalities in the next two years;
- the new generation of spatial planning documents will have to resolve the following:
  - reinstate the instruments for a more even spatial distribution of the tourism activity on the regional level;
  - relation between urbanised and non-urbanised part of the coast: from the point of view of sustainable development, environmental protection and biodiversity, natural resources, cultural heritage and landscape values, the expansion of urbanisation to the non-urbanised parts of the coast must be prevented;

- the use of the coastal zone must be restructured: relieve it of traffic congestion, parking lots and activities not aligned with the special significance of the coast; and
- the coastal area must be rehabilitated and a “coastal promenade” constructed along the entire coast as the basic infrastructure.

4. The State of Management

In general, the problem of organisation in tourism is present wherever tourism is being developed. This arises from a simple fact that the number of small tourism providers is very high, public, private and civil interests interfere with tourism, meaning that the representatives of the authorities, economy, society and residents interact with tourism. Moreover, tourism is not a homogenous activity, but is combined and dispersed across many areas of the economy and the activities of general and common significance.[3]

Three local tourist organisations with clearly defined tasks and objectives were established in the Slovenian Istra. The most important activities are above all the concentration of tourism providers, information activities, promotion and marketing as well as the co-ordination and organisation of events.

The Koper Tourist Organisation is not a separate legal entity and it operates within the framework of the local community, while TGZ Izola and the Portorož Tourism Association are separate legal entities or economic interest groupings which members are representatives of the public, private and civil sector. Tourist information centres operate on individual locations within the above-mentioned organisations.

In addition to the above-mentioned organisations and the local community, the main actors of development are above all the large hotel chains. The private sector also includes a large number of smaller tourist providers especially in the field of catering and the providers of smaller accommodation facilities (private rooms). In the public sector, in addition to the mentioned organisations and the local community, sport and cultural public associations participate in the promotion of the development mainly as the administrators of facilities. Besides awareness raising and information of the population, tourist and other associations are active also in the organisation of various campaigns for the embellishment of the environment. They are above all the organisers of shows and other events.

No local tourist organisations have been established in the Kras area. Local development agencies, which are public institutes, deal with the development and promotion of tourism. In the majority of these institutions, tourism is handled by departments for the economy or social activities in municipalities. The fundamental task of these organisations is to develop projects and new integral tourist products.

The information activity for all Kras municipalities is conducted by the Tourist Information Centre (TIC) Sežana or Škocjan Caves, Štanjel and Lipica on their own initiative. Many tourism and other associations are active in the field of organising shows and other events. The Institute for Sport was established in Sežana, which, in addition to informing the population, organises many sport and recreational events. The main holder of development are the Škocjan Caves, which are registered in the UNCESCO World Heritage list, and partly by Štanjel and the public enterprise Lipica Stud Farm. There are many smaller tourism providers, above all in catering, and tourism farms.

In the area of Ilirska Bistrica, many small entrepreneurs and small companies operate in the tourism sector. The central integration and promotion organisations are public institutions – the Centre for Development and the Centre for the Promotion of Tourism with the Tourist Information Centre.

[3] Source: Summarized from the Strategy of Tourism Development in the Municipality of Koper for the Period 2002–2006, with long-term policies until 2020, Draft Final Report, Ljubljana 2002.

The key challenges in organisation and management of tourism in the area are:

- closer ties, concentration and centralisation of common development, promotion and other activities;
- specialisation of organisation with the aim of achieving better effects and improving the quality of development and promotion activities for a more comprehensive development of tourism in the entire area of the South Primorska region;
- transfer of information and knowledge among the participating organisations;
- a clearer distribution of competences and responsibilities among the participating organisations;
- reinforcement of the development and promotional role of tourism;
- elimination of weaknesses arising from dispersed, un-coordinated and non-strategic operations of organisations responsible for different tasks of tourism management in the area; and
- strengthening of the public-private partnership in planning, development and marketing.

INTEREST OF PARTICIPANTS IN TOURISM DEVELOPMENT				
Visitors	Providers of tourist services	Local communities	Social and cultural environment	Natural environment
▪ authenticity of the environment and the offer ▪ satisfaction ▪ adventure ▪ fulfilment of wishes and satisfaction of needs and of anticipated benefits of different segments of demand ▪ good information on the offer of the destination and an appropriate orientation-information system	▪ new investment opportunities ▪ increasing incomes and created yields ▪ stimulating entrepreneurial environment ▪ competitiveness of the offer and prices ▪ qualified and appropriately trained labour force ▪ extensive offer of tourism programmes/products throughout the entire year ▪ management, design and marketing of tourism products and of different programmes with a partnership approach between the private and public sector	▪ regulated public infrastructure and regulation of the environment ▪ low level of unemployment ▪ logical use of local resources ▪ positive fiscal effects ▪ planned, harmonised and controllable spatial development ▪ economic growth and the development of the area ▪ management, design and marketing of tourism products and of different programmes with a partnership approach between the private and public sector	▪ alluring jobs ▪ confidence of the local community into the development opportunities of tourism ▪ education for tourism ▪ preservation and encouragement of the identity of the area ▪ revival and preservation of the cultural landscape and cultural heritage ▪ enlivenment of events and attractiveness of the area ▪ improvement of the negative demographic trend due to the perceived business opportunities and the possibility of a good life at home	▪ preservation of natural heritage in accordance with the principles of sustainable development of tourism and demands in protected areas ▪ efficient reconstruction and minimisation of consequences of possible damage due to natural disasters
THE JOINT INTEREST OF ALL PARTICIPANTS IN TOURISM IS: ▪ preservation of regional authenticity with a more propulsive, but sustainable development - improvement of quality; ▪ long-term international competitiveness of the destination on target markets throughout the year – higher income; and ▪ partnership approach in planning and implementation of sustainable tourism development - sustainable development.				

Figure 47: ***Interest of participants in tourism development***

5. Assessment of Carrying Capacity

Because of the distinctively disproportionate level of development of tourism infrastructure, we assessed the carrying capacity of the area for the development of tourism only for the coastal area, to wit, in the Municipalities of Piran, Izola and Koper.

Special attention was devoted to the selection of carrying capacity indicators. The definition and classification of indicators was based on the presumption that this was a developed tourist destination. Thus we gave greater emphasis to spatial-ecological and infrastructural indicators than otherwise found in literature and classified them into two separate groups. In the elaboration of analyses of the carrying capacity in underdeveloped countries and developing countries, they usually use two separate groups of socio-economic and psychological-political indicators, but we united them into a group of socio-economic indicators. The results of a survey among the population and tourists confirmed that our presumptions were correct. Namely, they are disturbed by the unregulated common infrastructure, which cannot keep pace with the development of tourism. This is an especially pressing concern during the bathing season.

The analysis of nine key individual indicators of the carrying capacity in Slovenian Istra for the scenario of sustainable development of tourism showed that:

- the threshold of capacity is exceeded at 2 (22%);
- the carrying capacity is not sustainable at 6 (67%); and
- the carrying capacity is not exceeded at 1 (11%).

The main restrictive factors, which must be considered in the sustainable tourism development, are the treatment of wastewaters, lack of parking lots, public passenger transport, quality of sea water, quantity of drinking water, waste collection and management and nonetheless the dissatisfaction of residents and tourists. It is unreasonable to enlarge the accommodation capacities without investments into the general infrastructure, which limits the sustainable development of tourism in the region to a great extent. Approval from residents and tourists also cannot be expected. The necessary measures must thus be adopted and implemented as soon as possible.

We defined several priority activities for the realisation of sustainable tourism development in accordance with the analysis of the carrying capacity in Slovenian Istra:

1. Considering that tourists are satisfied with the hotel offer, while their capacities are in the overall average occupied only 50 percent, and with regard to the dissatisfaction of tourists with the remaining tourism offer, a lot should be done for the creation of additional tourism offer in the entire region and to extend the tourism season over the entire year.
2. With the purpose of promoting the development of tourism in the hinterland, a project of theme and other walking, cycling and riding trails in the hinterland should be elaborated. This project must also be co-ordinated substantially and financially between departments with the already on-going projects, such as the projects of wine trails, protection of typical agricultural products, sustainable rural development and reconstruction of villages, and the promotion complementary activities development on farms. The newly formed networks of trails should be joined with the ones in the neighbouring countries, for instance within the PHARE project cycling trails in Kras, and the planned trails on the Croatian and Italian side.
3. The construction of wastewater collecting systems and wastewater treatment plants is also of crucial importance. Without these measures we cannot assure quality bathing water and meet the preconditions for the increase of tourism capacities.
4. Active co-operation of local communities and the tourism sector is vital in the planning of transport infrastructure (high-speed road, second railway track, inter-city public transport), which, on the one hand, settles the current transport problems, while, on the other hand, it brings new problems, such as increased traffic and more visitors, for which we need to prepare in time.

5. Detailed tourism programmes must also be elaborated:
   - for areas which are already foreseen for the development of tourism activities in the spatial planning documents (Ankaran peninsula);
   - for areas which have not been appropriately assessed in terms of tourism (hinterland areas);
   - for areas which will be released due to the construction of transport infrastructure or phasing-out of other activities (the coast between Izola and Koper, the Viližan Bar area in Izola, the location of former Droga factory in Seča, and the abandoned mine in Sečovlje); and
   - for the timely restructuring of current tourism areas in accordance with the tourist demand.
6. Management of the tourism destination must be established in one place where it would provide for joint marketing, promotion, planning and monitoring of the tourism development in the region. The care for a harmonious and quality sustainable development of tourism must be present at all times.
7. Education of employees in tourism and local self-administration on all educational levels about the importance of the environment for successful sustainable tourism development in the region.

6. Vision, Objectives, Strategy and Measures

Vision: In 2012, tourism in the South Primorska will be recognised as the “pearl treasure of the Northern Mediterranean”, which comprises the treasures of cultural, ecological and littoral tourism and is distinguished by the exceptional care for them.

The main objectives and strategic policies for the realisation of the vision are:

- sustainable development;
- improved organisation; and
- higher quality.

6.1 Measures for the Realisation of the Strategy

Regional destination tourism organisation:

- to establish a more efficient and competitive organisation of the destination for the development of joint products and integrated marketing by uniting local subjects from the public, private and non-governmental sector in tourism in the joint destination management organisation;
- to assure more flexible employability and attractive jobs in the tourism branch;
- to define roles, responsibilities and competences of individual organisations and individuals in the development of tourism (establishment of the tourism development management system);
- to develop a system of systematic monitoring of the tourism development in the region;
- to establish regional destination management organisations;
- to set the principles of good employment practices with the aim of increasing the attractiveness of jobs;
- to organise training for occupations in shortage and on-the-job training; and
- to establish the systems for monitoring and measuring sustainable development of tourism: use of water, energy, chemicals, monitoring of the tourism income in the region, measuring the quality of offer, monitoring of added value in tourism and other indicators of growth, monitoring of the development and competitiveness of the tourism sector for the development needs and for the needs of reviewing the implementation of development objectives in the tourism sector.

Improvement of tourism infrastructure:

- investments into supplementary infrastructure in the hinterland of Slovenian Istra and in the countryside in order to eliminate the lack of small, family accommodation capacities in accordance with modern trends;
- investments in the increase of quality and sustainable character of the existing accommodation structures;
- investments into the construction of supporting infrastructure, which will raise the threshold of carrying capacity of the area (wastewater treatment plans, access roads, parking lots, recreational areas for the dispersion of tourist flows and the disburdenment of gathering points of tourists during the season);
- investments into public supporting infrastructure (sport halls, cultural halls);
- coastal promenade recreational axis Izola-Portorož with the inclusion of supporting infrastructural objects along the axis into a comprehensive offer;
- revitalisation of at least five abandoned buildings for tourism purposes;
- investments into smaller accommodation capacities, especially in rural areas;
- investments into the accommodation infrastructure in order to improve the environment (energy safety, reduction of the use of water, etc);
- construction of wastewater treatment plants to increase the carrying capacity in tourism; and
- construction of parking lots on the coast.

Development and marketing of new and improving the quality of existing tourism products and services:

- a strategic and implementation plan for the marketing and development of sustainable tourism products and services of the destination;
- promotion of the sustainable orientation of the destination and specialised programmes of sub-regions: maritime, cultural, eco-tourism;
- development of distinctive features proceeding from the given natural and cultural resources and/or man-made attraction;
- reinforcing the marketing and other activities on the cross-border level in order to increase the accessibility of the destination for global guests, who enter the destination in neighbouring ports (Trieste, Reka, Pula), airports (Trieste, Venice, Pula) and railways (Trieste, Reka); and
- certification for quality/selection and pilot introduction of ISO and/or EMAS quality systems and/or other more appropriate systems.

Promotion of the quality in tourism and reducing the impacts of tourism activities on the environment:

- introduction of records, adoption of the ordinance on the payment of the tourist lump-sum for holidays apartments and houses and incentives for the inclusion of the mentioned capacities into the tourism offer of the region;
- system incentives for entrepreneurial initiatives, innovations in tourism and the development and construction of the system of returning the earmarked funds into tourism for social and development purposes (education, improvement of working conditions);
- development of products and services for less privileged social groups;
- certification for quality/selection and pilot introduction of quality systems ISO and /or EMAS and/or other more appropriate systems, projects in the field of tourism for the preservation of biodiversity and identity;
- elaboration of guidelines for sustainable investments in tourism;
- establishment of the systems for monitoring and measuring sustainable development of tourism: use of water, energy, chemicals, monitoring of the tourism income in the region, measuring the quality of offer, monitoring added value in tourism and other indicators of growth, monitoring the development and competitiveness of the tourism sector for the

development needs and for the needs of reviewing the implementation of development objectives of this strategy;

- regulation of the system of collecting and recycling solid and liquid waste from tourist activities; and
- elaboration and availability of analytical tools and data as support for the adoption of corporate, investment and other strategic development decisions for the development of tourism.

Partnership for sustainable development:

- establishment of the systems for monitoring and measuring sustainable development of tourism with the help of sustainable development indicators;
- elaboration of assessments of environment capacity for tourism;
- establishment of co-operation of the tourism subjects in the promotion of public matters important for the quality of the tourism destination: regulation of the public open space and green plots, sustainable mobility, spatial regulation;
- co-operation in the field of employment, training and education for tourism; and
- joint awareness-raising campaigns for target groups.

7. Details of Implementation

The attainment of strategic policies and development objectives requires a harmonised, connected and efficient system for the implementation of tourism development. This can be achieved through an efficient tourism development organisation on the regional level within the so-called regional tourism (destination) management organisation (RTO, according to RNUST – Development Plan and Policies of the Slovenian Tourism - it is DMO), which unites different subjects, not only the holders of tourist activities, but also and above all the agents of development in tourism.

The regional tourism organisation (RTO or DMO) must be located at the interface of development interests of the public, civil and economic sectors, which operate in the region and must harmonise their interests as well as direct and encourage a harmonious, sustainable development of tourism and its marketing.

The economy plays the main role, as it enables and realises the development on the long-run with its activity, but the co-operation of the two other sectors is also necessary for its success – the assurance of legal formal activities and the assurance of all supporting tools of development, which the public has at its disposal, as well as the support of residents and adequate additional (voluntary) activities of the locals to ensure pleasant appearance and experience of the destination and positive relations with guests.

REGIONAL PROGRAMME OF ENVIRONMENTAL AND WATER RESOURCES PROTECTION

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Project Co-ordinator: Dr. Primož Banovec
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1. Introduction

The operative programme of wastewater collection and treatment is the most important execution act in water protection field and helps to achieve all goals which are defined in National environment protection programme. The operative programme of wastewater collection and treatment is a programme of co-ordinated steps of the national government and local authorities to gradually accomplish the goals of environmental protection.

It has been established that due to absence of the sewage system and treatment plants in settlements water pollution represents one of the major pressures on water quality in the area covered by the Coastal Area Management Programme (CAMP). Therefore, in the framework of the Regional Programme of Environment and Water Resources Protection, we paid particular attention to the analysis of the planned measures that would enable us to achieve a suitable target condition in providing settlements (agglomerations) with wastewater collection and treatment systems. The Regional Programme of Environment and Water Resources Protection is thus closely linked to the National Operational Programme for Wastewater Collection and Treatment, adopted in September 2004.

Operative programme of wastewater collection and treatment is expected to be implemented in the period from 2005 to 2017, with special intensity in period from January 1, 2005 to December 31, 2008. This operative programme defines urban areas, realisation terms for those areas and controls use of public finance.

The National operative programme of wastewater collection and treatment is defining the largest environmental investment programme in Slovenia. This programme defines rules for the proper use of financial resources for investing in projects of wastewater collection and treatment.

The main objective is to ensure the conditions to fulfil the environmental objectives. The average financial resources in the implementation period of the programme (2005-2017) should not exceed the amount of resources, which were intended for investments in 2003.

The operative programme of wastewater collection and treatment is a complex project, which is supposed to be implemented in accordance with European legislation. The complexity of this project is defined also by a split responsibility between national government and local authorities. In the area of the Republic of Slovenia the local authorities have an executing competence on wastewater collection and treatment, while the service of wastewater collection and treatment is provided by a public service provider. We also need to be aware that this project is a great financial burden.

Because of the complexity of this project, a model has been developed within the CAMP project, which will help local authorities to define more precisely on the ways of how to finance the implementation of their (local) operative programmes of wastewater collection and treatment. Local authorities need this kind of tool to give expert arguments to local political structures, which are competent for taking important decisions.

The input data on the investment requirements are obtained mainly from the national operative programme for the wastewater collection and treatment (2004) and technical documents (pre-feasibility studies, feasibility studies), the investment capability of a local community are analysed from different sources (municipality budged, financial flow on water consumption, accounts of performer of public service, etc.). The needs and financial resources are being analysed and as a result (output data) the plan of investments is defined (programme of financing local operative programme of wastewater collection and treatment), which is defined in the time scale, while, at the same time, the defined financial resources guarantee its feasibility.

2. Preparation of Instructions for the Drafting of Municipal Operational Programmes for Wastewater Collection and Treatment

The Municipal Operative Programmes for Wastewater Collection and Treatment are based on the National Operative Programme (Ministry of the Environment and Spatial Planning, September 2004), which is a framework defining the agglomerations that – due to their size – must be provided with wastewater collection and treatment systems. The instructions state that municipalities must develop the national programme in greater detail and make a financial assessment on the basis of the produced technical documentation (at least on the conceptual level).

If the National Operational Programme for Wastewater Collection and Treatment puts stress on the definition of agglomerations as basic entities for the provision of wastewater collection and treatment services and on definition of priorities for equipping them, a step forward has been made with the municipal operational programmes and the Programme of Environment and Water Resources Protection in the CAMP framework, as we have underlined the issue of provision of financial resources necessary to achieve the target condition of infrastructure in this field.

The concept of the introduced model of financing local operative programme of wastewater collection and treatment includes:

- diagram, which shows model hierarchy;
- financial flows between individual stakeholders; and
- other technical and accounting data (i.e. water consumption, population growth, water pricing policy, standards for the amortisation of the infrastructure) that enable the consistency of the model.

The most important concept of this model is that it is following investments for wastewater collection and treatment. Based on executed investments in the past, it is possible to predict the trend of investment implementations in the future.

This model also enables monitoring of different investment sources, such as local budget, state transactions to local communities and use of EU means, while it is, at the same time, in concordance with national accounting legislation and legislation that describes use of public finance.

To ensure a suitably structured approach to the programmed achieving of target condition in the field of water resources protection from pollution from urban areas, we have created a “Detailed analysis model of municipal operational programmes of wastewater collection and treatment”.

2.1 Presentation of Data Model and Its Hierarchy

The diagram (Figure 48) helps us to understand the complexity of this model. The picture shows connections between individual factors that are composing the entire process. Tables in the model are numbered in order to achieve improved transparency of the flows in the model.

The base of this model is the National Operative Programme of Wastewater Collection and Treatment. Local operative programmes of wastewater collection and treatment are developed in order to elaborate in further detail this National Operative Programme. Later on, as those local operative programmes are confirmed by the councils of the local communities and declared as such by the mayor, they serve as a local programme that has its consistency through the long period of time in which it could and should also be maintained. Those programmes summarise the technical aspects, especially from point of view of policy for setting the prices of wastewater collecting in treatment and other municipal incomes (such as the connection fees, fee for the use of urban area).

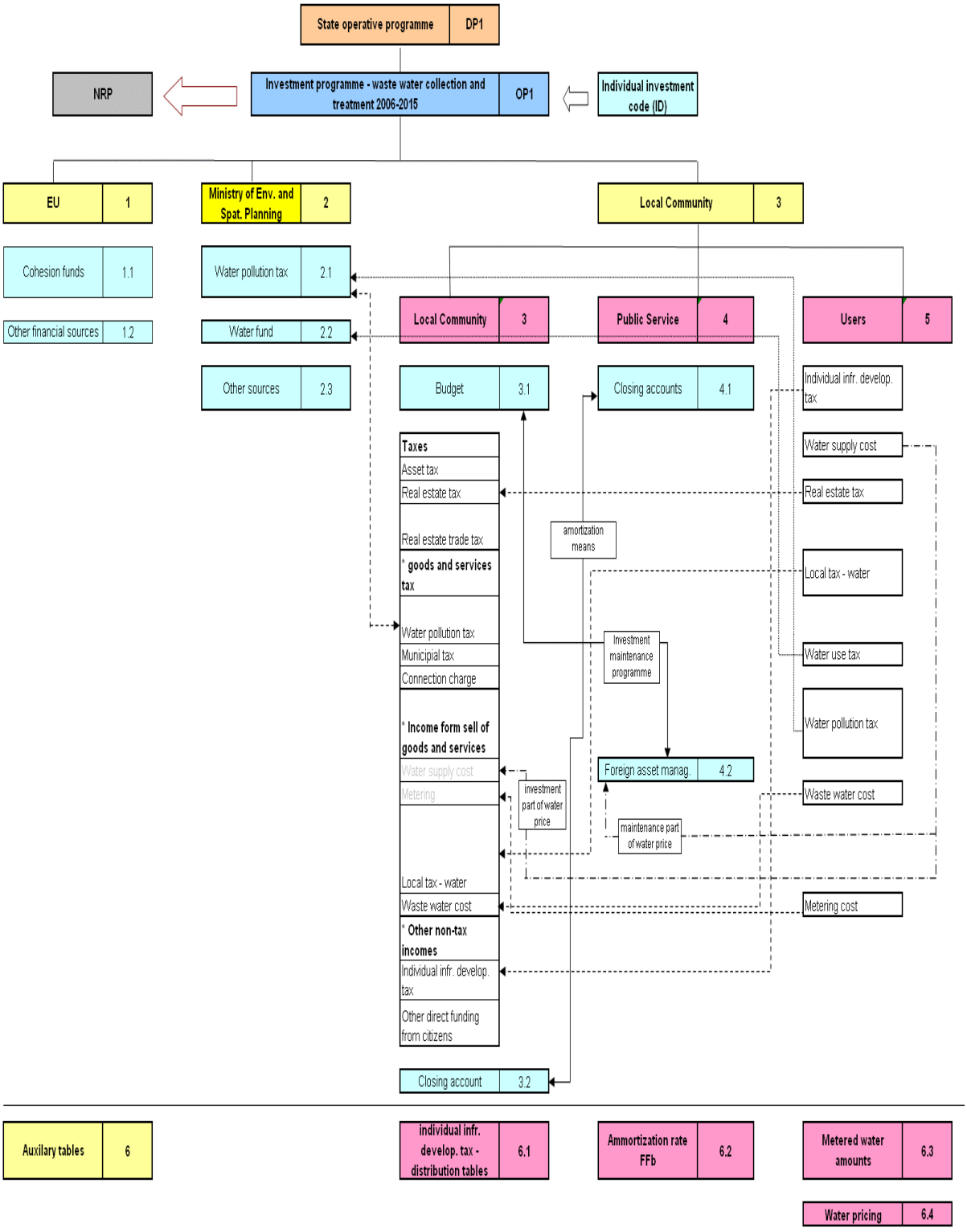

Figure 48: ***Hierarchy of detail analysis model of local operative programme of wastewater collection and treatment***

3. Co-Operation and Co-Ordination in the Preparation of Operative Programmes of Wastewater Collection and Treatment

In the frame of preparation of operative programmes of wastewater collection and treatment, a number of workshops were organised. Also, meetings were held with the representatives of relevant municipalities so as to make them familiar with the operative programmes within the CAMP. At the municipality level, data were collected concerning the present condition of wastewater collection and treatment in compliance with agglomeration arrangement by the year 2015 (sewerage 2017).

In the treated area, a very different response of municipalities to co-operate was received. All the local authorities (and public service providers) expressed their readiness to collaborate, although it was not operatively done to the same extent. Some local authorities and heads of civil services provided the adequate data (municipalities of Izola, Sežana and Divača), while some local authorities provided only partial data (municipalities of Hrpelje-Kozina and Komen). A rather weak response was received from the municipalities of Ilirska Bistrica, Koper and Piran. In the case of the latter, we had to collect data from the publicly accessible databases based on own inquiries.

4. Determination of the Programme Contents on the Basis of the Provisions of the Water Act Referring to the Quality of Water Bodies and the Integration of Programmes

The law on waters addresses quality of water or water bodies by the following regulations:

- Regulation on the designation of surface water bodies (Official Gazette of the RS, No. 65/05);
- Regulation on the designation of underground water bodies (Official Gazette of the RS, No. 65/05); and
- Regulation on the ranges and quality of bathing waters (Official Gazette of the RS, No. 70/03).

The law on waters was adopted in 2002, providing the bases for the declaration on water bodies condition (surface and underground waters) in accordance with the European guidelines for the common water policy (Water Framework Directive). According to this, the entire Adriatic basin has been recognised as a sensitive area, where stricter criteria apply concerning the emissions to water bodies. These criteria are captured in the national operative programme of wastewater and precipitation water collection and treatment. As such, they have been incorporated also in municipal operative programmes.

Water bodies in the treated area are shown in Figure 49.

The underground water bodies are determined in accordance with the regulations concerning the underground water bodies (Official Gazette of the RS, No. 65/05). Namely, this reefers to the first indent of the first paragraph of Article 5 and the Supplement II of the Directive of the European Parliament and Council 2000/60/ES, of 23 October 2000, about the definition of the water framework policy (Official Gazette of the RS, No. 327/00), and to the regulation on the methodology to determine the underground water bodies.

In the treated area, the underground water body is designated as 5019 – Coast and Kras/Brkini areas that lies in the Adriatic basin and has three typical aquifers. The size of the underground water body is 1589.4 km^2. The average annual quantity of precipitation amounted to 1,507 mm in the period 1961-1990.

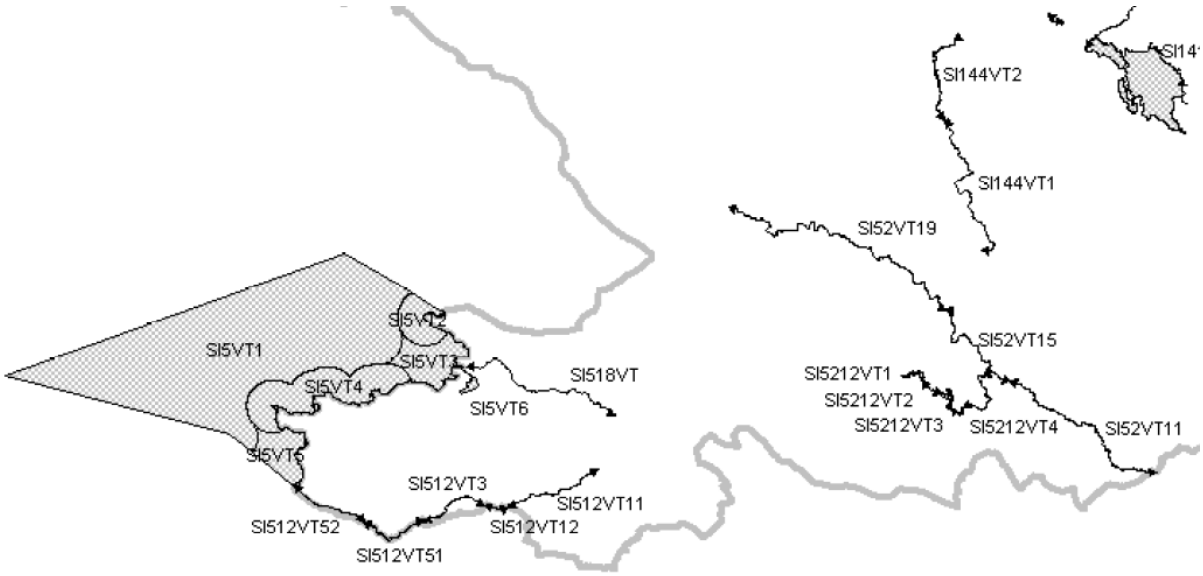

Figure 49: ***Review of water bodies in the treated area (surface waters)***

1. Karstic aquifers

The Karstic aquifers in the area belong to the category of abundant aquifers. From the point of view of hydrodynamic types they belong to open aquifers, closed in the areas with thick flysch stratums. The medium depth of the aquifers is more than 400 m. The lithostratigraphy of the area is characterised by limestone or dolomite (Tertiary and Mesozoic; and Cretaceous to Eocene period). The thickness of the unsaturated layer is larger than 100 m. The fissure porosity is vertical (medium value [m/s] $3.0 \cdot 10^{-7}$). Otherwise, the porosity coefficient is (medium value) [m/s] $3 \cdot 10^{-7}$ to $1 \cdot 10^{-5}$.

2. Aquifers in flysch stratums

In the area under the Kras Edge, aquifers in flysch stratums prevail, which are smaller than fissure aquifers and represent local and restricted sources of underground water. Basically, these are closed aquifers. The medium depth is more than 500 m. From the aspect of lithostratigraphic description, they are classified as flysch aquifers from the Eocene period. The depth of unsaturated layer is small and the porosity is low.

3. Gravel dikes of littoral rivers

Along the littoral rivers (Rižana, Badaševica and Dragonja) there are smaller Mephistopheles aquifers. Their medium depth is small (about 5 m). They are mostly composed of quaternary stratums of sand, gravel and clay. The aquifer layers are under the stratums of sea sediments of different thickness.

Besides the Water Act, the management of the quality of surface and underground waters is addressed also by the Environmental Protection Act, which prescribes the limit emission values for different sources of pollution. The Water Act determines the water bodies (underground and surface), but not the manner of water quality management, which is defined in water management plans. In addition to the existent limit emission values, these plans systematically introduce the measures concerning the limit emission values (Environment Quality Standards).

A special set of criteria in urban wastewater treatment refers to the environment quality criteria. According to the condition of bathing waters, we can conclude that the Slovenian part of the Adriatic Sea mostly complies with the quality parameters. Special attention should be devoted to the rehabilitation of high water spillways from the sewage systems and to the regulation of meteoric water. In the event of showers, they present a great risk to bathers during the bathing season.

In the field of the control and limitation of polluted water bodies, the only workable mechanisms are derived from the law concerning the environmental protection, where the pollution from urban sources is defined by the Decree on the Emission of Substances in Wastewater Discharged from Urban Wastewater Treatment Plants (Official Gazette of the RS, No. 90/98). With this regulation and its later amendments, the criteria for the emissions from urban wastewater treatment plants and the requirements for the equipment of settlements with wastewater treatment plants are defined. Moreover, the regulation defines the eutrophication criteria for sensitive areas. The following areas are determined in the Adriatic river basin:

- headwaters region of Dragonja from the source to the confluence with Pinjevec;
- water contributing area of Pinjevec;
- river basin of Dragonja from the confluence with Pinjevec to the confluence with Poganja;
- river basin of Dragonja from the confluence with Poganja to the outfall into the sea,
- river basin of the Sečovlje saltpan;
- water contributing area of Drnica;
- water contributing area of the shore from the outfall of Drnica to the outfall of Badaševica;
- water contributing area of Badaševica;
- water contributing area of the shore from the outfall of Badaševica to the outfall of Rižana;
- karstic headwater region of Rižana;
- headwaters of Rižana from the source to the outfall into the sea;
- water contributing area of the seashore from the outfall Rižana to the outfall of Timava;
- headwaters of Rižana from the source to the confluence with Molja;
- water contributing area of Posrtva;
- river basin from the confluence with Postrva to the confluence with Mrzlek;
- water contributing area of Mrzlek;
- river basin of Reka from the confluence with Mrzlek to the confluence with Padež;
- water contributing area of Padež;
- river basin of Reka from the confluence with Paleo to Škocjan Caves; and
- water contributing area of Timav to Škocjan Caves.

In this way, the whole area covered by the CAMP project is determined as a sensitive area; therefore, stricter criteria apply to the equipping of agglomerations with the systems of wastewater collection and treatment.

The criteria relate to:

- smaller limit size of agglomeration from the point of view of settlement density (10 inhabitants/ha instead of 20 inhabitants/ha, which is the limit value in insensitive areas); and
- higher degree of wastewater collection and treatment in sensitive areas for larger agglomerations (tertiary wastewater collection and treatment until 30 December 2008 in settlement areas with more than 10,000 population equivalents (PE).

5. Integration of the Programmes for Collection and Treatment of Waste and Surface Waters and the Analysis of the Efficiency of Water Protection on Regional Level

The regional programme for the protection of the environment and water sources was made on the basis of integrated data obtained from the representatives of individual municipalities and their public service providers of wastewater collection and treatment.

We considered in detail the tasks of every subject with regard to their specific roles, as follows:

- **European Union** – definition of minimum standards for equipping the agglomerations with the systems of wastewater collection and treatment (adjustment time periods, Cohesion Fund and other EU sources);
- **National level** – definition of legislation and standards for the implementation of public services (wastewater collection and treatment, water pollution tax, water use tax, inspection, special non-refundable state budget transactions, etc.);
- **Local level:**
  - *Municipality* (designation of long-term investment programmes, planning of financial construction of investments);
  - *Public service provider* of wastewater collection and treatment;
  - *Households* (consumers of water, taxpayers, payers of water services);
  - *Other users* (especially industry); and
- **Other subjects** (specific industrial pollutants, investors).

In the integration and analysis of municipal programmes with regard to their efficiency in water protection on regional level and financial feasibility, we analysed the following data on the basis of the elaborated model:

Municipality:

- municipal budget with itemised table for the years from 2001 to 2005;
- municipal annual accounts by items for the years from 2001 to 2004;
- municipal development plans;
- data on the quantity of water sold for the years from 2000 to 2004 (by sources – households and industry), by agglomerations;
- data on the number of units connected to the sewage network (by sources – households, industry), by agglomerations; and
- data on the price of water for the years from 2000 to 2005 (price of collection and treatment for households and industry, amount of amortisation in cost price, price for those connected and those not connected to the sewage system) and eventual cost of connection to sewage system.

Public service provider:

- data from the balance sheet of public service providers;
- data on the price of water for the years from 2000 to 2005;
- data on the quantity of treated wastewater for the years from 2000 to 2004; and
- reports on the operation of public service providers according to the Paragraph 21 of the Regulation on wastewater collection and treatment (reported on March 2005 for 2004).

State:

- Explanation of the national financial plan (Bulletin of the Parliament 790; explanation: 7; MESP).

We entered the above-listed data according to their availability to the model and analysed the following key points important for the development of public utility infrastructure.

5.1 Analysis of the Size – No. of Population Equivalents (PE) – and Current Municipal Infrastructure in Individual Agglomerations

Urban areas with more than 10,000 PE

Urban areas with more than 10,000 PEs in sensitive areas must be equipped with public sewage and water treatment plant until 31 December 2015, and at least 95% of the load should be connected to the public sewage system.

Table 12: *Urban areas with more than 10,000 PEs*

No.	Agglomeration ID	Agglomeration name	PE	Industry PE	Total PE	Sewage share	WWTP ID
1	20018	Koper	24,471	7,341	31,812	100	158 Koper
2	538	Piran	14,369	4,311	18,680	64	82 WWTP Piran
3	20901 (ex583)	Izola	12,445	3,734	16,179	95	

In the municipalities of South Primorska, three agglomerations belong to urban areas with more than 10,000 PEs: Koper, Piran and Izola. In the entire CAMP area, these agglomerations are the priority areas for the provision of wastewater collection and treatment infrastructure and the term for the installation of treatment plants is shorter than in all other agglomerations. As it can be seen in Table 12, the proportion of agglomerations with suitable sewage systems is relatively high; however, the appropriateness of treatment plants is currently low – the Izola agglomeration does not have a treatment plant and releases wastewater into the sea through deep water release; the Koper treatment plant does not achieve sufficient level of treatment. Investment programme (source: amendments to the programme of investment in treatment plant and sewage system Koper and Izola, Hidroinženiring d.o.o., June 2005) thus foresees the installation of a new joint treatment plant for the Koper and Izola agglomerations and at the same time the provision of sewage systems.

Urban areas with 2,000 to 10,000 PE

Urban areas with 2,000 to 10,000 PEs in sensitive areas must be equipped with public sewage and water treatment plant until 31 December 2015. By 31 December 2017, at least 95% of the load should be connected to the public sewage system.

Table 13: *Urban areas with 2,000 to 10.000 PE*

Municipality	No. of agglomerations	Average sewage % of all agglomerations	WWTP ID
Koper	4	52	158
Izola	1	21	82
Sežana	1	50	243
Ilirska Bistrica	1	75	47

Urban areas with 2,000 to 10,000 PEs are shown in Table 13 by individual municipalities. The table also shows the average percentage of the sewage systems already established in agglomerations of individual municipalities and treatment plants that are currently installed there.

As it can be seen, smaller agglomerations in the CAMP area are relatively well equipped with treatment plants; however, the rather low level of sewage system development poses a problem.

Urban areas or their parts with 50 to 2,000 PEs and the density of over 20 PE/ha or 10 PE/ha in sensitive areas

Urban areas or their parts with 50 to 2,000 PEs and the density of over 20 PE/ha or 10 PE/ha in sensitive areas must be equipped with public sewage and water treatment plant until 31 December 2015. By 31 December 2017, at least 80% of the load should be connected to the public sewage system.

Table 14: ***Urban areas or their parts with 50 to 2,000 PEs and the density of over 20 PE/ha or 10 PE/ha in sensitive areas***

Municipality ID	Municipality	No. of agglomerations	Average sewage % of all agglomerations	WWTP ID
	Koper	54	29	158, 160, 161, 162
	Piran	6	67	82, 83, 84, 85, 86, 87
40	Izola	6		82, 176, WWTP Cetore
111	Sežana	21	0	0
19	Divača	12	4.3	225, 226
35	Hrpelje-Kozina	16	5	227
49	Komen	12	0	0
	Ilirska Bistrica	44	3.9	0

Urban areas or their parts with 50 to 2,000 PEs and the density of over 20 PE/ha or 10 PE/ha in sensitive areas are shown in Table 14 by individual municipalities. The table also shows the average percentage of the sewage system already established in agglomerations of individual municipalities and treatment plants currently installed there.

5.2 Amount of Sold Drinking Water and Collected Wastewater

On the basis of the data about the quantity of sold drinking water we can make an approximate assessment of the wastewater amounts since these are more or less equivalent to the amounts of supplied water.

Quantity of sold drinking water

The sold drinking water represents the basis for the calculation of wastewater collection costs as it is the only measured quantity that can be attached to an individual consumer on the basis of individual measurements of the sold water (the meter). In the CAMP area, practically all 100% of supplied drinking water is measured with a counter.

Table 15: ***Amount of annually sold drinking water in individual municipalities (industry and households)***

Amounts of annually sold drinking water (in m^3)					
Municipality	2000	2001	2002	2003	2004
Izola	1,190,449	1,190,730	1,119,200	1,201,013	1,186,086
Koper				2 046 540	
Piran					
Sežana			837,321	998,644	
Divača			181,653	218,062	
Hrpelje-Kozina			190,091	208,376	
Komen			124,260	170,675	
Ilirska Bistrica					

Note: *For the Koper municipality, annual drinking water amount is only given for the Koper settlement (agglomeration ID: 20018). No data on the sold drinking water amounts is available for the Municipalities of Piran and Ilirska Bistrica.*

Table 16: ***Amount of annually sold water (industry and households) per resident***

Municipality	Number of inhabitants in 2002	Water consumed in m^3/inhabitant in 2002
Izola/Isola	14,767	75.8
Koper/Capodistria	48,527	83.6
Piran/Pirano	17,509	
Sežana	11,986	69.9
Divača	3,889	46.7
Hrpelje-Kozina	4,165	45.6
Komen	3,617	34.4
Ilirska Bistrica	14,272	

An important characteristic evident from the above table is that water consumption in coastal municipalities (e.g., Izola and Koper) is rather high. This can be explained by the fact that coastal municipalities (Koper, Izola, Piran) are strongly influenced by the seasonal water consumption due to tourism and industry. In the Sežana municipality, water consumption in industry is important. We can see that water consumption in general is rather stable and there is no rising trend of water consumption is evident.

Amount of collected and treated wastewater

The data on the amount of collected and treated wastewater were acquired directly from questionnaires filled in by the public service providers.

Table 17: ***Amount of annually collected wastewater in individual municipalities (in m^3)***

Amounts of annually sold drinking water (in m^3)					
Municipality	2000	2001	2002	2003	2004
Izola					
Koper				1,509,192	
Piran					
Sežana	117,547	113,619	118,474	218,668	192,153
Divača	56,660	48,790	44,241	47,833	46,409
Hrpelje-Kozina	14,665	13,880	13,898	13,549	13,459
Komen	0	0	0	0	0
Ilirska Bistrica		676,467	690,227	628,668	628,218

Notes:
No wastewater amount record has been kept in the Izola municipality. However, we can use the data on the amounts of sold water, from which it is possible to assess the amounts of wastewater, since these are more or less equivalent to the amounts of the supplied water.
Reports on the amounts of collected wastewater in the Koper municipality (only the Koper agglomeration) in 2003 were taken from information source: (reports for 2003 under Article 21 of the Rules on wastewater and rainwater collection and treatment).

Considering the data on the amount of collected wastewater we can assess that the investments in the years 2000–2004 had little influence on the increase of the amount of collected wastewater.

5.3 Pricing Policy in the Field of Wastewater and Rainwater Collection and Treatment

Prices for services of the local public utility companies are determined under the pricing regulations for services offered by local public utility companies.

Wastewater collection and treatment prices

Table 18: *Wastewater collection and treatment prices (SIT/m^3)*

Municipality	Households				Industry			
	Drainage		Treatment		Drainage		Treatment	
	With channel	No channel	With channel	No channel	With channel	No channel	With channel	No channel
Izola	65.04				114.30			
Koper	225.59				322.84			
Piran	111.72				250.4			
Sežana	32.65	32.65	174.28	109.33	32.65	32.65	253.95	318.91
Divača	31.10		116.39		31.10		116.39	
Hrpelje-Kozina	17.27				36.07			
Komen								
Ilirska Bistrica	29.10		155.00		42.70		155.00	

Note: *In the Izola, Koper and Piran municipalities, collection and treatment are included in the drinking water price. Displayed as net sums; 8.5% VAT not included in the price. In the case of Hrpelje-Kozina municipality, the operation of treatment plant is financed directly from the municipal budget.*

Table 19: *Wastewater collection and treatment prices (€/m^3)*

Municipality	Households				Industry			
	Drainage		Treatment		Drainage		Treatment	
	With channel	No channel	With channel	No channel	With channel	No channel	With channel	No channel
Izola	0.27				0.48			
Koper	0.94				1.35			
Piran	0.47				1.04			
Sežana	0.14	0.14	0.73	0.46	0.14	0.14	1.06	1.33
Divača	0.13		0.48		0.13		0.48	
Hrpelje-Kozina	0.07				0.15			
Komen								
Ilirska Bistrica	0.12		0.65		0.18		0.65	

5.4 National Water-Pollution Tax

Water-pollution tax is an environmental duty for environmental pollution from disposal of wastewater, rainwater and industrial wastewater. The basis for tax calculation is the sum of pollution units in a calendar year. Taxable entity for water-pollution tax is the provider of wastewater collection and treatment public service.

A regulation on water-pollution tax defines the criteria for claiming exemption from the tax or its reduction, if the collected tax is used for investment in wastewater and rainwater collection and treatment facilities.

Water-pollution tax rate in municipalities

National water-pollution tax is calculated differently for consumers with and without a connection to the sewage system. Consumers connected to the sewage system pay lower water-pollution tax. In Table 20, water-pollution tax prices for 1 m^3 of sold water are displayed – as derived from applicable price lists in 2005.

Table 20: ***Water-pollution tax rate in municipalities in the year 2005 (SIT/m^3)***

Municipality	Water-pollution tax rate	
	Users	
	With channel	No channel
Izola	123.47	123.47
Koper	71.4	134.66
Piran	111.8	130.21
Sežana	51.71	127.64
Divača	46.29	127.64
Hrpelje-Kozina	63.07	127.64
Komen		127.64
Ilirska Bistrica		

Note: *In the Sežana municipality, the tax for consumers in the settlement Sežana is 113.78 SIT/m^3.*

The amount of collected water-pollution tax in municipalities

In municipalities, all the water-pollution tax is used for investment in facilities for wastewater and rainwater collection and treatment. In the Karst region, investment of funds obtained from water-pollution tax are divided between the four municipalities in the region that has one common public service provider (Sežana, Divača, Komen and Hrpelje–Kozina). For the allocation of funds from water-pollution tax the programme proposed by the public service provider is observed. The amount of tax collected in individual municipalities in different years is displayed in Table 21.

Table 21: ***The amount of tax collected in individual municipalities in different years (in SIT 1000)***

Amount of collected water-pollution tax by years					
Municipality	2001	2002	2003	2004	2005
Izola	88,725	105,967	123,713		
Koper					
Piran					
Sežana	39,085	47,117	64,721	55,623	
Divača	11,929	13,922	15,765	13,733	
Hrpelje-Kozina	0	18,367	23,060		
Komen	9,856	12,730	18,725		
Ilirska Bistrica	49,739	59,305	67,214	40,164	51,013

6. The Analysis of Financial Flows Linked to the Implementation of Wastewater Collection and Treatment Investment

In the framework of financial flow analysis, we primarily compared the capacities of municipal budgets, which – in line with their original competencies – provide the major part of funds for investment in wastewater collection and treatment infrastructure. Comparison between the investment part of the budget and the necessary investment by 2017, the latest term for installation of wastewater treatment plants and sewage systems in the smallest agglomerations defined in the basic national operational programme, shows that municipal operative programmes are feasible. With the integration of feasibility of municipal operational programmes also the Regional Programme of Environment and Water Resources Protection proves to be feasible.

6.1 Municipal Budget

Municipal budget is an act adopted by the municipal council and represents a basis for financing of municipal authorities and implementing their tasks as well as for other purposes defined by acts and regulations.

The municipal budget provides for municipality's revenue and other incomes as well as outgoings and other expenses, on the basis of which calculation of appropriate use of funds for the current year is made.

Tables 22 and 23 display the entire annual income and expenditure of individual municipalities as derived from annual accounts of these municipalities.

Table 22: ***Total annual income of individual municipalities (in SIT 1000)***

Total annual income of individual municipalities			
Municipality	2003	2004	2005
Izola	2,968,730	3,092,975	4,152,914
Koper	8,428,639	10,360,585	9,713,180
Piran	4,769,304	4,399,954	5,407,528
Sežana	2,106,150	2,121,779	2,599,327
Divača	482,217	625,304	646,261
Hrpelje-Kozina	538,313	821,650	807,323
Komen	662,179	558,388	765,450
Ilirska Bistrica		1,701,134	1,907,303

Table 23: ***Total annual expenditure of individual municipalities (in SIT 1000)***

Total annual expenditures			
Municipality	2003	2004	2005
Izola	3,015,903	3,338,351	4,907,106
Koper	8,193,867	9,001,503	11,108,650
Piran	3,846,632	4,121,687	6,445,932
Sežana	1,916,035	2,355,579	2,699,027
Divača	482,374	590,574	795,785
Hrpelje-Kozina	526,341	781,215	899,323
Komen	643,620	573,458	796,415
Ilirska Bistrica		1,829,605	2,392,540

From the above two tables, the economic strength of each individual municipality and the wide range of these strengths can be noticed. Coastal municipalities (Koper, Izola and Piran) with larger numbers of citizens also have larger budgets and greater overall economic strength. The Sežana and Ilirska Bistrica municipalities with comparable budgets can also be considered large municipalities whereas the Divača, Hrpelje-Kozina and Komen municipalities are considered small municipalities, considering their economic strength.

Earmarked investment revenue of municipalities

Table 24: ***Annual income of earmarked investment revenue of municipalities (in SIT 1,000)***

Earmarked investment revenue				
Municipality	2002	2003	2004	2005
Izola	166,402	635,251	652,874	558,107
Koper				
Piran				
Sežana		436,619	462,416	353,098
Divača	17,781	37,836	54,073	40,000
Hrpelje-Kozina				
Komen				
Ilirska Bistrica	148,621	160,796	136,385	165,009

The earmarked municipality income is the income that the municipality designates – entirely or in part – for investment in municipal infrastructure (municipal fee, compensation for the use of building land, national water-pollution tax, municipal taxes, funds received from the national budget and the EU, and other incomes from co-financing). The data on earmarked income can be used as one of the indicators of municipality's financial capacity for investment in wastewater collection and treatment infrastructure. However, one has to be aware that some earmarked incomes (e.g., municipal fee, compensation for the use of building land) are not only designated for financing of wastewater collection and treatment programmes but for municipal infrastructure in general.

6.2 Development Plans

Development plans comprise annual direct consumer development plans, which are defined in the long-term development planning documents, special acts or regulations.

Table 25 displays annual values of investment in wastewater collection and treatment infrastructure, stated in the Development programme plans for individual municipalities.

There was no data on Development programme plan for investment in municipal infrastructure in the Hrpelje–Kozina municipality. Values of investment by 2004, displayed in Table 26, were taken from the Operational programme for wastewater collection and treatment in the Hrpelje-Kozina municipality.

Table 25: ***Values of annual investment in wastewater collection and treatment infrastructure, defined in development plans (in SIT 1000)***

Municipality	2004	2005	2006	2007	2008	2009	Total
Izola		305,000	346,160	813,416	825,790	593,240	2,847,606
Koper							
Piran		45,600	3337,866	1,058,982	497,125		1,939,573
Sežana		61,000	100,000	100,000	100,000		361,00
Divača	60,150	102,800	107,557	106,020			376,527
Komen		87,000	109,000	235,000	173,000		604,000
Ilirska Bistrica			186,925	165,000	373,208	226,050	951,633

Table 26: ***Values of annual investment in wastewater collection and treatment infrastructure in the Hrpelje–Kozina municipality by 2004 (in SIT 1000)***

Municipality	2001	2002	2003	2004	2005	Total
Hrpelje-Kozina	35,070	82,696	30,219	146,866		294,851

Municipal budget and the development programme plan are co-ordinated with the Ministry of Finance of the Republic of Slovenia; prices of municipal services are co-ordinated with the Ministry of the Economy and the Ministry of the Environment and Spatial Planning of the Republic of Slovenia.

6.3 Financial Feasibility of the Planned Wastewater Collection and Treatment Infrastructure Development

Assessment of municipalities' financial capacity

Assessment of the annually required financial funds for investment in wastewater and rainwater collection and treatment, if in view of the National Operational Programme, is based on different technical facts. They are displayed in the following table.

Table 27: ***Assessment of municipal financial capacity (in SIT 1000)***

Assessment of financial capacity			
Municipality	Lower limit	Optimal capacity	Upper limit
Izola	280	300	350
Koper			
Piran			
Sežana	170	190	210
Divača	35	40	50
Hrpelje-Kozina	35	40	50
Komen	35	40	50
Ilirska Bistrica			

Assessment of municipal financial capacity is based on the data on municipal budget in years 2003–2005, defined development plans, the amount of the collected water-pollution tax, and the amount of earmarked funds.

Assessment of average annual investment value

Table 28: ***Assessment of the annually required financial funds for investment in wastewater and rainwater collection and treatment by 2017 (in SIT 1000)***

Municipality	Assessment of necessary annual investment values (in 000 SIT)	Assessment of necessary annual investment values (in 000 €)
Izola	65,766	274
Koper		0
Piran	279,441	1,164
Sežana	387,756	1,616
Divača	104,560	436
Hrpelje-Kozina	89,908	375
Komen	131,360	547
Ilirska Bistrica	220,000	917

Notes
For the Izola, Sežana, Divača, Hrpelje-Kozina and Komen municipalities, assessments of annual investment values were taken from the Operational programmes for wastewater collection and treatment. The assessed values do not include values of investment defined in Development programme plans.
For the Koper and Piran municipalities, assessments of annual investment values were taken from the Reports on the provision of public service of wastewater collection for 2003 – only for agglomerations with 2,000 to 10,000 PEs and agglomerations with 50 to 2,000 PEs (density is higher than 20 PE/ha or 10 PE/ha if it is a settlement in a sensitive or water conservation area).
For the Ilirska Bistrica municipality, the assessed value is displayed in the Development programme plan as the value of planned investment after 2009.

6.4 The Foreseen Allocation of Financial Funds for the Implementation of the National Operational Programme

The proportion of the foreseen financial funds – from **basic programme** of waster water and rainwater collection and treatment – for the implementation of the National Operational Programme is derived from the operational programmes for wastewater collection and treatment in individual municipalities.

Table 29: ***Requested use of financial funds for the implementation of the operational programme (in % of the source)***

Municipality	State budget	Municipal budget	National taxes	EU funds	Service price	Land development fee
Izola	0	10	25	40	0	25
Koper						
Piran						
Sežana	15	40	10	15	5	15
Divača	15	40	10	15	5	15
Hrpelje-Kozina	15	40	10	15	5	15
Komen		15	20	15	5	15
Ilirska Bistrica						

Note:
There is no data for the Koper, Piran and Ilirska Bistrica municipalities.
In the framework of the EU Cohesion Fund project planning, the Municipality of Izola received state administration's assurance that in the case of insufficient national taxes the state will contribute non-repayable funds from the state budget.

As it can be seen, most municipalities rely upon external funds that have not been earmarked yet (Sežana, Divača, Hrpelje-Kozina and Komen). Since these sources have not been confirmed yet, operational programmes for these municipalities cannot yet be considered as feasible.

7. Regional Programme of Water Resources Protection and Detailed Concept of Coastal Strip and Sea-Use Management and Regional Environmental Information System

Regional programme of environmental and water resources protection, which is oriented mainly towards the field of municipal wastewaters, represents one of the more important principles for development of the coastal strip and sea-use management concept. This concept enables examination of infrastructure's condition in the field of municipal wastewaters treatment at every foreseen development, in particular in the perspective of enlargement of existing settlement areas (enlargement of agglomerations), already in the phase of designing the spatial envisaged interventions strategy. Regulation of the mentioned infrastructure represents one of the basic preconditions for the development of an investment project. Equipping the whole area with a comprehensive infrastructure (sewage and wastewater treatment plant) is most costly and from an economical view, due to small economies of scale, also ineffective. Therefore, at any kind of coastal area development it is necessary to pay attention to existing agglomerations, which are already supplied with appropriate infrastructure.

Therefore, the guidelines are:

1. Priority consideration about potential enlargement of land use for settlements in areas, which are already infrastructurally equipped.
2. At development of bigger complexes in areas, which are not yet infrastructurally equipped, it is necessary to lead the investment in the direction where besides managing the municipal wastewaters treatment of the investment project also wastewater treatment, in the area from where wastewaters can be discharged to a common WWTP, is regulated.
3. Given the relevance of water pollution from meteoric and mixed sewage systems, special attention should be given to objects for holding meteoric precipitation in the mixed and meteoric sewage, for disburdening of polluted waters from mentioned systems represents a strong pressure on water resources in the addressed area. This is particularly important at sewage systems, where exceeded quantities of meteoric and mixed wastewaters are discharged directly into sea and so endanger both natural resources (increased eutrophication) and bathers. Therefore, spatial content is important and needs to be included in coastal belt development plans and also spatial reservations for implementation of catchment facilities and more adequate disburdening of high waters from sewage systems.

Listed containment systems may also be underground objects for which it is not necessary to establish a regime of spatial reservations on the surface, but nonetheless these objects need to be appropriately planned and spatially incorporated.

8. Findings and Conclusions

In the framework of the project we transformed the national operational programme for drainage and treatment of municipal wastewaters and precipitation, defined methodology for transfer on the municipal level, in particular from the view of resources analysis for implementation of investments. On the grounds of comparison between the necessary investment implementation and available (existing) resources, we have obtained following conclusions:

1. Implementation of the operational programme, which addresses agglomerations, which fall under a priority group by the EU legislation (agglomerations above 2,000 PE), is executed adequately and it is expected that the objectives will be achieved in accordance with national operational programme guidelines.

2. In municipal areas with rare settlement there are great costs for public utility connections. Due to the position of agglomerations in sensitive areas high demands for investments are foreseen as also in areas with relatively small financial capabilities.
3. Among analysed municipalities the Municipality of Izola has a completed financial construction for the implementation of the operational programme and appropriate treatment of wastewaters until 2015 (2017). Reasons for this are: the municipality does not have a substantial hinterland with a large number of small, unequipped agglomerations, relatively good sewage system of agglomeration Izola, co-financing by the EU for implementation of the treatment plant and part of the sewage network.
4. Among analysed municipalities the Municipality of Sežana, Hrpelje-Kozina, Divača and Komen have a range of own resources, which is explicitly too small for the implementation of the programme. So the total of investment needs of these municipalities is 8,166 million SIT, while the total estimated investment capability is 4,030 million SIT (all in the period from 2005 – 2017). Shortage of investment resources in the amount of 4,136 million SIT should be acquired from elsewhere or find technical ways of drainage and treatment, which would be substantially least costly.
5. Comparative analysis of investment prices for equipping agglomerations on the Karstic terrain shows that implementation of drainage and treatment of municipal wastewaters at mentioned agglomerations can be very expensive. This can be explained with very expensive excavations of rock (limestone) and unfavourable terrain configuration (no permanent falls), which demands a larger number of pumping stations or smaller treatment plants.
6. The model with analysis of prices for drainage and treatment services of municipal wastewaters could be made only for the Municipality of Izola. For other municipalities, which have forwarded the data, there are too many unknowns from the view of financial implementation of the investment (e.g., the investment part of the price), which would enable to define service prices on the level of the model.
7. At identifying investment capacities of addressed municipalities we did not define ourselves in respect of the investment part of the price. From the aspect of the existing legislation and economy it is also possible with a part of the investment for a specified period to charge the final user. Rough analysis of potential charges of all users in municipalities of Sežana, Hrpelje-Kozina, Divača and Komen shows that at the annual usage of 1,595,757 m^3 of water and at an investment part of the price of water in the amount of 100 SIT it would be possible accumulate in 13 years 2,074 million SIT. This approach is related to the manner of implementing services through concessions.
8. Identified investments in infrastructure for drainage and treatment of municipal wastewaters must only be a part of the system for effective managing with this system, for the whole system depends also on effective investment implementation (e.g., appropriate concept for disburdening high waters from sewages, minimal loses from the sewage and minimal infiltration into the sewage).
9. With the detailed analysis of water's price policies and expenses we determined that the critical phase for good implementation of investments is also successful activation of the investment. The period when the WWTP or the sewage system begins to operate must also be covered with a detailed investment plan, which foresees financial resources for functioning of the infrastructure system during the experimental operating period, takeover and accelerated connection of users on it.

One important conclusion is that some municipalities or public service providers have not shown proper interest for co-operating in the Regional protection of environmental and water resources project hence results for some municipalities are insufficient.

By 2017, the foreseen programme of measures would almost wholly eliminate emissions from settlement areas in the territory, which is covered by the CAMP Programme, which would have a positive influence on water quality in water bodies of surface waters (watercourses and the Adriatic Sea) and underground waters.

9. Guidelines and Instructions for Further Work

In the framework of this project we linked a large number of data sources and produced a model serving the regional support of decision-making in the field of investment in water resources protection. With this model, we primarily compare goals of agglomeration infrastructure for effective water resources protection – with defined investment needs for their implementation – with the available financial funds.

In addition to the intersection of the current situation – Regional Programme of Environment and Water Resources Protection, the employed approach also facilitates maintenance. It would be sensible to maintain the data model we created and in this way constantly follow the course of programme realisation and potential deviations from the set goals to be achieved by 2017. In the framework of model maintenance and the document, it is possible to add data for municipalities that have not sent data yet.

The model is designed to enable monitoring the financial flow dynamic with one year period resolution. The model can be updated, probably in March, when the report needs to be let out, according to Paragraph 21 of the Wastewater collection and treatment regulation (Official Gazette of the RS, No. 102/2003).

The presented methodology is of key importance for the elaboration of operational programmes for wastewater collection and treatment of wastewaters its use was already verified because the process of the collection of data from the local communities included in the CAMP project has already started.

The basic parameters necessary for the model maintenance are: local budget, annual accounts of municipality and Public service provider and executed investments.

The stable prices are being used in this model. To enable the long-term stability of this model, we need to insert revalorised values or insert correction factor of those values (prices).

Nevertheless, one has to have in mind some inconsistencies and limitations of the model, namely:

- **Urban rainfall drainage** is not thoroughly defined in the legislation of the Republic of Slovenia. Especially the financing of the urban rainfall drainage is not well defined (uncertain influence on public service price formulation), therefore, the provision of this service is elaborated to the lower level in the proposed model.
- **Public service of wastewater collection and treatment** with contracts for greater pollutants (industry); at the current stage the large, pollutants that discharge in the public wastewater collection and treatment systems are treated all the same regardless of their specifics (only standard emission limit values for the discharge in the public sewerage are applied for them). Further, more individual treatment might be necessary in the future.
- **Water charge** based on the amount of water consumed from the public water supply systems (WSS) – some users have their own spring of water used for combined use (together with the use of water from public WSS in their households). The amount of water released to the public sewerage could, therefore, be much higher than the amount of water consumed from the public WSS.
- **Investment planning** – in the case of significant seasonal oscillation of the number of inhabitants (private houses, apartments and tourist facilities) the model has to be adopted to enable for the two-stage load of the system. Also, the pricing policy for the wastewater needs to be changed.

SENSITIVITY MAPS OF THE SLOVENIAN COAST

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1. Introduction

Preparation of the sensitivity maps of the Slovenian coast (the Project) is implemented by REMPEC in accordance with the programme of its activities for the biennium 2002-2003.

The Project is being carried out as part of the comprehensive “Coastal Area Management Programme (CAMP) – the project for Slovenia”. The Agreement relevant to CAMP Project for Slovenia was signed between the Government of Slovenia and the United Nations Environment Programme (UNEP), within the framework of the Mediterranean Action Plan (MAP), on 5 September 2003.

The **general objective** of the preparation of sensitivity maps of the Slovenian coast is to provide competent Slovenian national authorities, responsible for preparedness for and response to accidental marine pollution, with a reliable tool for developing proper spill response strategies and tactics within the context of the National Contingency Plan for spills of oil and other harmful and noxious substances (HNS).

The **specific objective** of the Project is to provide Slovenian authorities with a set of sensitivity maps, which could be subsequently used, maintained, updated and reproduced, as necessary, by national experts or centres of expertise.

Under the Project, the following tasks shall be done:

- compile biological, meteorological, oceanographic and any other relevant environmental data, necessary for the evaluation of the sensitivity to pollution by oil or other HNS of marine and coastal environment of Slovenia;
- compile the list of economically important resources in the Slovenian territorial waters or on its coasts, which may be affected by spilled oil or other harmful and noxious substances, including *inter alia* fishing grounds, mariculture sites, water intakes of coastal industries, power plants, touristic and leisure facilities, ports and marinas;
- compile the list of coastal sites of ecological and biodiversity importance, which may be affected by spilled oil or HNS;
- compile the list of coastal sites of interest from historical and cultural point of view, which may be affected by spilled oil or HNS;
- process data and information listed under i), ii), iii) and iv) in order to make them suitable for the integration into a GIS and for the preparation of the sensitivity maps;
- develop sample maps using a selected GIS; and
- prepare a set of sensitivity maps covering Slovenian coasts and territorial waters.

2. Biological, Meteorological, Oceanographic and Other Relevant Environmental Data

2.1 Meteorological and Oceanographic Data

The Slovenian part of the Adriatic Sea is a part of the Gulf of Trieste. The Gulf of Trieste is the most northern part of the Adriatic Sea and has specific oceanographic features, because of its closure, shallowness (less than 30 m) and numerous freshwater inflows. Salinity distribution depends a lot on discharges of larger rivers, which flow out into the sea. Usually, the freshwater of the Soča River is determined in the upper layers of the sea along the Italian coast towards the south. When the discharge is very high, its influence can reach the central part of the gulf and the surface spilling of freshwater can extend to the Piran coast under special meteorological conditions. In the Bay of Koper and Piran, salinity is locally affected by the Rižana and Dragonja and less by the Badaševica. The seasonal oscillations of sea temperatures in the southern half of the Gulf of Trieste are more intensive on the surface. In the period from January to March, a temperature of 8°C was measured along the total water column and the highest temperature about 26°C in the surface layer from July to September. In the bottom layer, water warms up more slowly and the maximums are put off to the isothermal time (September, October) and do not exceed 20°C. The temperatures in shallower bay waters at the shallow sampling points of the Piran and Koper Bays are thus higher both in the surface and in the bottom layer throughout the year in comparison with deep sampling points. Since it is characteristic of the period from November to April that the temperature along the whole water column remains the same (homothermia), the vertical temperature stratification can be very pronounced in the remaining part of the year.

Beside the gradient flow, which is determined by positive direction from East to West, also the winds take part in mixing of water mass and cause the streams parallel with the direction of the wind because of the shallowness of the area. The tide, the wind and the fresh water influx have the predominating influence on dynamic of water mass in coastwise-belt. The coastline sea of the Gulf of Piran and Trieste accepts, including the mentioned continent water, the large quantities of suspended parts and nutritive substances, which cause not only a proportionally high stage of turbidness, but also a high natural bioproductivity.

Tide in the Slovenian part of the Adriatic Sea

The primary marine station in Koper operating from the year 1958 measures tide in the Slovenian part of the Adriatic Sea. In the last two years, the oceanic buoy, which is located 2 miles NW from Piran, also measures the oceanographic data.

Tide in the Slovenian part of the Adriatic Sea is a mixed type of tide resulting from the astronomic tide in the Ionic Sea and in the southern part of the Adriatic Sea. Approximately every 15 days changes occur between the "half-day type" (two tides and two ebbs a day) and the "daily-type" of the tide (one tide and one ebb a day, which is more conspicuous as a "half-day type"). The tide is also influenced by wind and air pressure and coincides with its own oscillation of the sea level of the Adriatic Sea.

According to the regular measurements in a 40-year period, the average amplitude of the tide in the Slovenian part of the Adriatic Sea is 66 cm. The sea level in the Gulf of Koper varies from 1.45 m under the mean height of the sea column to 1.55 m above the sea level. The lowest sea level hights are registered in the period from December to February, and the highest during the autumn months.

Sea winds and currents

The most frequent winds blowing in the Slovenian part of the Adriatic Sea are the south, south-east and the north wind. The wind named “bora” (Figure 50) that blows from the north is predominant by its strength. As measured in the study period, i.e. from January to March 2002, the mean strength of the south wind blowing on the open sea exceeds 7 m/s.

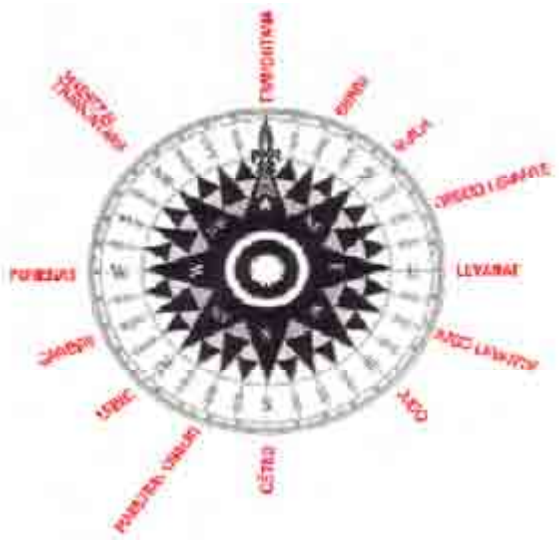


Figure 50: ***Names of common winds in the Slovenian part of the Adriatic Sea and coast***

Based on the analyses of the data collected from the oceanographic buoy, the distribution of the wind strength (m/s) by directions is shown with characteristic diagrams (Figures 51 and 52). As it can be seen from the diagrams, the strength of the most frequent sea winds is between 2 and 4 m/s. The most frequent winds are those blowing from the south (between 8 and 9%), while the wind named “bora” is the second frequent wind (12%). Source: National Biological Institute, Marine Biological Station Piran, 2002.

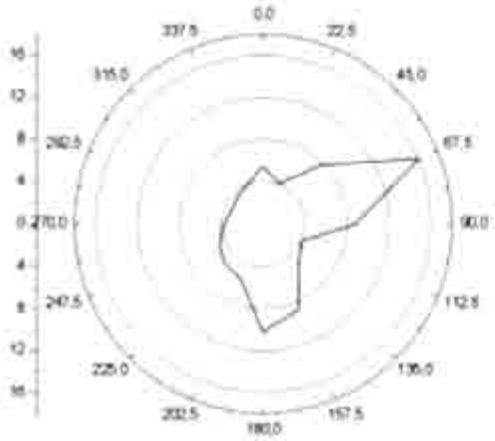


Figure 51: ***Sea wind frequency (in %) by directions***

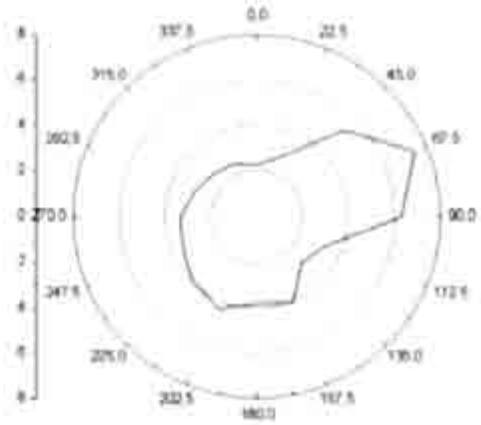


Figure 52: ***Sea wind strength (m/s) by directions***

According to the sea currents analysis done on the oceanographic buoy, the main axle of the currents at the bottom and in the middle part of the water column is directed to the inner part of the Gulf of Trieste along the direction of the gulf axle (0.1 m/s). Few meters under the water level, the most important direction of currents are to the West, from the gulf (0.3 m/s). In this layer, the currents are primarily created by wind and sea density. In the inner part of the water column, the density and tide currents are predominant (0.1 m/s).

Salinity

A multiyear month average of salinity has two minimums, which are different by value. Salinity oscilations are the highest in the upper layer (29.5 psu – 38 psu), while in the bottom layer, they are from 36 to 38 psu. Higher salinity is characteristic of the winter months (January and February) in the whole water column, whereas lower salinity is registered in the period between May and July and between September and October in the most upper layers.

All the data from the oceanographic buoy are online and in real time accessible on the internet (http://buoy.mbss.org).

2.2 Biological and Environmental Data

Contents of dissolved oxygen

The contents or saturation with oxygen poses a special problem in the Gulf of Trieste. The state of hypoxia may describe the fall of oxygen below 2 ml/l whereas anoxia is the state of oxygen being below the detection limit. The seasonal reduction of oxygen (late in summer and autumn) is observed in bottom layers (18-20m) each year, while the critical low concentrations (below 2 ml/l) were measured in 1974, 1983, 1987, 1990, 1993 and 1994. The consequence of such low concentrations, especially if these conditions take a longer period of time, is the mortality of benthic organisms. The mortality assumed the greatest proportions in 1983, when anoxia covered about one third of the entire Gulf of Trieste.

The contents of dissolved oxygen fluctuated from the highest 8.1 ml/l (deep sampling points of the Gulf of Trieste) in 1992 to the lowest 0.33 ml/l, measured in the bottom layer of the central part of the Gulf of Trieste in October 1995. The oscillations of the contents were less noticeable in the surface layers (from 7.5 to 4 ml/l), the oscillations were conspicuous and the contents were low at the end of the summer in bottom layers. The contents of dissolved oxygen usually fall below 2 ml/l in September and October. The autumn state of hypoxia appears quite regularly, particularly at a deep sampling point of the Gulf of Trieste. The states of anoxia appear occasionally when the content of oxygen falls below the limit, required by the sea bottom fauna. Under unfavourable conditions (stable stratification of the water column and long-lasting steady and not windy weather in the summer), anoxias with mortality of benthic organisms in smaller or larger proportions can be expected every year. Biochemical oxygen demand has usually two characteristic peaks that coincide with the blooming of algae, in the spring and autumn.

Nutrients

The dynamics of nutrient content in the sea depends on external inflows and hence on the oscillation of river discharges. Significant regeneration processes are carried out particularly at the sea bottom. The contents of total nitrogen in 1992, 1994, 1995 and 1996 ranged from 0.2 in 1992 to 79.5 µmol/l in 1995. The annual dynamics in the bottom and surface layer does not change. There are no greater differences among individual stations as well, but there are marked differences in individual years in both, content and dynamics.

The contents of total phosphorus fluctuated from 0.3 to 8.5 µmol/l in 1992, 1994, 1995 and 1996. The annual dynamics and the concentrations of total phosphorus are very similar in the surface and bottom layer and at individual stations, too.

Chlorophyll a

The contents ranged from 0.28 to 8.79 µg Chla/l in 1992-1996. The mean annual contents of chlorophyll a fluctuate at individual sampling points; however, they all show a similar annual distribution. Every year three maximums appear as a rule. High contents are measured in February or March, the content falls after the spring peak, to rise again in May and June. In summer months, the content of chlorophyll is low. In November, it reaches the third peak. The highest values coincide with the lowest salinity and with the highest contents of nitrate in the surface layer of the sea.

Seasonal dynamics and structure of dominant species of phytoplankton

The annual dynamics of the cell density of individual phytoplankton species show all the characteristics of shallow basin associations. The seasonal dynamics of the number of individual cells of various taxonomic species does not always coincide with the dynamics of the chlorophyll. The annual dynamics of the predominating taxonomic groups of phytoplankton is also very diversified. In the marine water samples of the eastern part of the Gulf of Trieste, two groups, i.e. microflagellates and diatomeae, are numerically predominant. Microflagellates are 2 to 10 µm big flagellated algae of different taxonomic groups. Numerically as a group they predominate over the whole year, but the peaks are attained in the summer period, when they represent 80-90% of the total number of cells. In the size class > 10 µm the algae of the Diatomeae, Dinoflagellatae, Coccolithophoridae and Silicoflagellatae group prevail.

Contents of hydrocarbons

The spatial distribution of dissolved hydrocarbons (as the equivalent of the crysene) can reflect the increased seaborne traffic; however, it is to be considered that the values depend on weather, natural, anthropogenic and other conditions. The three-year-long measurements of dissolved hydrocarbons in the marine water point to a low degree of pollution in the eastern part of the Gulf of Trieste. The content ranges from 0.1 to 2.6 µg/l. Higher values were measured at a deep sampling point in front of Debeli rtič compared to the shallow points of the Bay of Piran and Koper. The analyses of sediments showed higher concentrations of hydrocarbons resulting from the accumulation and better resistance of hydrocarbons. High contents were observed at the sampling point at the entrance to the Koper Bay and in the central part of the Piran Bay.

Specific phenomena of eutrophication

The phenomena, which are jointly defined as eutrophication, pose often a serious (long-lasting or occasional) problem. A special problem in the Gulf of Trieste is various algae bloomings, including red, brown and green tide ranges, which result from excessive growth of phytoplankton. The exaggerated development of marine bottom layer algae, e.g., Ulma, appearance of mucilage, lack of oxygen along the sea bottom, and the mortality of bottom organisms are the phenomena which reflect trophic status of the coastal sea and often exert negative effects both on ecological balance and on the sea quality in the sense of applicability for different activities performed by man. Among the phenomena, which drew attention in the last decade, was the appearance of large quantities of mucilage, which, at the end stage, covered vast sea surfaces in the northern Adriatic. In this case, this phenomenon in the Gulf of Trieste reflected only the general conditions prevailing in the northern Adriatic Sea. The biggest proportions of this phenomenon were assumed in 1988, 1989, 1991 and 1997. Mucilage began to grow in the water column in May and June and spread to big mucous membranes on the surface in the second half of July and August. Massive occurrences of mucilage in the northern Adriatic Sea have been recorded since the first half of the 18th century.

During this century, the phenomenon assumed larger proportions in the first and second decade and in 1949, whereas smaller proportions were noticed in the thirties (1930, 1939), 1941, 1951, 1960 and 1983. Localised phytoplankton bloomings are also worth mentioning. They change the colour of the sea and are limited as a rule only to the shallow part of the Koper Bay (the Badaševica and its outflow area, the sea along the Semedel road) and, to a smaller extent, to the shallow part of the Piran Bay. These bloomings are connected with the anthropogenic effects. A great effect must have been exerted also on the blooming of diatomeae Skeletonema costatum in Hemiaulus hauckii by anthropogenic factors in 1978 and 1987. They covered practically the entire Gulf of Trieste. Unicellular phytoplankton algae, which produce thermostable poisons, are among the sea organisms potentially detrimental to health. By filtrating the sea water these algae get in a shellfish. They do not endanger the shellfish, but various difficulties can be encountered, from harmless troubles to serious poisoning, when they are consumed by man. Among toxic phytoplankton algae, the species of the genus Dinophysis (they cause diarrhoeic shellfish poisoning – DSP) and of the genus Alexandrium (they cause paralytic shellfish poisoning – PSP) appear frequently in the Gulf of Trieste.

The toxic species are most abundant in August and September; their appearance is noticed from May to November. Difficulties because of DSP or potentially PSP have not been recorded by Slovene health statistics; some DSP poisonings have been proved, however, in the northern part of Italy. Accordingly, the selling of shellfish for human consumption was prohibited in Slovenia in 1989, 1993, 1994, 1995 and 1996. In general, it seems that such phenomena occur more and more often (all over the world such trends are registered), but so far, there has been no study made which could clarify the causes of these troubles.

Sanitary quality of coastal waters

The sanitary quality of coastal waters in 1994, 1995 and 1996 is shown in Table 30, which includes the data on relative frequency distribution of a number of faecal coliform bacteria.

Sampling was performed in the region from Debeli rtič to the outflow of the Dragonja in the Piran Bay, at 18 bathing sites, in the area dedicated to shell rearing in the Piran and Strunjan Bay, in the estuary of the Rižana and at the two reference sampling stations. The analysis results of the number of faecal coliform bacteria for each sampling point are categorised into three groups. According to the criteria of the World Health Organisation (11), the bathing sites can be used as recreation centres if 83-100% of the samples taken contain less than 100 FK/100 ml of the sample and do not exceed 1000 FK/100 ml. The results show that the sanitary sea water quality deteriorated in general in 1995 and 1996 compared to 1994 at the following sampling points: Debeli rtič, Valdoltra, Ankaran (Adria, camping site and holiday home), the estuary of the Rižana, Piran (Punta), Piran (the Piran Hotel), Lucija, Seča, Izola (camping site), Bernardin, Portorož (Riviera) and the bathing site and the outflow of Dragonja. In the year 1995, a significant improvement was recorded in Koper, at both sampling sites and at the bathing site near the Emona Hotel in Bernardin, where water met the requirements of a recreation and sports centre; while in 1996, the improvement was registered in Portorož (the Riviera hotel and the bathing site).

Table 30: *Physical-chemical parameters measured since 1974*

Parameter	Number of samples	Minimum	Maximum	Average	Standard Deviation
Temperature (°C)	7,852	2.6	29.1	15.65	5.28
pH	5,831	7.39	8.92	8.23	0.16
Salinity (ppt)	7,535	0.21	39.93	36.49	2.71
Density-1000 (kg/m^3)	7,288	5.02	30.89	26.85	2.54
Total alkality (µmol/l)	5,984	0.59	7.18	2.8	0.37
CO_2 (µmol/l)	5,347	0.92	6.96	2.47	0.36
O_2 (ml/l)	7,153	0.16	10.8	5.43	0.91
Salitation O_2 (%)	6,609	0.34	170.2	96.24	13.72
PO_4 (µmol/l)	5,676	0.01	80.24	0.19	1.22
Total P (µmol/l)	4,033	0.01	108.4	1.23	2.24
N-NO_2^- (µmol/l)	5,663	0.01	157	0.32	2.41
N-NO_3^- (µmol/l)	5,670	0.01	209.6	2.19	6.59
N-NH_4^+ (µmol/l)	5,589	0.01	224.5	2.14	5.84
Si-SiO_4^- (µmol/l)	3,835	0.01	178.6	4.95	8.29
Total N (µmol/l)	3,161	0.01	376.11	20.16	15.2
H_2S (µmol/l)	5	0.31	0.71	0.51	0.16

Source: *State of the Environment in Slovenia, Report 1996*

Table 31: ***Sanitary quality of bathing waters in the years 1994, 1995 and 1996***

	No. of samples in each year			Frequency of samples distribution (%)								
				Number of faecal coliform bacteria/100ml								
				0-100			100-1000			>1000		
Stations	'94	'95	'96	'94	'95	'96	'94	'95	'96	'94	'95	'96
Debeli rtič	7	8	16	85.7	50.0	68.7	14.3	50.0	12.5	0.0	0.0	18.8
Valdoltra	7	8	16	57.1	50.0	75.0	28.6	50.0	6.2	14.3	0.0	18.8
Ankaran-Adria	7	8	16	71.4	62.5	75.0	14.3	37.5	18.8	14.3	0.0	6.2
Ankaran-camping	7	8	16	85.7	75.0	75.0	14.3	25.0	25.0	0.0	0.0	0.0
Ankaran-holiday house	7	8	16	85.7	62.5	75.0	0.0	37.5	18.8	14.3	0.0	6.2
Estuary-of-the-Rižana	7	8	15	0.0	0.0	0.0	0.0	0.0	6.7	100.0	100.0	93.3
Estuary-of-the-Rižana	7	8	12	0.0	0.0	0.0	14.3	37.5	16.7	85.7	62.5	83.3
Outflow-of-the-Rižana	7	8	12	0.0	25.0	58.3	42.9	75.0	33.4	57.1	0.0	8.3
Koper–bathing-site	7	8	16	57.1	87.5	93.7	28.6	12.5	0.0	14.3	0.0	6.3
Koper-old-bay	7	8	-	71.4	87.5	-	28.6	12.5	-	0.0	0.0	-
Izola-camp	7	8	16	85.7	75.0	87.5	0.0	25.0	6.3	14.3	0.0	6.2
Izola-lighthouse	7	8	16	57.1	62.5	87.5	28.6	25.0	12.5	14.3	12.5	0.0
Fiesa	7	8	16	100.0	100.0	93.7	0.0	0.0	6.3	0.0	0.0	0.0
Strunjan	7	8	30	100.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0
Piran-Punta	7	8	16	100.0	100.0	87.5	0.0	0.0	0.0	0.0	0.0	12.5
Piran-hotel-Piran	7	8	16	100.0	100.0	87.5	0.0	0.0	6.3	0.0	0.0	6.2
Piran	7	8	16	100.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0
Emona-hotel	7	8	16	85.7	87.5	100.0	14.3	12.5	0.0	0.0	0.0	0.0
Bernardin	7	8	16	100.0	100.0	93.7	0.0	0.0	6.3	0.0	0.0	0.0
Portorož-Riviera	7	8	16	85.7	37.5	100.0	14.3	62.5	0.0	0.0	0.0	0.0
Portorož-bathing-site	7	8	16	85.7	75.0	93.7	14.3	25.0	6.3	0.0	0.0	0.0
Lucija	7	8	16	100.0	100.0	93.7	0.0	0.0	0.0	0.0	0.0	6.3
Seča	7	8	8	100.0	100.0	62.5	0.0	0.0	25.0	0.0	0.0	12.5
Seča-shellfish-farm	7	8	18	100.0	100.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0
Outflow-of-the-Dragonja	7	8	8	100.0	87.5	87.5	0.0	12.5	12.5	0.0	0.0	0.0
Piran-Bay	7	8	8	100.0	100.0	87.5	0.0	0.0	12.5	0.0	0.0	0.0
Koper-Bay	7	8	8	85.7	87.5	75.0	14.3	12.5	25.0	0.0	0.0	0.0

Source*: State of the Environment in Slovenia, Report 1996*

3. Preparation of Sensitivity Maps

The presence of the sea is dictating the development of some specific activities as tourism, port activities, fishery, mariculture, specific industry, etc. that are somehow related to the marine area or the use of the marine water. Through the common media – marine water, they then again affect one another as they compete for the same resource. In this situation, conflicts may occur either among different uses of the sea and coast area, or between users of the resource and protection of it.

With the incorporation of previous, already performed stages of the project, the authors have collected a set of data and prepared a GIS system as a tool to support the preparation of spatial planning documents that will also form a core of the future Coastal Area Management Plan. This GIS and Sensitivity Map includes:

- *inventory and position of designated areas in the marine area*, for which water rights and other legal acts from the State or local communities were issued;
- *inventory of planned marine area use*, from the spatial plans of the local communities;
- *inventory of legal regime in designated marine areas*, including the specific characteristics of each individual legal regime that has to be obeyed; and
- *limitations to the uses in the coastal area*, that originate from or are imposed by the legal status of marine areas (i.e. bathing water areas, fish and shellfish breeding areas).

Creating an inventory of the sea and coast area uses, granting water rights and establishing the legal regime based on the official documents, as well as taking into consideration also the current on-field status, the following has been recognised:

- marine area use is very intensive in Slovenia, as the sea has already determined uses or (protective) legal regime along the major part of the land-sea boundary;
- marine water area uses are often in conflict among themselves, as well as with the uses and legal regimes on land;
- marine area uses differ in the type and magnitude of impact they have on marine environment, and in the extent to which they can tolerate impacts of other activities taking place in the same area; and
- marine area uses are, from the point of view of environmental quality, reversibly affecting some economic activities (tourism, fishery and fish breeding).

The sea and coastal area uses are resumed from the national legal acts, local communities' legal acts and spatial planning plans. The List of sea and coastal uses is attached as Appendix I to this report. The List (and a map as well) include also those sites and areas which are not located on the coast, but could be affected by oil spill, because they are directly connected with marine environment. Spatial data gathered from legal acts and spatial planning plans are in scale 1:5000. A co-ordinate system used in the Sensitivity Map is a national co-ordinate system with plane Gauß-Krüger projection. The Sensitivity Map is attached as Appendix II.

The GIS database has been developed using the ArcView. It has scoped the existing water rights, and the existing and planned sea and coastal area use. The presented GIS database will gradually connect to the existing system of physical planning and other administrative evidences operational on land with the possibility of co-ordination with monitoring and modelling systems aiming to develop proper spill response strategies and tactics within the context of the National Contingency Plan for oil spills and other HNS.

4. Conclusion

The described development of the Sensitivity Maps in GIS application, as a part of the preparation of Sensitivity Maps of the sea and coastal area uses, presents an important building block in the Coastal Area Management Plan of Slovenia. Within it, all legally determined uses and regimes have been scoped and integrated, presenting by this a powerful tool for decision support on different levels, to different institutions and for different purposes.

Further steps that are suggested to be undertaken are:

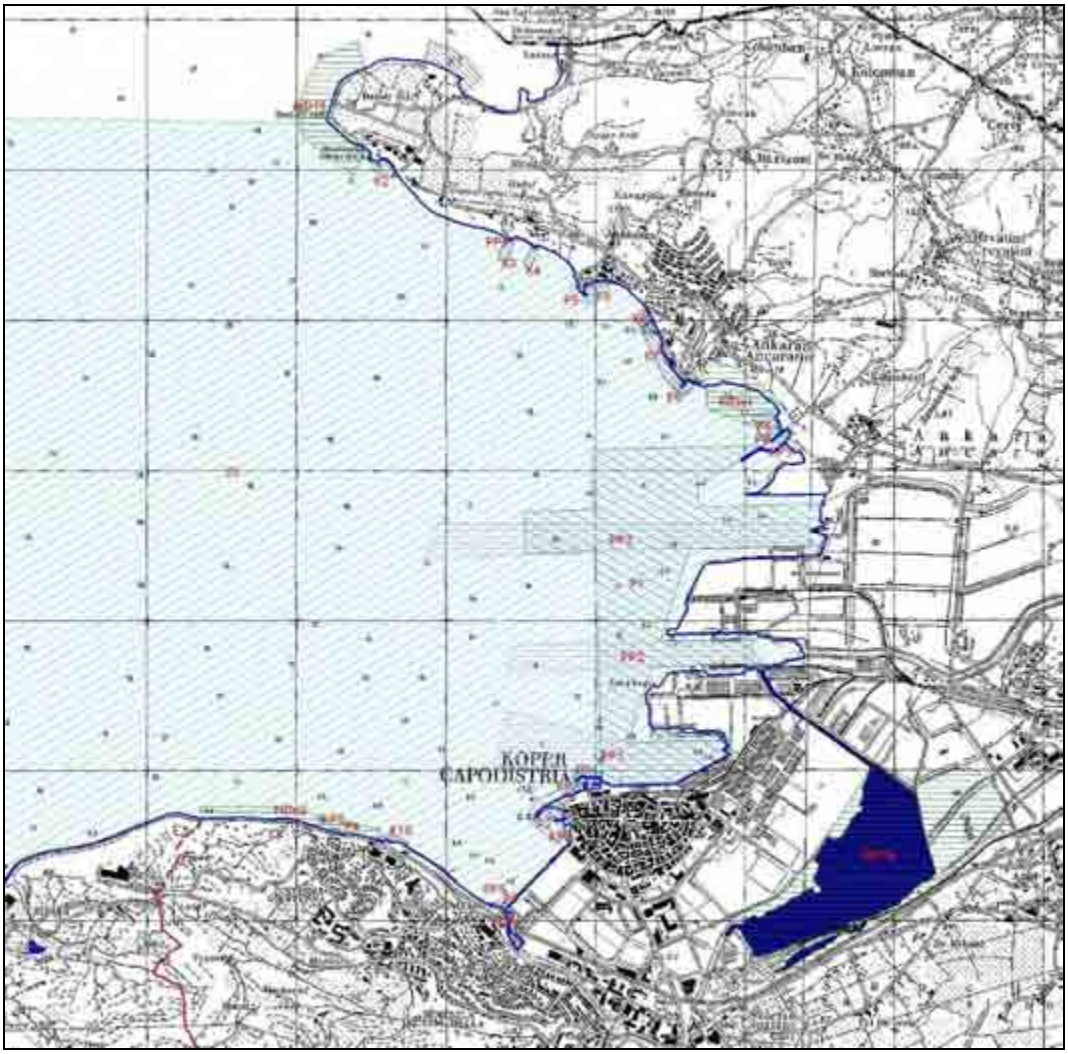
- introduction of mechanisms for a continuous verification and updating of existing inventory supported by appropriate institutional arrangement(s);
- inclusion of different monitoring data into the system, to support the long-term goal of indicator's system;
- connection with land-based databases;
- integration with marine modelling tools (quality – dynamics models, and oil spill models); and
- integration with regard to sector specific needs (i.e. economic evaluation of the sea and coastal area use, natural resources management needs, etc.) in a (way) form of external modules that would be able to communicate with the GIS core.

One of the goals is also to recognise the above-described spatial database as an official book of the sea and coastal area uses rights, as it integrates the legal instruments issued under diverse sets of legislation. This might be an especially difficult task as several rigid legal obstacles will have to be overcome.

In the beginning of January, a public verification of the collected sea and coastal area uses was prepared to verify them by their stakeholders. Also, in that time, data were published on the internet GIS server to encourage stakeholders to participate in the public verification of gathered data. The additional consultations and a feedback will be needed to perform integration with the client data system (REMPEC), data format and methodology (i.e. WGS84 co-ordination system).

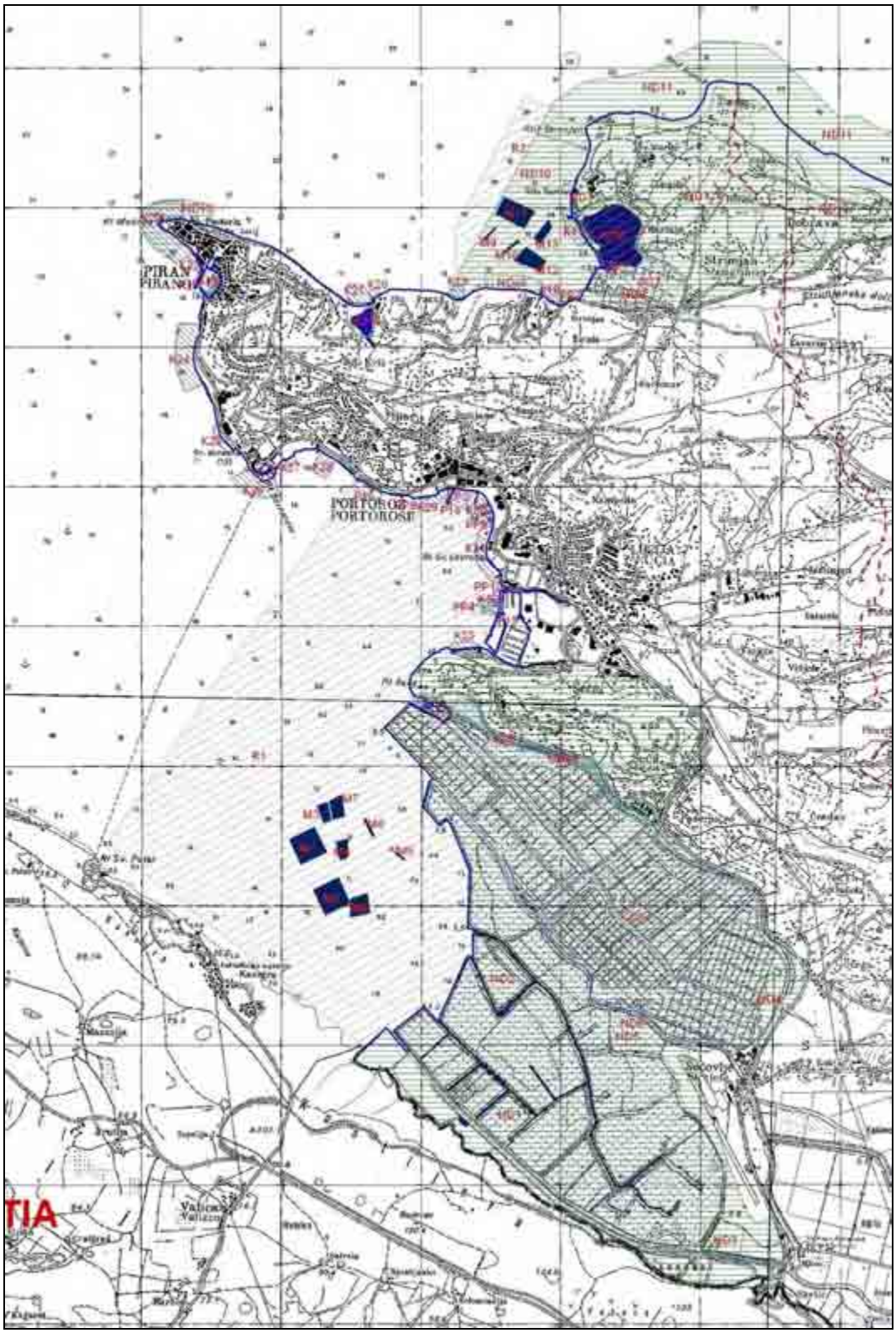
Based on the discussions and spin-off effects of the Round Table on Sustainable Development and Environment, which was organised in Portorož, on 27-28 October 2003, a broader use of sensitivity maps is expected, i.e. their integration in local response emergency plans, regional spatial planning plans and as a proposed methodology for the preparation of sensitivity maps used in other countries. For effective future uses of sensitivity maps, i.e. updating by national experts, data maintenance procedures should be developed as well.

Marine Sea-Use Maps



Sea use legal regime – Municipality of Koper.

Sea use legal regime – Municipality of Izola



Sea use legal regime – Municipality of Piran

SYSTEMIC AND PROSPECTIVE SUSTAINABILITY ANALYSIS

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1. Introduction

The *Imagine* Project Systemic and Prospective Sustainability Analysis (SPSA) played a very important role within the CAMP Slovenia programme. It was a horizontal project, integrating the activities and results of all individual projects. It contributed to the co-operation of those who were the final result users of individual projects, experts at all levels, performers of individual projects and the public, on the principles of participation, open learning and transparent presentation of feedback to participants.

The *Imagine* Project was carried out in the form of five workshops with more than 50 stakeholders participating, among them the representatives from local, regional and national institutions, non-governmental organisations, performers of individual projects within CAMP Slovenia and other representatives of the public. The workshops were performed in various locations throughout the region, as follows:

- **Workshop 1**: *Introduction to the Sustainable Analysis.* The workshop was carried out on 12th and 13th January 2005 in the Municipality of Koper.
- **Workshop 2**: *Consolidation of the Imagine Methodology and Definition of the Indicators.* The workshop was carried out on 9th and 10th February 2005 in the Municipality of Piran.
- **Workshop 3**: *Refinement of the Indicators, the Bands of Equilibrium and Introduction to Prospective*. The workshop was carried out on 6th and 7th April 2005 in the Municipality of Sežana in the Kras part of the region.
- **Workshop 4**: *Validation of the Indicators, Building a Meta-Scenario for the Whole Region and Scenario Making Exercise.* The workshop was carried out on 22nd and 23rd May 2005 in the Municipality of Izola.
- **Workshop 5**: *Revision of the Imagine Process, Building the Publicity and Marketing Plan.* The workshop was carried out on 22nd and 23rd June 2005 in the Municipality of Koper.

2. First Workshop

At the beginning of the activity, a training workshop was carried out in order to introduce a general framework and the method of Systemic and Prospective Sustainability Analysis (hereinafter referred to as *Imagine* project). The participants were divided into three thematic groups, each group with a view to contributing to the implementation of three key individual CAMP projects, namely:

- the first group dealt with the problematic issues of the Regional Conception of Spatial Development (RCSD) and focused on specific issues of Kras;
- the second group was working on the Regional Conception of Spatial Development in the coastal area; and
- the third group dealt with the issues concerning the management of the coastal strip.

At the first workshop, the participants identified 75 indicators (between 20 and 30 for every sub-system). A list of indicators developed by the Mediterranean Commission for Sustainable Development (MCSD) and previous work in the filed of indicators in Slovenia served as the basis. The list was supplemented on the grounds of discussions with the stakeholders.

The participants selected 75 indicators for three spatial planning areas (Kras, coastal municipalities, and coastal strip), which covered the following areas:

- 31 indicators in the area of environmental protection and pollution;
- 21 indicators in the area of the economy and infrastructure;
- 14 indicators in socio-economic area; and
- 9 indicators in the area of marine protection.

The key understandings, which were obtained by working groups and relate to the definition of the current situation, are given below. With the help of a 'rich picture', each group identified the processes and problems, as well as the issues which should be taken into consideration in planning for the future.

2.1 Key Findings on the Current Situation (Group 1: "Kras-Brkini")

The first group dealt with the problems related to the preparation of the Regional Conception of Spatial Development (RCSD) and focused on specific **issues of Kras**. The Working Group identified the following processes, problems and issues that need to be taken into consideration when planning for the future:

- strong pressure of the economy (initiatives for the construction of golf courses and wind farms in nature preservation areas or exceptional landscapes);
- strong influence of the central government reflecting at local level;
- border position: the national border remains a mental barrier despite the fact that Slovenia is a part of the EU;
- fragmentation of space (construction of large infrastructure projects: Ljubljana–Koper motorway has divided Kras in half and the fifth railway corridor will further divide it, which will bring no advantages to the local population);
- demographic problems: migration from villages to large centres on the coast and to Ljubljana, ageing of population;
- inadequate protection of drinking water resources: Kras is a 'water reservoir' for the entire coastal area and Kras;
- tourist attractions are not being put to profitable use (the Škocjan Caves, protected by UNESCO); the natural qualities of Kras remain 'unrecognised';
- poor public utility infrastructure in villages and the hinterland (drinking water supply, waste management, wastewater collection, drainage and treatment);
- short-term orientation of local politicians: they are not well informed and are concentrated only on attaining short-term goals supported by money;
- weak communication between sub-regions (Kras-Coast): the area of Kras Edge is on the edge also when it comes to problem solving at the political level;
- pressures on local cultural, architectural and landscape heritage;
- lack of clear strategic directions: a constant conflict between environmental and development projects; and
- weak implementation capacity: a too large number of different programmes and projects; the adopted plans and projects are not carried out.

On the basis of definition of the current situation, the Working Group selected six priority ***issues*** and ***tasks***:

Issues	Tasks
Concentration of activities in limited areas	Strategic planning and programming
Uncompleted public infrastructure	Infrastructure development (traffic – strengthening transverse connections, environmental protection, sustainable energy (sun, biomass)
Sparsely populated areas, emptying of villages	Renovation of historic villages
Inadequately developed tourism, unused potentials, poorly developed service activities	Tourism development, eco-tourism, agro-tourism
Low awareness of the capital holders and decision-makers	Effective implementation of decisions taken, bigger influence of the civil sphere
Traffic: poorly developed public transport, poor local road network	Strengthening of public transport system, development of railway passenger transport

The group formulated the vision or the mission of the proposed system as:

The "Kras & Brkini – from past to the future" development project was produced and developed by local communities, under the auspices of the region, for the preservation of natural and cultural heritage within suitable sustainable development and economic mechanisms in order to achieve better, high-quality and enriched life, while taking into consideration positive and stimulative political will, with full responsibility taken legal representatives of local communities and the State and through creative involvement of local population.

2.2 Key Findings on the Current Situation (Group 2: "Slovenian Istra")

Definition of the current situation: the second group dealt with the problems related to the preparation of the Regional Conception of Spatial Development (RZPR, in Slovenian) in the coastal sub-region, composed of three coastal municipalities. The working group identified the following processes and problems, as well as the issues, which need to be taken into consideration when planning for the future:

- littoralization: great pressure of the economy on the coastal area;
- littoralization: weak integration of the coastal part and the hinterland, weak connections;
- littoralization: high prices of building land, inadequate land available for construction;
- littoralization: problems of affordable housing for local population due to high prices, as a consequence of huge demand for secondary homes;
- spatial conflicts, competition for land: a large number of activities on a small coastal area (tourism, seaside resorts, protected areas, traffic, industry);
- traffic congestion: completed highway network, including the Ljubljana–Koper connection causes traffic jams in summer months;
- weak inter-municipal co-operation: municipalities are concerned only with their own problems;
- poor implementation capacity on regional/municipal levels related to the implementation of strategic documents (Regional Development Programme);
- inconsistent legal/institutional framework: overlapping affecting coastal and marine management, spatial planning, environmental protection; inefficient bureaucratic procedures, which are slow and do not react to the actual demands;
- incomplete coastal environmental monitoring (increasing problems with the ozone, etc.);
- huge migrations in summer months (for instance, the number of inhabitants doubles and the amount of traffic triples, additional burdens on the existing public utility infrastructure during rush hours, etc.); and
- increasing pressures on the sea.

On the basis of definition of the current situation, the Working Group selected the priority ***issues*** and ***tasks***, as presented below:

Issues	Tasks
Littoralization: big pressure on the narrow coastal strip, spatial conflicts, competition for land, traffic congestion	More balanced spatial distribution of activities between the coast and the hinterland
Weak and inefficient inter-municipal co-operation	Establishment and operation of regional institutions
Water pollution	Completion of wastewater collection, drainage and treatment infrastructure
Degradation of the sea ecosystem	Preservation of natural parts of the sea and maritime shoreline

The second group formulated the vision or the mission of the proposed system as:

The "Flourishing of Istra and Kras" development project was produced by the public sector and developed in co-operation with the private sector and NGOs in favour of the people and nature in order to achieve effective and sustainable use of resources within the known limitations (unawareness, politics, economy, system of values, absence of common goals), while taking into account that the current perception can be overcome by a holistic approach with a full responsibility taken by local communities, the State and private sector.

2.3 Key Findings on the Current Situation (Group 3: "Coastal Strip")

Definition of the current situation: the third group dealt with the issues related to the management of the narrow coastal strip. With the help of image presentation of the present situation, the working group identified the following priority processes and problems:

- littoralization: pressure of economic on the narrow coastal strip;
- littoralization: concentration of (conflict) activities in a very small area;
- littoralization: inappropriate activities on the coast;
- inconsistent legal/institutional framework: the legislation regarding the sea management is not harmonised;
- weak integration with neighbouring regions, insufficient co-operation;
- traffic congestion in summer: a big difference between summer and winter traffic schemes;
- the problem of drinking water supply on the coast, especially in summer peaks;
- insufficient public utility infrastructure: overburdened during summer peaks, incomplete wastewater treatment plants; poor municipal waste management;
- spatial conflicts: problems with the third pier in the Port of Koper;
- weak inter-municipal co-operation: lack of common strategy and joint programmes between the three municipalities in the narrow coastal zone;
- low level of environmental awareness among developers and residents; and
- weak influence of the civil sphere on decision-making, and strong influence of the economy.

On the basis of identification of the current situation, the working group defined the following **issues** and ***tasks***:

Issues	Tasks
Littoralization: high concentration of activities on the narrow coastal strip	Closer inter-municipal co-operation, harmonisation of spatial development and spatial planning between coastal municipalities
Traffic congestion and saturation, inappropriate traffic management	Establishment of a common sustainable mobility scheme
Weak awareness of developers on long-term environmental consequences, weak influence of local population on decision-making	Establishment of sustainable awareness raising and public participation programmes

The vision, formulated by the third group:

The "Sunny Afternoon" project was produced and developed in partnership between public and private sectors for local residents, local communities and potential investors in order to achieve transparent spatial distribution of interests on the narrow coastline (despite undefined legislation and procedures), while taking into consideration the conflict of interests between development potentials and protection, and with a high responsibility of public and private capital.

3. Second Workshop

Between the first and the second workshop, the expert team studied the set of indicators, identified by participants during the first workshop: their relevance/feasibility, availability of databases, and national and regional agencies responsible for selected databases/indicators. The information gathered was used as inputs in the second workshop.

During the second workshop, the participants continued to work on indicators and selected 30 most representative indicators (10 for each thematic team), which were later classified into two groups: one for the Kras area and the other for the Coastal area (two "coastal" groups were merged into one).

3.1 Defining the Bands of Equilibrium (BoE) for Indicators

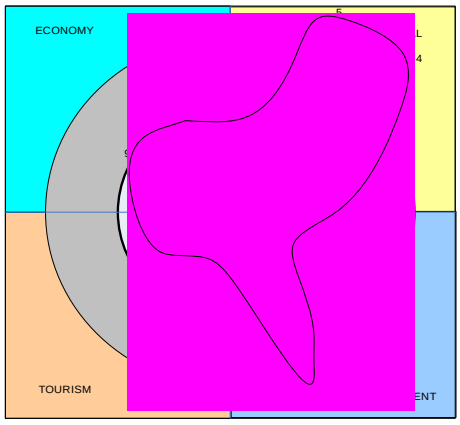
The participants agreed on the upper and lower limit values for each indicator which represents a sustainable value. Two sets of indicators and two sets of BoE were prepared, taking into consideration different socio-economic and environmental features of each sub-region.

Table 32 gives the values of indicators for the Kras area in 2003 and Figure 53 shows the corresponding AMOEBA.

Table 33 gives the values of indicators in 2003 and Figure 54 shows the corresponding AMOEBA.

Table 32: *10 indicators for the Kras area*

#	Indicator	BoE		Unit	Timeline (when)		
		Min.	Max		~1991	~1996	~2003
1	Public waste removal	12	20	Kg per inhabitant	21.07	52.18	25.31
2	% of connected households to public sewage system	80	90	%	18	19	24
3	Share of active working population	40	70	Share %	43	48	47
4	Daily migration / # of active working force	1,500	2,500	Rate	2,100	3,400	5,000
5	Aging index	35	50	Rate	80	112.1	128.2
6	Educational structure of inhabitants % of high education	20	30	%	11.5	16.7	10.31
7	# of arrivals and nights of tourists per 100 inhabitants	250	350	# nights/100 inhabitants	241.37	210.33	211.88
8	# of beds per 100 inhabitants	5	8	# beds/100 inhabitants	2.27	1.94	3.11
9	Gross income tax base per capita	105	130	Index (Slovenia=100)	103.8	107.2	104.2
10	Business - Net profit / loss per employee	300	600	In SIT '000	-329	-289	286



The AMOEBA 2003 graph for the Kras area clearly shows the unsustainability of social, environmental and tourist indicators: **3** unsustainable indicators exceed BoE, **6** unsustainable indicators are under BoE, **1** indicator is located inside BoE and is sustainable.

Grey belt indicates outerlimits of the Band of Equilibrium – BoE.

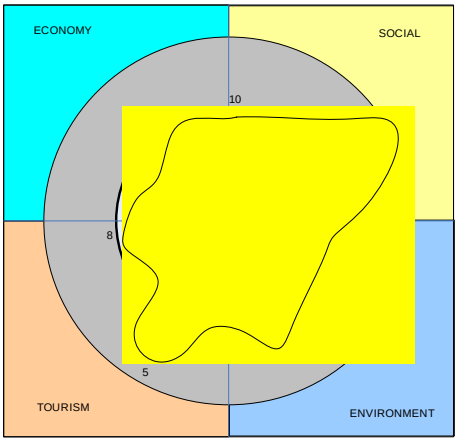
Trend movement for indicator

Indicator value is standing or falling

Figure 53: *AMOEBA for the Kras area, 2003*

Table 33: *10 indicators for the coastal area*

#	Indicator	BoE		Unit	Timeline (when)		
		Min.	Max		~1991	~1996	~2003
1	Urbanisation rate	60	70	%	63.1%	66.3	71.8%
2	% of households connected to public sewage system	75	90	%	42	55.2	70.2%
3	Quality of drinking water, % of unsuitable samples	0	2	%	2	2.1	1.1%
4	Quality of sea water in public baths, % of good microbiological samples	90	100	%	72	74.4	86.7
5	Rate of coastline with regulated access	30	50	% of land	28	35	45.2
6	Investment in management of nature protection areas on the coast	50	100	MIO SIT	18	23	50
7	Employment structure	2	3	#	1	1	1
8	Number of bed per 100 inhabitants	30	35	# beds / 100	25.8	25.8	27.7
9	Number of nights per 100 inhabitants	3,000	4,000	# nights / 100	1,865	568	2,603
10	Educational structure of inhabitants	20	30	%	11.60	12.4	15.55



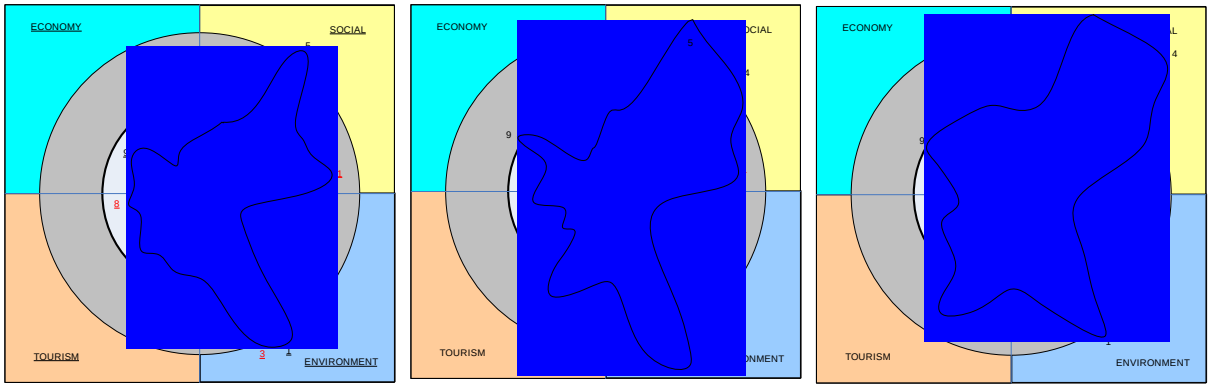
The AMOEBA 2003 graph for the Coast area also shows the unsustainability of social, environmental and economic indicators, although the situation is slightly better than in the Kras part of the region: **1** unsustainable indicator exceeds BoE, **7** unsustainable indicators are under BoE, **2** indicators are located inside BoE and are sustainable.

Grey belt indicates outerlimits of the Band of Equilibrium – BoE.

Trend movement for indicator

Indicator value is standing or falling

Figure 54: *AMOEBA for the coastal area, 2003*



Combined AMOEBA graphs for the whole region through the timeline from 1992-2003 clearly show the changes in selected indicators through the past 10-15 years: most indicators are moving forward to desirable values inside the defined BoE. Almost all indicators from the social domain appear to be moving away from desirable values.

Grey belt indicates outerlimits of the Band of Equilibrium – BoE.

LEGEND:

Coast indicator

Carst indicator

Trend movement for indicator

Indicator value is standing or falling

Figure 55: *Combined AMOEBA graphs for the whole region (Kras and coastal areas)*

3.2 Conclusions

Considering a series of socio-economic indicators, the CAMP Slovenia area – South Primorska region – is one of the most successful regions in Slovenia with the most favourable development potentials.

In the region, there are considerable differences between the coastal part (Slovenian Istra) and the Kras-Brkini sub-region. The workshop participants estimated that the area of Slovenian Istra was exposed to littoralization: high development and urbanisation pressures on the narrow coastal strip and consequent spatial conflicts, competition for land, fast growth of the building land price, traffic congestion, intense tourism development, unfinished environmental infrastructure (wastewater treatment, municipal waste management), which all endangers the biological diversity and landscape qualities of the area.

The Kras-Brkini sub-region has an unfavourable demographic situation (ageing of population), educational structure, partial approach to spatial planning, uncompleted public infrastructure, dispersed settlement, emptying of villages, inadequately developed tourism, unused potentials, low awareness of the holders of capital and political decision-makers, poorly developed public transport, poor local road network in some places, undefined carrying capacity of the environment, which slows down new investments.

Some participants believed that the number of selected indicators was too small to describe the issue of sustainable development. Particularly for Kras and Brkini, the participants had problems in selecting adequate indicators to describe the carrying capacity for new investment projects.

The trend analysis of some indicators shows a relatively favourable direction. Nevertheless, the participants focused their attention to some burning issues, such as the construction of the third pier in the Port of Koper, regional tourism development strategy, integration of the new University of Primorska into regional economic context, regional traffic network, public transport and real estate market (high growth of real estate prices on the coast). A similar debate also took place at the meeting with the representatives of the broader public/stakeholders.

The process was useful also for individual CAMP projects teams, as it formulated a common framework of understanding the sustainable development; it contributed to the analysis of the current situation, identified the priority issues and tasks and thus contributed to the integration of the whole CAMP Slovenia process.

4. Third and Fourth Workshop

4.1 Scenario Making: Main Trends and Alternatives

At the third workshop, following the second phase, trends and projections of possible situations for the period after 10, 15, 20 or 25 years were identified for each indicator and the resulting problems and opportunities for sustainable development. Also, the visions of future trends were drawn up. The trends were calculated and the opinions of participating experts were also taken into consideration. On this basis, the desired future conditions and the target values of key indicators were defined.

An example of trends calculated trends for the indicator “Number of tourist nights/100 inhabitants” is given below.

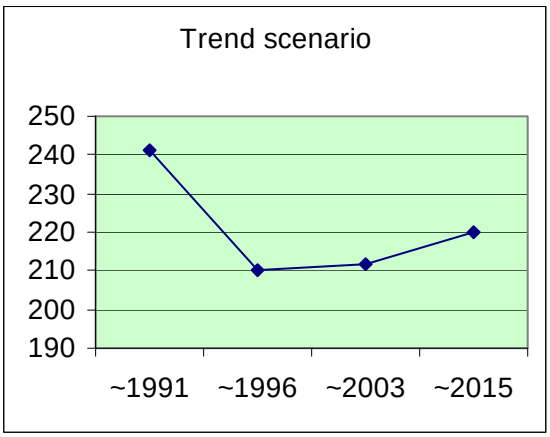
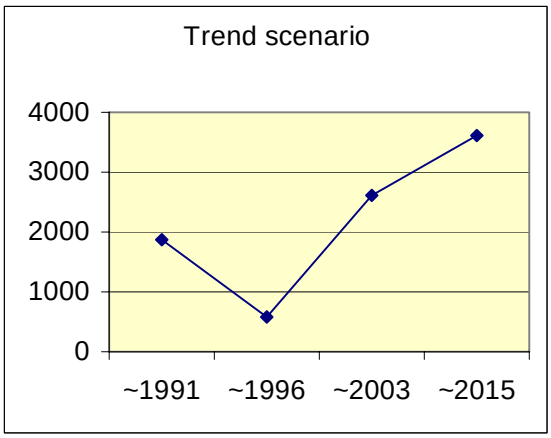
Indicators of Kras trend scenario	Indicators of Coast trend scenario
Number of tourist nights per 100 inhabitants Number of nights per 100 inhabitants: 1991: 1865 1996: 568 2003: 2603 2015: 3600 ▪ Indicator is raising in the past 8 years ▪ There are many other "external" events with a strong influence on this indicator ▪ Changing from just seasonal tourism to the whole year tourism  Unit: Number	Arrivals and nights of tourists per 100 inhabitants Number of arrivals and nights of tourists per 100 inhabitants: 1991: 241,37 1996: 210.33 2003: 211,88 2015: 220 ▪ After strong recession in the beginning of the 90's, the indicator shows a slight improvement ▪ There is a problem of current infrastructure capability to support more arrivals  Unit: Number

Figure 56: ***Indicators of Kras and Coast Trend Scenario***

4.2 Scenarios Based on Current Trends

The main characteristics of the set trend scenarios, as they were defined in the third workshop, are the following:

The area of Kras-Brkini

- continued deterioration of the demographic structure, in particular the ageing of the population;
- increasing share of active population in the sub-region resulting from better employment opportunities and also the changes in the emographic structure, improved mobility of employees and better educational structure of the population (also as a result of better educational opportunities by strengthening the University of Primorska and Higher and University Education Centre Sežana);
- strengthening of companies' business performance and maintaining the above-average economic power of the population compared to the rest of Slovenia;
- faster tourism development in the sub-region; and
- reduced pressures on the environment (municipal waste, wastewaters) mainly due to the implementation of the key environmental projects in the programming period 2007-2013 or until 2017: GOJUP – Waste management of South Primorska, operational programmes for treatment of urban wastewaters.

Table 34 shows the trends for the year 2015 for Kras indicators.

Table 34: Trends of Kras indicators – 2015

#	Indicator	BoE		Unit	Timeline (when)			2015
		Min.	Max		~1991	~1996	~2003	
1	Public waste removal			Kg per inhabitant	21.07	52.18	25.31	29
2	% of households connected to public sewage system	80	90	%	18	19	24	38
3	Share of active working population	40	70	Share %	43	48	47	50
4	Daily migration / number of active working force	1,500	2,500	Rate	2,100	3,400	5,000	7,000
5	Ageing index	35	50	Rate	80	112.1	128.2	132
6	Educational structure of inhabitants, % of high education	20	30	%	11.5	16.7	10.31	17
7	Number of arrivals and nights of tourists per 100 inhabitants	250	350	# nights/100 inhabitants	241.37	210.33	211.88	220
8	Number of beds per 100 inhabitants	5	8	# beds/100 inhabitants	2.27	1.94	3.11	4
9	Gross income tax base per capita	105	130	Index (Slovenia=100)	103.8	107.2	104.2	105
10	Business - net profit/loss per employee	300	600	In SIT '000	-329	-289	286	320

The area of Slovenian Istra

Several common indicators were identified for both areas. But, regarding the diversity of areas, the BoE were defined for each area differently. According to participants, the main characteristics of the trend scenario are the following:

- improvement of the structure of employees and the educational structure of the population (University of Primorska);
- further urbanisation pressures on the coastal strip (littoralization);
- faster tourism development in the sub-region (increase in the number of beds, but also a larger occupancy of accommodation capacities);
- considerable growth of investments into the management of nature protection areas, also in relation with the development of specific tourist products;
- reducing pressures on the environment (municipal waste, wastewaters) mainly due to the implementation of the key environmental projects in the programming period 2007-2013 or until 2017: GOJUP – Waste management of South Primorska, Operational programmes for treatment of urban wastewaters;
- lower pressures on the environment will reflect in the quality of drinking water and the quality of bathing waters.

Table 35 shows the trends for the year 2015 for Coast indicators.

Table 35: *Trends for Coast indicators – 2015*

#	Indicator	BoE		Unit	Timeline (when)			2015
		Min.	Max		~1991	~1996	~2003	
1	Urbanisation rate	60	70	%	63.1	66.3	71.8	88
2	% of connected households to public sewage system	75	90	%	42	55.2	70.2	80
3	Quality of drinking water, % of unsuitable samples	0	2	%	2	2.1	1.1	1
4	Quality of sea water in public baths, % of good microbiological samples	90	100	%	72	74.4	86.7	90
5	Rate of coastline with regulative approach	30	50	% of land	28	35	45.2	46
6	Investment in management of nature protected areas on coast	50	100	MIO SIT	18	23	50	60
7	Employment structure	2	3	#	1	1	1	2
8	Number of beds per 100 inhabitants	30	35	# beds/100 inhabitants	25.8	25.8	27.7	29.9
9	Number of nights per 100 inhabitants	3,000	4,000	# nights/100 inhabitants	1,865	568	2,603	3,600
10	Educational structure of inhabitants	20	30	%	11.60	12.4	15.55	21

4.3 Key Findings

Interestingly, the workshop participants estimated that the trend scenario itself, for most selected key indicators, led to an area of balance or sustainable development: urbanisation of the narrower coastal strip and burdening due to tourism are exceptions in the coastal area (expressed as Number of nights per 100 inhabitants, obviously on the account of new capacities, better utilisation of tourist capacities, as also an increase in the number of tourist apartments).

The participants evaluated the situation in the Kras-Brkini area as less optimistic: the problem of ageing population and also a growing volume of waste per inhabitant, the risk of lagging behind in the implementation of operational programmes of wastewater discharge and treatment and, consequently, further burdening of waters in the vulnerable Kras area, as also the trend of increased daily migration.

4.4 Alternative Scenarios for the Whole Region

After defining the trend scenarios, the participants defined the desired future conditions and target values of the key indicators on the basis of selected indicators.

The groups were not dealing with the formulation of the desired conditions in individual areas (Kras-Brkini and Slovenian Istra) any more, but they prepared two alternative scenarios for the whole area of South Primorska.

'Promised land' scenario

The main characteristics of the scenario defined by Group 1 are:

- tourist infrastructure harmonised with natural and cultural heritage of the region – attractive and well organised B&B (Bed & Breakfast), hostels, etc.;
- hotel offer is complemented with many activities (rowing, walking, cycling, agro-tourism, wine tasting, eco-farms, etc.);
- renewed historic town and village centres offer developed tourist services, attractive accommodation capacities are developed in the countryside;
- the University is successfully integrated in the regional economic environment and is a powerful generator of economic development (raising GDP, building knowledge based society, preventing brain drain, reversing the unfavourable indicator of ageing index, etc.);
- the economy and local population live in coexistence with the primary economic activity – tourism;
- developed public utility infrastructure, supporting (sustainable) development;
- integrated and efficiently managed tourist destination or sub-destinations, complementary development of coastal tourism and Kras-Brkini tourism;
- preservation and restoration of natural heritage, valuable natural features are adequately protected and managed; and
- important part of local economy is based on sustainable tourism and organic agricultural production.

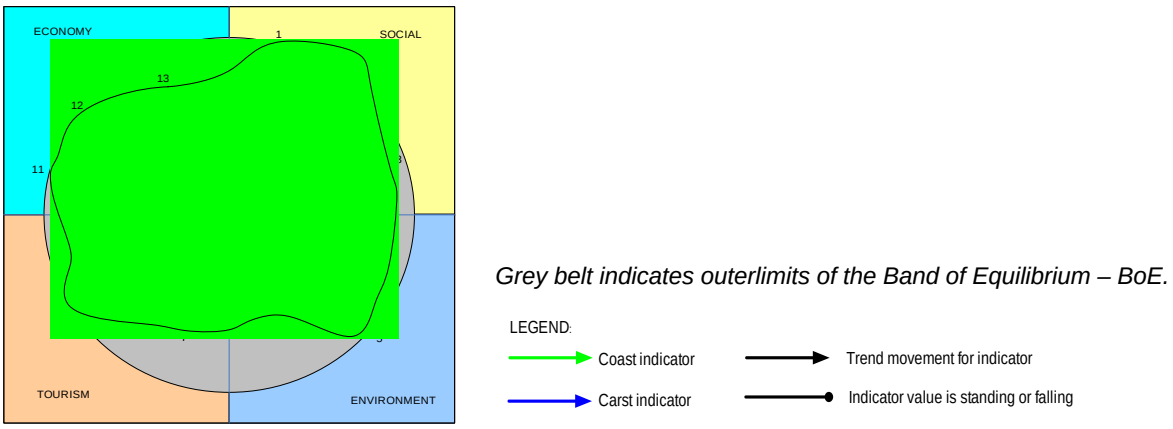


Figure 57: ***AMOEBA graph – 'Promised Land' 2015***

Table 36: *'Promised land' scenario-indicators*

#	Indicator	BoE		Domain Type	Unit	Timeline (when)			2015
		Min.	Max			~1991	~1996	~2003	
1	Urbanisation rate	60	75	Social	%	63.1	66.3	71.8	75
2	Ageing index	35	50	Social	Rate	80	112.1	128.2	80
3	Share of active working population	40	70	Social	Share %	43	48	47	60
4	Quality of sea water in public baths, % of good micro-biological samples	90	100	Env.	%	72	74.4	86.7	97
5	% of households connected to public sewage system (Coast)	75	90	Env.	%	42	55.2	70.2	90
6	% of households connected to public sewage system (Kras)	80	90	Env	%	18	19	24	80
7	Number of beds per 100 inhabitants	30	35	Tourism	# beds/100 inhab.	25.8	25.8	27.7	31
8	Number of nights per 100 inhabitants	3,000	4,000	Tourism	# nights/100 inhab.	1,865	568	2,603	3,500
9	Rate of coastline with regulated access	30	50	Tourism	% of land	28	35	45,2	50
10	Number of arrivals and nights of tourists per 100 inhabitants	250	500	Tourism	# nights/ 100 inhab	241.37	210.33	211.88	400
11	Employment structure	2	3	Economy	#	1	1	1	3
12	Investment in management of nature protection areas on the coast	50	100	Economy	MIO SIT	18	23	50	100
13	Business – net profit/ loss per employee	300	600	Economy	In SIT '000	-329	-289	286	500

The desired development scenario for the whole area, as defined by Group 1, differs from both defined trend scenarios (for the areas of Slovenian Istra and Kras-Brkini), mainly in the following points:

- the age structure is essentially favourable, as the ageing index is much lower compared to that from trend scenarios;
- the share of active population is more favourable (up to 60%);
- the performance (profitability) of companies (per employee) is a lot higher – by almost 60%;
- tourism is more developed, which reflects in a higher number of tourist beds/100 inhabitants, the rate of coastline with regulated access is larger (up to 50%), a bit lower is the number of tourist overnight stays/100 inhabitants in the Slovenian Istra, and the number of arrivals and nights in the area of Kras-Brkini is substantially higher (almost twice);
- urbanisation of the coastal strip, but it still reaches the upper BoE value (area of balance);
- the situation related to the households connected to public sewage system is essentially improved, both in the area of Slovenian Istra and in the area of Kras-Brkini, which also reflects in a better quality of bathing waters.

'Quality in a 1/1000 of the Mediterranean' scenario

This scenario is based on the following presumptions and facts for the year 2015:

- tourist infrastructure is harmonised with natural and cultural heritage of Kras and Brkini;
- the University of Primorska is internationally known and it is a progressive force in the region, the University facilities are distributed throughout the region;
- Slovenian Istra and the Kras-Brkini area are well known in the world as a tourist destination for active holidays;
- most cultural heritage monuments and old villages are restored and in function of sustainable tourism;

- biodiversity, nature and natural heritage are efficiently preserved and restored: sustainable development of cultural and natural treasures of the region: protected Sečovlje Saltpan, Snežnik Regional Park, Lipica with its world-famous Lipizzaner horse breed and Škocjan Caves (UNESCO protected caves);
- diverse and attractive recreation facilities are available, stimulating sustainable tourism development;
- local economy and organic agricultural production is one of the pillars of sustainable tourism, the Kras-Brkini area is known in the EU for organically produced food;
- sustainable mobility scheme is in function: efficient public transport is established, maritime passenger transport has an important role, traffic is organised according to the demands of the local population and the primary economic activity;
- promotion of tourism with large passenger ships and appropriate tourism offer for all kinds of tourism, connection with Kras and the hinterland;
- the quality of marine environment and biological-chemical status of the sea is improved;
- the Kras-Brkini area is known as a destination for treatment of lung diseases because of its pleasant climatic conditions;
- rural areas in the hinterland are populated, tourism is well developed; and
- restructured ecologically problematic economic activities.

Table 37: *'Quality in a 1/1000 of the Mediterranean' scenario*

#	Indicator	BoE		Domain Type	Unit	Timeline (when)			2015
		Min.	Max			~1991	~1996	~2003	
1	Share of active working population	40	70	Social	Share %	43	48	47	60
2	Urbanisation rate	60	75	Social	%	63.1	66,3	71.8	75
3	Ageing index	35	50	Social	rate	80	112.1	128,2	80
4	% of households connected to public sewage system	80	90	Env	%	18	19	24	80
5	Number of arrivals and nights of tourists per 100 inhabitants	250	350	Tourism	# nights/100 inhab.	241.37	210.33	211.88	300
6	Quality of drinking water, % of unsuitable samples	0	2	Env.	%	2	2.1	1.1	0
7	Number of beds per 100 inhabitants	30	35	Tourism	# beds/100 inhab.	25.8	25.8	27.7	31
8	Rate of coastline with regulated access	30	50	Tourism	% of land	28	35	45.2	50
9	Employment structure	2	3	Economy	#	1	1	1	2
10	Business - net profit/loss per employee	300	600	Economy	In SIT '000	-329	-289	286	350

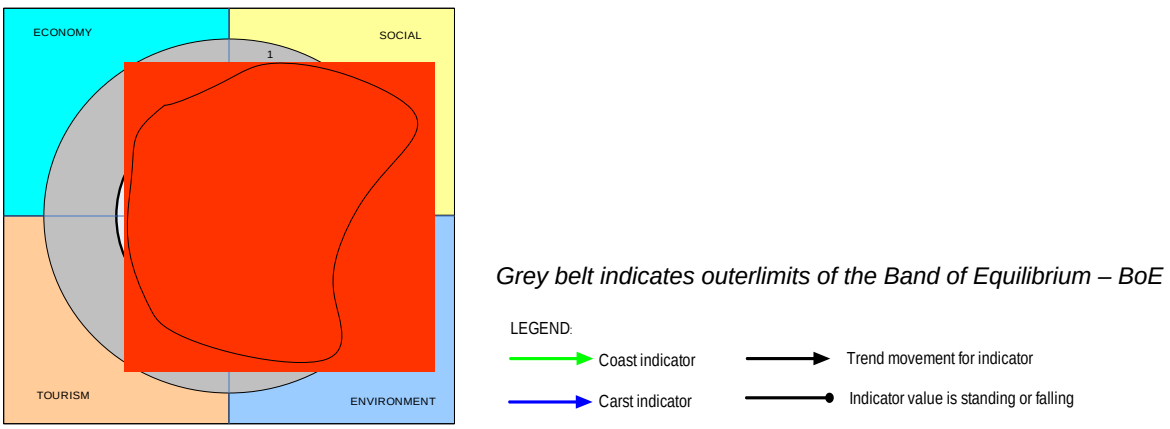


Figure 58: *AMOEBA graph – 'Quality in a 1/1000 of the Mediterranean' scenario 2015*

The desired development scenario for the whole area, which was prepared by the Group 2 and named “Quality in a 1/1000 of the Mediterranean”, is very much alike the one made by Group 1.

The desired development scenario for the whole area, as defined by this group, differs from the previous one in a slightly less intense tourism development and a bit smaller profitability of companies (per employee).

5. Fifth Workshop

The fifth workshop was dedicated to a review of the whole process, the harmonisation of scenarios, the definition of marketing plan and the proposal of monitoring progress or sustainable development deviations by key indicators.

5.1 Marketing Plan

The production of a marketing plan was a unique experience for the participants of the final workshop. The use of marketing approaches in promoting strategic planning products (development, spatial) was a novelty for most participants, because they were from the fields of environmental protection, planning, spatial planning and management, the protection of cultural heritage and municipal management.

The basic approach is shown in figure below:

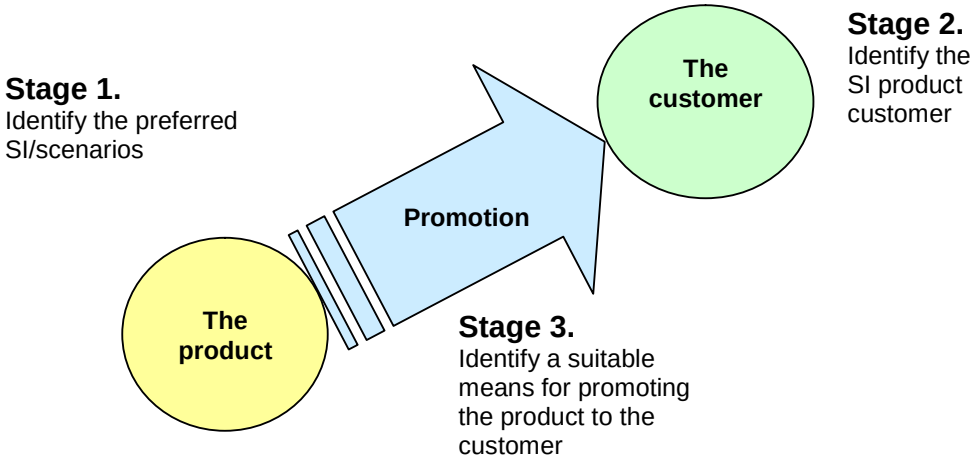


Figure 59: *Selling the message*

The participants defined the main products of the whole *'Imagine'* process in order to define the customers and identify the means for promoting the products.

Two mixed teams brainstormed again the results from previous workshops to define the main messages for customers. For selected messages, they identified the support, the type of information, sustainability indicators (SI), graphs, images, other tools supporting the messages, determined the priorities for messages and presented them in a matrix.

The second team identified the following messages, resulting from the *'Imagine'* process:

- preservation of primary life sources (indicators: quality of drinking water, quality of bathing water, level of urbanisation);
- balanced ageing structure (indicators: aging index, GDP per population, educational structure);
- creation of a learning society (indicators: number of educational and research institutions and development organisations, number of new companies and entrepreneurs);

- introduction of sustainable tourism (indicators: number of nights per 100 inhabitants, share of coastline with regulated access);
- Increased social and personal standard (indicators: GDP per inhabitant, educational structure);
- Establishment of more efficient long-term planning schemes (indicators: growth in GDP (positive trend), adoption and successful implementation of strategic documents);
- Preservation of natural and cultural landscape (indicators: Investments in nature protection areas);
- Strengthening of social capital (indicators: NGOs, voluntary institutions and volunteers).

Table 38: ***Information products – first team***

Messages		Support Data	Priority
1.	Quality in a 1/1000 of the Mediterranean	Rich pictures	2.
2.	Preservation of healthy environment	Environmental indicators # of investments	1.
3.	Attracting potential investors for sustainable development goals	Scenarios, AMOEBAs, rich pictures	5.
4.	Connecting Brkini, Coast & Kras (a brand name BOK from Slovene language, also an acronym for Better Environment and Quality)	All statistical data for SIs	3.
5.	To preserve and sustain own identity (cultural landscape & heritage, traditional products and services, multiethnicity,…)	Environmental indicators, rich pictures, investments into the nature protection areas	6.
6.	University of Primorska – the Mega Market of knowledge (demand, exchange & offer of knowledge, a meeting point of business, local population, government and professionals)	Scenarios, AMOEBAs, rich pictures	4.
7.	Infrastructure is not just roads connecting people and places and their needs (traffic, energy management, drinking water supply, information, …)	Presenting a negative scenario: we do not want that	7.
8.	Tourism are people and the environment (natives, local business, natural and cultural landscape)	SIs, AMOEBAs	10.
9.	Agreement about the boundaries in such a way, that our possibilities will be unlimited	Rich pictures, mission statement Spatial order of Slovenia	8.
10.	The Sea – a Cradle of Life and/or Salt Polygon	SIs, AMOEBAs	9.

The identification of customers for selected *'Imagine'* products was the next task for both teams. The teams prepared a table where each customer was given a definition of the possible influence, what we can tell to them (which message from the first table is suitable) and what each customer might do in the event of positive response to our message. At the end, all participants developed a common priority list of all messages.

Table 39: *Customers in connection to messages – first team*

Who	Influence	What can we tell[4] (which messages)	What might they do
Local population	Influence on activities affecting the physical environment Influence on consumer patterns	8,1,2,5,3,6,9,7	Elections, referendum, public hearings
Tourists	Unsustainable patterns of behaviour Identity	2,6,9,8	They can choose where to go (location)
Politicians	Changing of development decisions Influence on activities affecting the physical environment Non-transparent financing	8,1,2,5,3,6,9,7	Acceptance of sustainable development decisions
Government	The speed of administrative procedures Preparation of executive acts Influence on the clarity of laws and administrative procedures	1,7,8	Implementation of the law, Implementation of political decisions
Developers	Influence on the execution and priority of projects Strong short-term influence Pressure and influence on politics	3,6,9,7,8	Respecting the law
Youth and children	Consumer and behaviour patterns	1,5,8	Educating the families through children
NGOs	Supervision of politics and business Wide spreading of information	1,4,8	Supervision of public sphere Permanent warnings about actual problems
Non-resident population	Not included in local society Lack of acceptance by local population and understanding of their needs	7	Respecting the law (also local)
Media	Opinion makers Supervision of decisions	1,4,5,8	Permanent warnings about actual problems Promotion of the sustainable patterns of activities
Educational institutions	Consumer and behaviour patterns Independent professional opinions	1,3,4,8,	Education about sustainable patterns of activities Transfer of knowledge into practice
Experts, professional organisations	Professional solutions Pooling into professional chambers	1,4,3,8	Permanent education Setting the knowledge standards
Trade unions	Potential influence on active population (health)	1	Care for workers health Care for healthy working environment
Quasi-government organisations	Execution of the projects in public interest Not always clear financing	1,6	Care for healthy environment Respecting the law

[4] Numbers are corresponding to leading numbers for messages at Table 38.

Table 40: *Customers in connection to messages – second team*

Who	Influence	What can we tell[5] (which messages)	What might they do
Mayors	Realisation of the initiatives	2, III., V., 6, 9, VI	To make it possible, to support co-operation
Members of Parliament	Adoption of national laws	8, I.,6., VIII.	Adoption of the Sea Law
City councils	Adoption of local laws	II., III., 5., 4., VIII.	Strategic – long-term planning
Ministry of Education	Education policy	III., 3, 5, IV., VIII	To connect knowledge and practice, inclusion of proper values in education policies
Political parties	To support initiatives	3, VI	To work in City councils
Government	Preparation of laws, execution	8, I. II. V., 6, VII	To ensure the execution of strategic plans
NGOs, local communities	Supervision of civil services Public opinion creators	2,5,IV,V,9,VI	To attend the work of civil services Implementation of projects
Public	Adoption of decisions	8, I.,3,5,IV	To participate on public debate
Holders of capital	Execution of initiatives Lobbying – politics	8, 1,2,4, III, V, 9, VI, VII, VIII	To respect the current law To support sustainable solutions
Tourist organisations management	Formation of strategies	8,1,2,9, VI, VIII	To form the strategies by taking into account the regulations – nature protection
Media	Public opinion	3,5, IV, 9, VI	To support sustainable strategic decisions

The next task given to the participants was to produce the three main and most important transformations desired to be achieved through marketing for years 2010, 2015, 2020 and 2050. The participants produced a list of three transformations for each year.

Table 41: *Transformations – what do we want to change?*

Year 2010	Year 2015
Enforcement of the concept of long-term strategy planning	The concept of long-term strategy planning is accepted at all levels of the society
Collaboration of the population in public affairs	The very beginning of participative democracy
Enforcement of the principles of sustainable development	Sustainable initiatives and practices
Year 2020	**Year 2050**
Long-term strategic planning	Continuous long-term planning
Restoration of participative society	Participative society
Expansion of sustainable practices	Sustainable development

The next important task for participants was to connect the listed customers with desired transformations and to propose the type of activities and tools to be applied in order to achieve the target transformations. The participants produced a table of desired transformations for the periods 2006-2010 and 2010-2020. After that participants selected responsible persons in CAMP Slovenia projects for each group of customers for first set of transformations (for years 2006-2010).

[5] Numbers are corresponding to leading numbers for messages at table 38.

Table 42: ***How to get the information to the customer and to encourage the transformation to occur?***

Customer group	2006-2010 transformations		2010-2020 transformations
Mayors Responsible: SPSA project leader	Transformation	Enforcement of sustainable development principles	
	With what?	Scenarios	Tracking SIs
	How? (tools)	Rich pictures, presentations	Joint meeting of mayors
Developers Responsible: CAMP co-ordinator	Transformation	Permanent enrichment of capital invested in projects compatible with Sustainable Development	
	With what?	Permanent informing & advising	Inclusion in the process of strategy preparation
	How? (tools)	Printed material, presentations, media	Forums, public presentations
Public Responsible: CAMP co-ordinator	Transformation	Co-operation in public issues	
	With what?	Permanent informing & advising	Inclusion in the process of strategy preparation
	How? (tools)	Raising awareness with printed materials, media, public presentations	Forums, public presentations
Media Responsible: CAMP co-ordinator	Transformation	Permanent informing about current issues	
	With what?	Printed material, invitations on presentations	Permanent informing (as a habit)
	How? (tools)	Building proper public relations	Monitoring
NGOs Responsible: CAMP co-ordinator	Transformation	Professional co-operation in public issues	Spreading sustainable practice in society
	With what?	Free access to proper data and information	Intensive communication and involvement in sustainable developments
	How? (tools)	Access to available data	Access to available data
Members of Parliament Responsible: CAMP project leader	Transformation	Enforcement of sustainable development principles	
	With what?	Through media	Through media
	How? (tools)	Active co-operation in preparation of the Regional Development Programme	Tracking the implementation
Youth Responsible: Slavko Mezek	Transformation	Inclusion in public issues	
	With what?	Permanent informing	Everyday practice
	How? (tools)	Building awareness and involvement	Everyday practice
Government Responsible: Mitja Bricelj	Transformation	Harmonisation of legislation	
	With what?	Regional Development Programme	
	How? (tools)	Through usual procedures	
City Councils Responsible: Slavko Mezek & Igor Maher	Transformation	Enforcement of sustainable development principles	
	With what?	Scenarios, SIs, AMOEBAs	Tracking SIs
	How? (tools)	Active co-operation in preparation of the Regional Development Programme	Tracking the execution of the Regional Development Programme

Through the process of marketing plan preparation, the participants learned the basic rules of marketing and selling the messages to stakeholders, as most *Imagine* participants were professionals dealing with strategies, long-term planning, preparation and maintenance of municipal land-use plans, architects, natural scientists and they were not familiar with the science and rules of marketing. To most participants this task opened a completely new view of the process of selling a message and this will be of a great value in their future work, also outside the CAMP Slovenia.

PROGRAMME OF PUBLIC PARTICIPATION, TRAINING AND PROMOTION

Contractor: Regional Development Centre Koper
Project Co-ordinator: Slavko Mezek
Authors: Slavko Mezek, Larisa Kunst and Mitja Petek

The CAMP Slovenia project began in September 2004 with the first spatial conference and ended in June 2007 with the final conference. According to original plans, the project was supposed to end in June 2006, but its time limit was prolonged due to changes in the preparation of the Regional Conception of Spatial Development of South Primorska. Preparation of the latter needed to be harmonised with the new legislation. Content of the third and fourth phase of the mentioned sub-project was redefined in 2006.

The public actively participated at the implementation of all CAMP sub-projects. Target public had an opportunity to attend workshops or public representations. Information about the course of the project and individual sub-projects was done via press conferences, articles published in printed media, and appearances of the project co-ordinator on the radio and television. Events and prepared material were regularly published on the project's website.

Contractors of individual CAMP projects prepared several workshops for a wider or expert public. Their aim was to obtain information directly from local actors on the basis of which they could prepare region's development guidelines.

The Conception of Spatial Development of South Primorska (CSD) project contractor convened three workshops at the end of 2004 and in the first half of 2005, with topics on most important spatial problems and their future plans, analysis of the situation in the region, and vulnerability studies and determination of region's future spatial development. There were four workshops in November 2005 on the development of four main fields, which greatly influence spatial development. Those were transport, infrastructure, and protection of cultural and natural heritage, agriculture, mineral resources, and water management. A foreign expert from Great Britain advised how to adapt the content of CSD to the new legislation and proposed to representatives of municipalities some changes. The purpose of last two workshops, at the end of 2006, was to create a vision, objectives and spatial development strategies.

The professional public learned about the content of the sub-project Detailed Conception of Coastal Strip Spatial Arrangements at a workshop in August 2005. Its aim was to examine the methodological approach and the content of proposed solutions. The contractors presented scenarios of coastal zone spatial development, evaluation criteria, and priority areas of treatment and development models. In February 2006, there was a consultation about Slovenia and the Mediterranean Sustainable Development Strategy as a development opportunity for our country.

The contractor of the Regional Strategy of Sustainable Tourism Development project prepared workshops for the expert public in 2005. At workshops, which took place in May and March, they prepared SWOT analysis, collected information on existing tourism projects, they discussed about suggestions for the most appropriate tourism destination management and ways on region's tourism promotion. The following workshops, held in November 2005, were intended for representatives of the public, private, and civil sector in the field of tourism. First, the participants got acquainted with the content of the project, the draft strategy and proposed development policies. Those present gave their opinion regarding the presented material.

In October 2005, the workshop on the Management of Protected Areas sub-project was attended by representatives of local communities, protected areas, non-governmental organisations and interested individuals. They got acquainted with the legislation in this area, and work and responsibilities of the nature protection supervisory agencies. They listened about concrete management problems during a visit in the Sečovlje Saltpan Landscape Park.

Representatives of municipalities and public utility services (public utilities) got familiar with the model for monitoring and analysis of municipal programmes for drainage and treatment of municipal wastewater and rainwater, at a workshop in December 2005 in the context of the Regional Programme of Environmental and Water Resources.

Information obtained with CAMP sub-projects were, in 2006, used for the preparation of the Regional Development Programme (RDP) of South Primorska 2007-2013, a fundamental

region's development document for the coming programming period. Members of four committees (economy, infrastructure, environment and spatial planning, and rural development) learned about results of sub-projects, findings of implemented studies and proposed development guidelines. Gained information was integrated into the Regional Development Programme and on their basis they gave proposals for priority regional projects, which are to be implemented until 2013.

There were five two-day workshops within the framework of the horizontal Imagine – SPSA. They were attended by the representatives of local, regional and national bodies, non-governmental organisations, contractors of individual CAMP projects, and other representatives of the public. First workshop, in January 2005, defined the main problems in the region, determined the priorities and future. In February 2005, there was a second workshop where indicators of sustainable development were selected and subsequently AMOEBA graphs were corrected. The working groups presented the outcomes to a wider circle of stakeholders (representatives of investors, societies and local communities). Participants of the third and fourth workshop, which were held in April and May 2005, respectively, defined different scenarios of future development and presented them to the general public. The aim of the fifth workshop, in June 2005, was to gain marketing skills. Final results of workshops were future development scenarios and development guidelines.

The target public, within the framework of project CAMP Slovenia was introduced with modern tools and approaches of spatial planning, which include an integrated Environmental Impact Assessment (EIA). Experiences with the latter were presented by representatives of Slovenian institutions and an expert from Great Britain. Representatives of the Ministry of the Environment and Spatial Planning presented the legislation from this field. Two workshops on this topic, in June 2005, were attended by representatives of ministries, municipalities, education and development institutions, regional development agencies, institutes engaged in protection of natural and cultural heritage, local communities, non-governmental organisations, and companies engaged in environmental protection.

Wider public was able to track the course of the project via a website and also through various representations. In September 2005, the Project Co-ordinator presented the CAMP Slovenia programme to a group of representatives of ministries, governmental organisations and municipalities from Montenegro, who visited Slovenian Istra. Participants of the 14th Ordinary Meeting of the Contracting Parties to the Convention for the Protection of the Sea Bed and Mediterranean Coastal Areas and Its Protocols (the Barcelona Convention) were also informed about the programme, in Portorož, in November 2005. The latter was presented by the Project Co-ordinator participated in the round table at the regional RTV centre Koper - Capodistria. In February 2006, representatives of the Portorož Local Community were informed about possibility of using the SPSA/Imagine method. The project was presented at an international expert consultation on spatial and developmental planning in Celje, in May 2006. An opportunity to present CAMP Slovenia was also an international expert meeting on Conservation of Biodiversity in the North Adriatic, which was held in Strunjan, in May 2006. In June 2006, there was an international conference entitled "Sustainable Development Strategy for the Adriatic" in Portorož, where the CAMP Slovenia programme was also presented.

During the course of the project, there were two press conferences and there were six articles published in local and national printed media. In November 2005, a bilingual (Slovenian-English) presentation booklet of the CAMP Slovenia project was published.

REGIONAL SPATIAL INFORMATION SYSTEM

Contractor: Regional Development Centre Koper
Sub-contractor: 3 PORT Information Engineering Ltd., Koper
Project Co-ordinator: Igor Maher
Authors: Igor Maher, Leon Gosar and Alfred Kleva

1. Purpose of the RSIS Project

Spatial data and information are often scattered across various information systems, which makes them inaccessible and collecting, managing and using them is expensive and inefficient. Therefore, creation of a common spatial information system appears as the only sensible solution, which with the help of established spatial data bases and the information flow system effectively connects all CAMP Slovenia spatial projects and accompanying activities into a single system. Such a system enables monitoring of spatial conditions and timely response of local communities and other stakeholders/interested parties to spatial situations. At usage it is much easier to follow principles of sustainable development with emphasis on spatial data and information, which are specific for sensitive space of eight municipalities of the South Primorska region.

The Regional Spatial Information System (RSIS) is a supportive horizontal project in the framework of the CAMP Slovenia Programme. On the one hand, it provided to other projects in CAMP Slovenia, in accordance with the possibilities, adequate spatial databases and, on the other, it collected results of projects in an orderly manner. Within the scope of the RSIS project, the infrastructure established on a mechanical and application level also enabled presentation of some results of projects, which are in the common information system.

2. Objectives

The basic aim of the RSIS project was to establish an appropriate information infrastructure with the highest possible number of available spatial data bases, which will effectively provide to contractors in CAMP Slovenia, municipalities and other organisations, operating in spatial management, all necessary available spatial data. The data shall then be available for decision-making and implementation of spatial projects. In the framework of CAMP Slovenia it was necessary, for the implementation of tasks, to provide in a uniform manner all available and up-to-date information and spatial data, information on related projects in neighbouring municipalities and countries, a knowledge base and access to documents about legislation, directives of the EU, data on completed spatial and other environmental projects, and other spatial information, such as e.g., the local legislation, local spatial acts, etc.

The achieved basic objectives of the RSIS project, therefore, are:

- established information infrastructure, which enables organising, collecting and creating available spatial data bases on a regional level;
- guaranteed available spatial data bases for the implementation of projects in the framework of CAMP Slovenia and insight into project results, which are in the scope of the RSIS information system put to use for local communities, expert public and other organisations;
- established system for rational obtaining and exchange of spatial data and creation of a relevant metadata system (information on available data) in compliance with European standards;
- increased transparency of work of municipalities and other organisations in the field of spatial and environmental management with the possibility to represent implementation course of spatial and other spatially related projects; and
- informing the public about the spatial situation with the use of modern technologies and internet.

The main ultimate target groups of the RSIS project are:

- municipalities of the South Primorska statistical region;
- the State, Ministry of the Environment and Spatial Planning;

- population in the area of participating municipalities and wider;
- expert public, schools and media; and
- investors, economy and craft trade.

The most important target group of the RSIS project are municipalities, which wish to have managed records about the spatial situation in their area in the region's area. The RSIS information portal will enable municipalities to collect spatial data on a regional level in one place.

The RSIS project results also comply with current priority tasks of the Regional Development Programme for the area of South Primorska, current projects (Phare CBC, Interreg IIIA) and goal CAMP projects in the Mediterranean.

The RSIS project, as a horizontal project, thus directly fulfils the essential CAMP Slovenia objectives, because it:

- operatively in a long-term connects and creates grounds for co-operation of municipalities and the State in the field of Slovenian coast management and management of its river basins. Through modern technology and agreed rules for exchange of spatial data, defined in the project, it facilitates spatial planning, simplifies access to information and presents to the public results of the CAMP Slovenia Programme; and
- increases capability of local and regional authorities for development, especially at planning, for due to joint spatial data bases it significantly increases the efficiency of institutions, which are concerned with planning, environmental protection, tourism, protection of sea and its catchment areas, safety at sea, traffic, etc.

3. Results of the RSIS Project

Even though the RSIS project faced significant changes with regard to the planned financing for project implementation, for only a tenth of planned resources was provided, the RDC Koper as holder of the project managed to provide all important project objectives, which were set. Thus, in the scope of the RSIS project, the following tasks were completed:

1. A single interface with data and public internet server – Portal PRIS, were created (hardware and software) as an entry point for key users of the system (http://camp.rrc-kp.si section "Maps"), which enabled review of data through the established GIS system. The created platform is basis for further constant updating of RSIS with new data bases, new functional interfaces, new technological possibilities and new user demands of the RSIS information system.
2. Defined local and regional spatial indicators of sustainable development (in compliance with EU Directives and current Slovenian legislation and rules), which were established in the framework of the SPSA – CAMP Slovenia project.
3. Defined minimal technical and substantive standards for obtaining and exchanging data in the framework of RSIS and established technical, legal and substantive conditions for exchange of minimal basic data on the vertical and horizontal level of RSIS operation.
4. Identified and established all basic data bases for RSIS operation and also, where necessary, appropriate agreements made with owners or managers of data bases on use and collection of this data for purposes of RSIS operation.

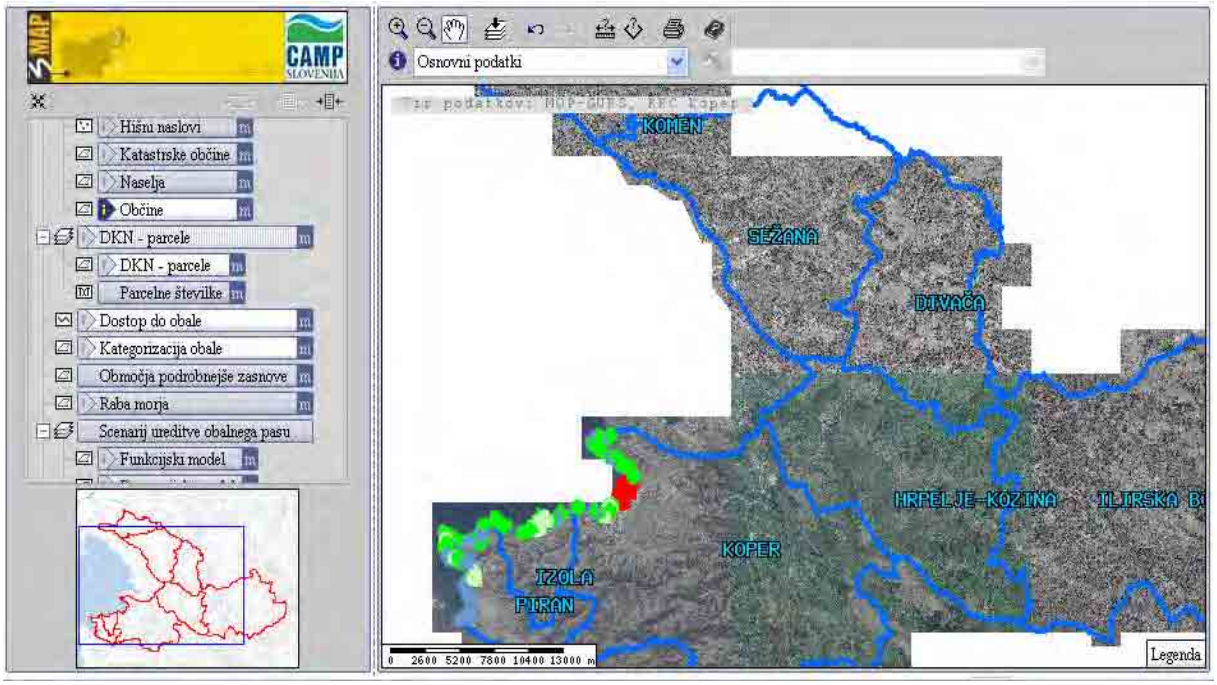


Figure 60: ***The available spatial data on infrastructure were collected for the first time at the regional level***

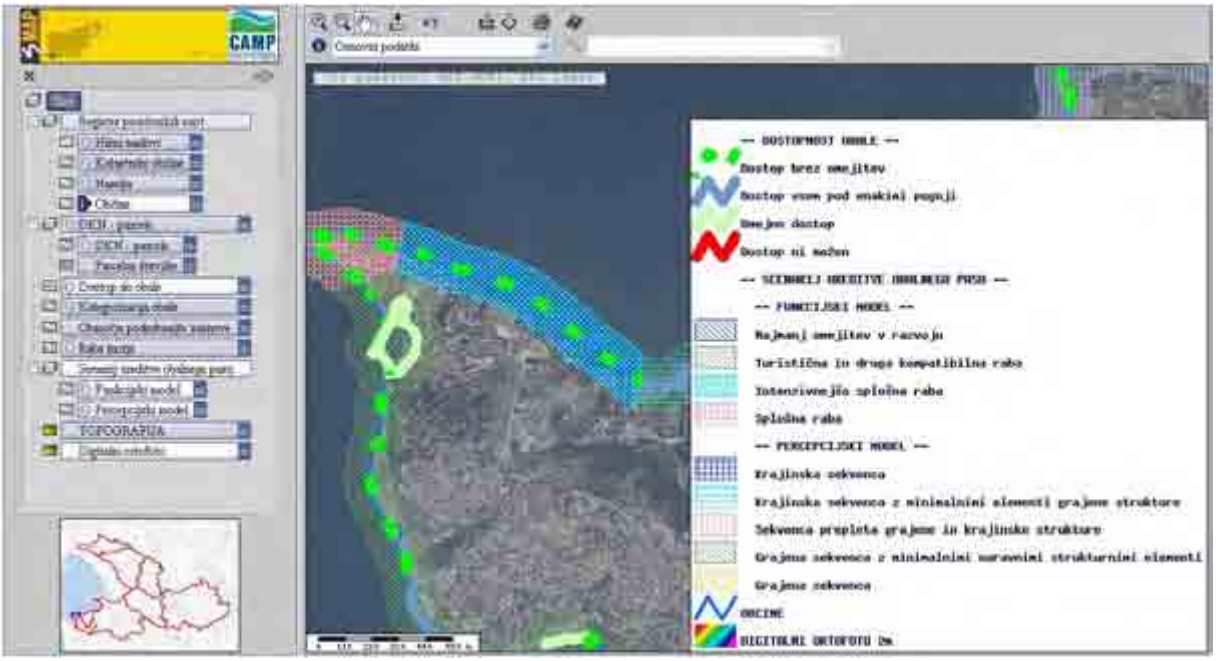


Figure 61: ***The data collected within individual projects are available, including the legends***

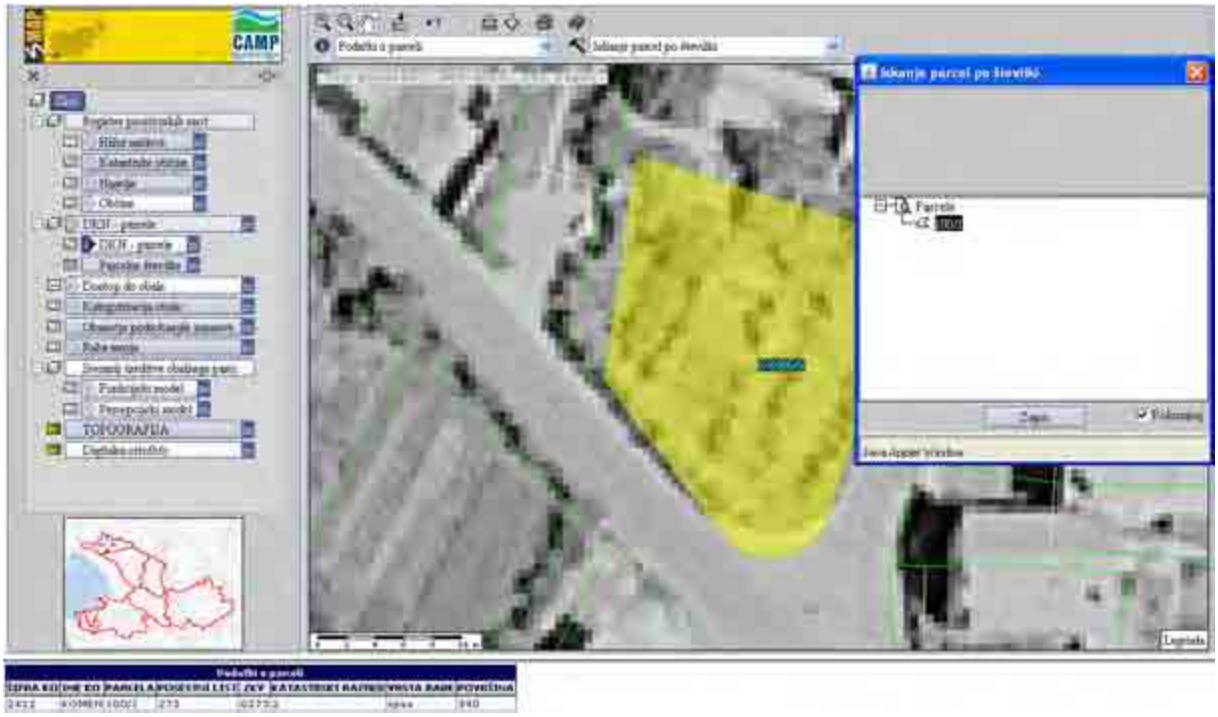


Figure 62: ***RSIS enables search in various data bases in the region***

4. Future of the RSIS Project

During its creation and implementation, the RSIS project showed numerous possibilities for upgrading and groundwork for many new projects, which refer to spatial and environmental management in the region. As a basis for further work, we succeeded to include concrete results of the RSIS project, experience in obtaining data and the developed information system into quite a few projects. In the next short-term period, it will certainly be possible to use results of the RSIS project in the following projects, which are under implementation:

- Implementation projects of municipalities and the South Primorska region in the framework of implementation of the Regional Development Programme of South Primorska for the period 2007-2013.
- Preparation of new municipal detailed spatial plans in compliance with the new legislation in the field of spatial planning on a local level.
- Interreg IIIA SLO/ITA – Project Mapsharing, in the scope of which partners in Slovenia and Italy are creating a joint map of knowledge as a basis for strategic environmental assessments on an interregional level.
- Interreg IIB CADSES – Project PolyDev, which addresses the demand for gaining greater knowledge and develops a common strategy towards principles of sustainable polycentric development and concrete experimental applications into spatial planning policies. Other participants are Slovakian, Bulgarian and Italian partners.
- Interreg IIB CADSES – Project RiverShield, which deals with the protection of rivers against pollution due to industrial accidents, where participating partners come from Greece, Hungary, Poland and the Czech Republic.
- International project ADRI-NET EMAS, which is concerned with support and co-operation in the environmental and social management of the territory in its extension. Project foresees organisation of conferences and seminars, creation of application models for management of sustainable development in the cross-border area and integration of different actors, definition of best practices at implementing the main

activities from the field of environment and space in connection with different integrated territories, educational programmes for employees and officials and new working profiles.

- Interreg IIB NP CADSES – Project PlanCoast (2006-2008), with the aim to develop tools and capacities for effective integrated planning in coastal zones and maritime area of the Baltic, Adriatic and Black Sea region. A number of 16 partners are participating in the project representing spatial planning sectors or responsible regional authorities from Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Germany, Italy, Montenegro, Poland, Romania, Ukraine and Slovenia.

The use of RSIS project results will thus be shown also in numerous future common projects of municipalities and the region in areas where access and use of spatial data and common information structure is necessary.

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MTS 169. UNEP/MAP/MED POL/WHO: **Municipal wastewater treatment plants in Mediterranean coastal cities: inventory of treatment plants in cities of between 2,000 and 10,000 inhabitants.** MAP Technical Reports Series No. 169, UNEP/MAP, Athens, 2008.

MTS 168. UNEP/MAP/BLUE PLAN: **Water demand management, progress and policies: Proceedings of the 3rd Regional Workshop on Water and Sustainable Development in the Mediterranean.** Zaragoza, Spain, 19 - 21 March 2007. MAP Technical Reports Series No. 168. UNEP/MAP, Athens, 2007.
Gestion de la demande en eau, progrès et politiques : Actes du 3e atelier régional sur l'eau et le développement durable en Méditerranée.

MTS 167. UNEP/MAP/BLUE PLAN: **Energy and Sustainable Development in the Mediterranean: Proceedings of the Regional Workshop, Monaco, 29 - 30 March 2007.** MAP Technical Reports Series No. 167. UNEP/MAP, Athens, 2007.
Energie et développement durable en Méditerranée: actes de l'atelier régional, Monaco, 29 - 30 mars 2007

MTS 166. UNEP/MAP/MED POL**: Proceedings of the Workshop on the MED POL Biological Effects Programme: Achievements and Future Orientations (Alessandria, Italy, 20 -21 December 2006).** MAP Technical Reports Series No. 166, UNEP/MAP, Athens, 2007. (English).

MTS 165. UNEP/MAP/CP RAC: **State of the art of sustainable production in the Mediterranean.** MAP Technical Reports Series No. 165, UNEP/MAP, Athens, 2006. (English, French, Spanish).
État de la production durable en Méditerranée.
Estado de la producción sostenible en el Mediterráneo.

MTS 164. PNUE/PAM: **Programme d'Aménagement Côtier (PAC) de la "Zone côtière algéroise": Rapport final intégré.** No. 164 de la Série des rapports techniques du PAM, PNUE/PAM, Athènes, 2006. (French only)

MTS 163. UNEP/MAP/MED POL: **Sampling And Analysis Techniques for the Eutrophication Monitoring Strategy of MED POL.** MAP Technical Reports Series No. 163. UNEP/MAP, Athens, 2005. (English)

MTS 162. UNEP/MAP: **Review And Assessment Of National Strategies For Sustainable Development In The Mediterranean Region.** MAP Technical Reports Series No. 162, UNEP/MAP, Athens, 2005. (English, French)
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