

BACKGROUND AND RATIONALE

Coastal areas play a vital role for most European countries, from the ecological, economical social and cultural point of view. The high human pressure makes them very sensitive either for environmental, or for social issues.

Since 1992, important intergovernmental organisations have been pointing out the need of ensuring the sustainable development of such areas and many national governments, as well as the EU has included it among their priority objectives.

Integrated Coastal Management and Interdisciplinarity

The **Integrated Coastal Management** has been indicated as the main tool for achieving this objective, but the transfer of its principles into current management practices, is still far. In a European perspective, it is a very good chance for setting a common strategy, without coping with already consolidated localised schemes and, in this phase is essential a strict collaboration, to take advantage from any experience and avoid mistakes and overlapping.

In this perspective, **the general objectives of ECO-IMAGINE is fostering interdisciplinarity and building a structured knowledge in ICM through the use of GI technologies, under the paradigm of coastal landscape as unifying element.**

In particular, the project aims to address some of the major issues related to the elaboration and implementation of ICM programmes.

In the first place, ECO-IMAGINE is expected to foster an **interdisciplinary approach** to coastal management in order to face one of its major constraints, the traditional sectoral approach to coastal issues.

In most cases, this attitude is due to localised and short-term based policies, that either lead to consider only specific and often conflicting issues as priority, or do not foresee the consequences of this choice.

Instead of being considered in its comprehensiveness, in the past Coastal Management has been sometimes identified with coastal engineering, that means all the interventions and functional or protective infrastructures along the coastal area, to protect it against erosion, natural hazards or to allow its development. Though basic and very demanding, coastal engineering is, as it is the case of environmental protection or tourism development, only one part of ICM, hence the need to integrate all the skills that have a role in the management of the coastal area, above all with the ones more linked to the human aspects of the area, such as social sciences, history, landscape architecture, etc., that have often been considered less relevant because less evident in the short term.

In this case, an interdisciplinary approach is expected to lead to a double advantage: it benefits of the wide experience developed in the field of coastal engineering and gives it a sustainability oriented attitude. Moreover, the inclusion of the social and communication sciences as active part in coastal management processes, helps the participation of the stakeholders (local administrator, enterprises, etc.), as well as of the citizens, in the decision and management processes.

At this regard, it is important to point out that ECO-IMAGINE does not aim to create a "super-expert", competent in every discipline, but to give an opportunity to different experts and to increase their attitude to interact and to better co-ordinate their efforts in the frame of complex operational teams.

Another relevant problem that ECO-IMAGINE is expected to address is the **lack of structured knowledge about coastal areas**, by fostering the establishment of a science based, interdisciplinary and with an adequate technological support, data collection, management and policy.

As a matter of fact, in such complex areas, a general information framework is an essential element for the elaboration of a management strategy. On the contrary, information is often available only according with the single priority objectives (i.e. in areas characterised by high human pressure or by profit-oriented objectives, the assessment of ecological features of an area may be lacking or not up to date), and data comparison and interoperability is in this way more difficult. Often short term or self contained projects can not afford the collection and the elaboration of high quality information, with the result that the available data are not trustful or not suitable to be used for other purposes.

Integrated Coastal Management and Landscape

A further key element of ICM is the integration between human and natural issues of the coastal areas, expressed by the **landscape**. This definition, become part of, and enlarged in the 6th Framework Programme, refers to any trace of human activity impressed over the natural environment. Indeed, natural and human sciences usually find in the landscape their meeting point.

Coastal landscape is above all a multidisciplinary field, both under the scientific and under the practical point of view, where different skills are actually bound to interact. Beyond being an important resource for coastal areas, it joints the features of different environments, the sea and the catchments, and it is characterised by high diversity either biological, or cultural or socio-economic. It is therefore a very suitable paradigm for really multidisciplinary ICM initiatives.

Integrated Coastal Management and Geo-Information

Upon the aforesaid conditions **Geo-Information is a key element of knowledge** and **GIS (Geographical Information Systems)** are actually useful tools.

Besides the basic capability of GIS of joining information and territorial features, of giving a spatial placement to data not suitable to conventional representations, and of creating thematic maps, the flexibility of this tool proves to be essential. As a matter of fact, the capability of adapting to dynamic situations, comply with the need of continuous evolution that characterises ICM.

In particular this consists of the possibility of

- **integrating information** from various sources and related to different fields. The effective interdisciplinarity and interoperability of data and information are a priority objective in order to build an updated and comprehensive outline of the situation, to integrate observation and data acquisition from the component projects and to share information
- creating not only a mere integrated data bank, but **collecting, elaborating, updating** according with new inputs and finally **representing** different kinds of information. In this way an added value is given to rough data, further on increased by the possibility to adapt the output format to comply with the skills and the operational needs of the final users.
- Downstream, **ensuring the transfer** of information among local stakeholders, decision makers, and ICM experts. Indeed, this process is a valuable support to the management. As a matter of fact, on one hand, the coastal knowledge and the awareness of related issues among the stakeholders and the local communities is increased, on the other hand, it is easier to include their needs and suggestions into an ICM programme.

On this base, ECO-IMAGINE aims as well to put in touch ICM and coastal landscape with the state of art of GI technologies and GIS, meant as powerful tools to be exploited at the best.

In this perspective, the need of a continuous transfer of knowledge from the scientific environment to decision makers and stakeholders and vice versa is self evident as it is the need of a tool, such as the GIS, capable to continuously collect inputs from different sources, to elaborate and integrate them with existing information, and, finally, to create effective representations