

ENV.2009.2.1.5.1 Sustainable development of coastal cities

Funding scheme: Collaborative Project (large scale integrating project) for specific cooperation actions (SICA) dedicated to international cooperation partner countries, targeted to India and South-East Asia

Our Research group belonging to the University of Bologna is interested in participating to the call ENV.2009.2.1.5.1 "Sustainable development of coastal cities" as a partner or as a coordinating team.

The motivation springs from having been worked as urban planners on a case study regarding the city of Pesaro and the surrounding coastal areas of Marche and Emilia-Romagna. The whole coast of Emilia-Romagna is one of the hottest coastal spots for pollution in Europe, due to the presence of the big northern Italian industrialized area (pianura padana), and the huge flux of tourism during the summer season.

The coastal development of Emilia-Romagna follows the idea of linear city.

This case study involves many aspects of what mentioned in the call, perfectly fitting into the topic: high (and seasonal) urbanization pressures, waste production, energy use, vulnerability, resource depletion, the risk of natural and environmental hazards relationships and exchanges between the urban area and the surrounding landscape (see picture).

The study is particularly focused on the rehabilitation of the south part of the urban settlement, where some infrastructures affect the sustainable development of the area.



Pesaro: urban, semi-urban and peripheral areas.

Coastal cities of Emilia-Romagna are hotspots for pollution because of elevated water and energy demands, being also particularly vulnerable to impacts of climate and global change due to their strategic location at the boundary of land and sea (Venice, 200km north of Pesaro is part of this system). Therefore, an integrated ecosystem approach has to be adopted and must be fully integrated in the research approach.

DAPT research group

The Department of Architecture and Territorial Planning (DAPT) has a long experience in urban planning and territorial analysis and sustainability impact assessment at urban and building scale.

The expertise of the group of Bologna can be extended to other Departments of the same University, including specifically the following fields:

- applied geology (definition and digital georeferentiated representation of processes, phenomenologies and dynamics concerning sedimentology, geomorphology, hydrogeology and climate; coastal spaces integrated management, with particular attention to problems of erosion and salt water intrusion, vulnerability and geological and environmental risk mitigation);
- construction technology (architectural, civil engineering and infrastructures)
- waste management.

Available partners

In the last weeks we have worked on the possibility of having some partners in Europe; in particular the following partners have shown interest and could be possibly included, depending on the structure of the group.



Partners:

- The city of Pesaro, Italy (public administration, case study)
- An Italian architectural company (urban planners and civil engineers)
- The University of Ancona (urban planners)
- An important international construction and engineering Italian company (special foundations, infrastructures, soil strengthening, ports construction)
- An international construction company in Spain, already interested in ECTP projects;
- A Cambodian and/or Indian Institution (case studies)

We have contacted other partners in Europe and still waiting for confirmations.

Proposal

We think our case study would be useful to enlarge an already structured project, in which to place it, together with our experience and competences.

In an alternative option, we are ready to coordinate a robust group (15-20 partners as requested in a large collaborative project), thanks to our large experience organization.

Attempt title of the research project: **IODIUM**

Innovative Organizations for the Development of Integrated Urban entities on Marine contexts

The proposal for the IODIUM project focuses on these themes:

1. ANALYSIS

- to share and agree **on environmental impact assessment methodologies** at European level, using innovative tools at building and urban scale (conceived according to the LEED concepts); regarding the Italian context, implementing the tool called VALSAT (Valutazione della Sostenibilità Ambientale e Territoriale);
- to evaluate how to **balance demand and supply** through sensorial and information technology tools;
- to develop methods of **perequation** (an exchange of urban rights) to promote sustainable urban design;
- to define **planning tools** for the sustainable development on the coast (design phase) to fulfill the above mentioned goal.

2. PROPOSAL

- to promote effective integrated coastal cities with the goal of **zero emissions** (on that regard define reliable technologies to reach this goal like wind energy, water energy, solar energy, desalination plants); the innovative aspects should be applicable independently from the city;
- to evaluate the possibility of designing an **off-shore development** through and creating new entities with high potentiality in terms of services for sustainability;
- to optimize transportation.

The variation of number of inhabitants in different seasons is an important factor for the urban context. The city should be not necessarily a mid-size one.

Potential partners

Possible partners and/or coordinators:

- Public administrations (coastal cities, coastal districts)
- Information technology companies
- Urban planners
- Pollution assessment analysis scientists
- Innovative construction companies

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