THE RECOVERY PLAN FOR THE AREA AT HIGH RISK OF ENVIRONMENTAL CRISIS (ANCONA, FALCONARA AND LOWER ESINO VALLEY): AN INTEGRATED GOVERNANCE AND PLANNING MODEL.

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SUMMARY

A portion of the territory of Marche Region of 85 square km, was declared a nationally relevant Area at High Risk of Environmental Crisis, due to a troublesome coexistence of high density settlements, highly hazardous plants, internationally important infrastructures, environmental problems. They are originated essentially by the interference among industrial activities, great transport infrastructure, residential settlements and bad quality of the environmental elements (water, air and soil).
It is located in the central part of the Italian peninsula and it faces the Adriatic Sea.
The whole hillside facing the coastline is affected by diffuse soil instabilities that interfere with strategic road infrastructure and residential and productive settlements.
The area hosts five industrial plants at high risk of relevant accident (Legislative decree n. 334/99 – Council Directive 96/82/EC on the control of major – accident hazard – Seveso II Directive) such as the Oil Refinery of Falconara that also produces electric energy power.
After the declaration a series of scientific studies was carried out by a joint work group including experts from universities, consultants and public officers belonging to different disciplines and sectors. These studies allowed to identify the main critical points and especially the high level of complexity of the environmental situation in which each problem has a feedback on the others.
So this has been the occasion to undertake a process of concerted governance in which all relevant stakeholders (public administrations at different levels, private-public consortia managing infrastructures such as transport, energy provision etc., private companies) are involved.
Such process led to the elaboration of the Recovery Plan for this area.
The Plan is an innovative, integrated instrument that steers the territorial transformations towards environmental sustainability. The Plan is the first in its kind to test a governance model at the local planning level with a view of the wider territorial context.

1. THE AREA AT HIGH RISK OF ENVIRONMENTAL CRISIS OF ANCONA, FALCONARA AND LOWER ESINO VALLEY.

A recent rule disposed to transfer to the regional government the possibility to decree the status of Areas at High Risk of environmental crisis.
Since 1986 different areas characterized by high environmental problems can be declared at high risk.
The widest areas encompass the territories of different local administrations. This led to some additional problems during the making of the plan that must be approved with the consensus of each relevant administration. Such agreement is particularly difficult to achieve when numerous parties are involved.
According to article 74 of the legislative decree n. 112/98, the Marche Region issued a Council Deliberation (n. 305 of 01/03/04) which established the status of Area at High Risk of Environmental Crisis for the territory of Ancona, Falconara and lower Esino valley, and started the elaboration of a Reclamation Plan, in the framework of a Programmatic Agreement with the Ministry of Environment and in collaboration with Local Authorities.

1.1 THE CHARACTERISTICS OF THE AREA

The area identified as "territory of Ancona, Falconara and lower Esino valley" includes parts of the territories of 9 Municipalities, among which also that of the regional Capital.
It is located in the central part of the Italian peninsula and it faces the Adriatic Sea.
Its morphology is mainly plain and low hills.
It covers an area of 85 sqare km, and it includes a seaside strip ranging from Ancona Harbour in the South to Marina di Montemarciano in the North and, at a right angle, the lower part of the Esino River valley.
The coastline is about 30 km long.
The resident population is extimated to be of about 100.000 people; nevertheless the density of the population is highly uneven: there are tipically rural areas, with a density of just a few inhabitants per hectare, besides areas, like the coastal ones, which are highly urbanized.
The delimitation of the area declared to be at high risk derives directly from the existing enviromental problems: these are originated essentially by the interference among industrial activities, great transport infrastructure, residential settlements and the quality of the environmental elements (water, air and soil).
The whole hillside facing the coastline is affected by diffuse soil instabilities, sometimes wider than a kilometer, as the big Ancona landslide that interferes with strategical road infrastructure and residential and productive settlements.
There are also wide areas subject to flooding and waterlogging as a consequence of the Esino River dynamics.
As regards environmental quality, the following priority risk factors were identified:

- bad air quality in wide sectors of the territory, with dangerous episodes (photochemical smog, nitrogen dioxide, benzene, PM10 etc.);
- presence of several contaminated sites, some of which are of considerable extension, with a diffusion of pollutants into the soil and groundwater;
- acoustic pollution in densely urbanized areas, deriving from industrial plants and major road infrastructures;
- bad water quality in surface water bodies.

As regards the risk of accidents, the relevant aspects are:

- the concentration of all main kinds of transport infrastructures
- the presence of a major harbour, which is one of the main ones for freight traffic between Italy and foreign countries;
- the presence of economic and productive activities of national relevance, with a significant density of hazardous plants (as defined by Legislative Decree 334/99);
- the notable rail and road traffic carrying hazardous substances, in particular oil derivatives.

In particular, the area is characterized by the presence of a coastal north-south axis of road, highway and railway connection, and the connection with a major inland axis including a national road and the railway to Rome.
In the same area also other transport infrastructures are included: the Falconara airport and the harbour of Ancona.
This situation makes the area as one of the strategic points of national infrastructuring and of its international connections.
Within the same areas, therefore, there is a concentration of industrial, railway, maritime and commercial activities.
The area hosts five industrial plants at high risk of relevant accident (Legislative decree n. 334/99 – Council Directive 96/82/EC on the control of major – accident hazard – Seveso II Directive) such as the Oil Refinery of Falconara that also produces electric energy power.

Image 1: pamoramic view of the Area

Image 2: the oil Rafinery of Falconara Marittima

Image 3: Ancona Harbour

Image 4: Ancona - Falconara Airport

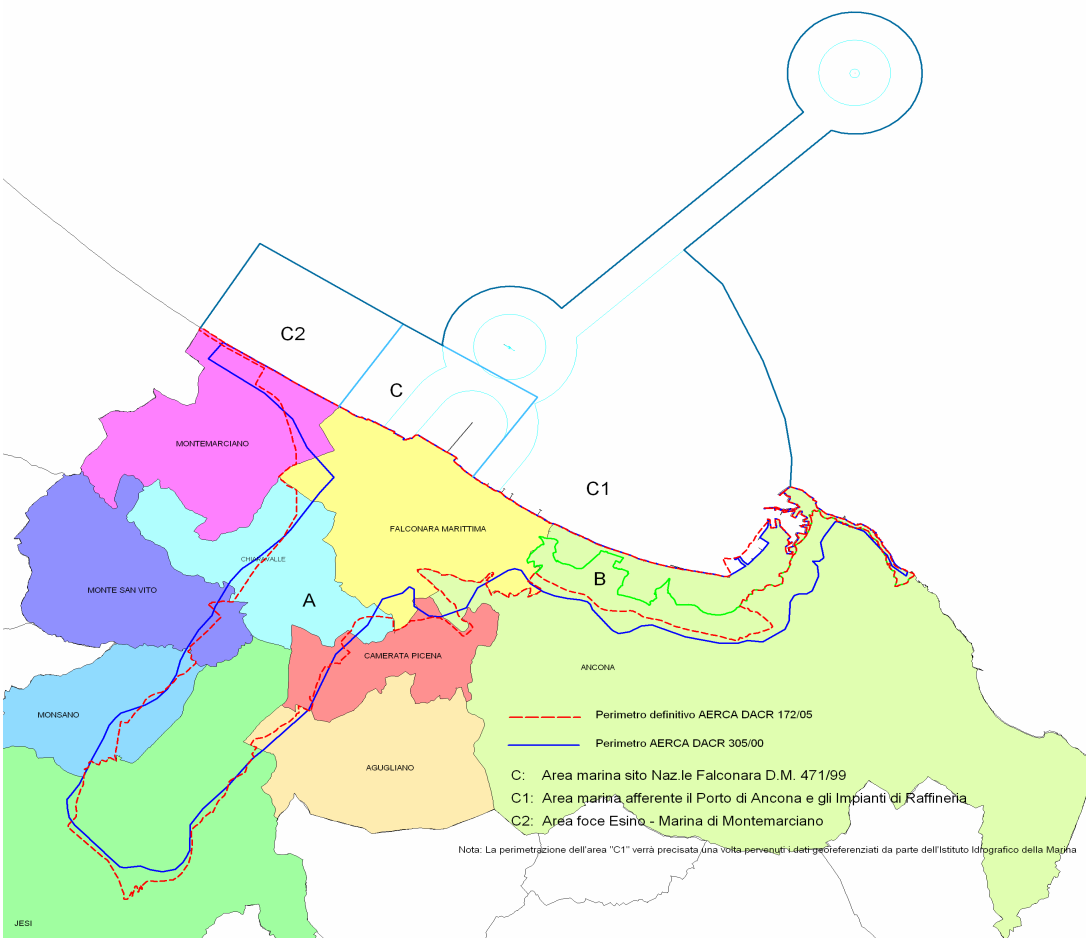


Image 5: map of the Area

2. METHODOLOGY AND TARGETS OF THE RECOVERY PLAN

After the declaration a series of scientific studies was carried out by a joint work group including experts from universities, consultants and public officers belonging to different disciplines and sectors. These studies allowed to identify the main critical points and especially the high level of complexity of the environmental situation in which each problem has a feedback on the others.
So this has been the occasion to undertake a process of concerted governance in which all relevant stakeholders (public administrations at different levels, private-public consortia managing infrastructures such as transport, energy provision etc., private companies) are involved.
Such process led to the elaboration of the Recovery Plan for this area.
The Plan is an innovative, integrated instrument that steers the territorial transformations towards environmental sustainability. The Plan is the first of its kind to test a governance model at the local planning level with a view to the wider territorial context.
The recovery plan represents a coherent system of actions targeting a limited and complex area, delivered across a period that exceeds the time necessary to remedy the environmental emergency.
The complete realization of the plan can represent the heart of a permanent integrated activity to manage a complex series of territorial transformations. The aims are to activate an actual institutional agreement, to foster the collaborations between different operators and to summarize the various instruments concerning the territory, the environment and the economical and social development.
The Plan mostly aims to improve the components of environmental quality such as atmosphere, water and land, to reduce the industrial hazard affecting resident people, to reduce land contamination, to optimize the use of natural resources including landscape values.
In order to reach these general objectives, the plan defines specific targets aiming to improve the principal environmental components such as air, water and land. It redefines the social economic and environmental development.
Since the characteristics of the plan is to be always open and ready to accept every kind of modifications necessary to keep it updated, targets can be continuously revised in spite of knowledge taken by environmental monitoring during the management of the plan.
The actions included in the plan are classified according to priority criteria depending on different emergency levels. Pressing environmental emergency actions are those based on serious specific situations.
These kind of actions, such as interventions on water supply and purifying infrastructures, on rubbish collection, on public and private valuable areas etc. are carried out by both public and private subjects.
The realization of environmental monitoring systems, where not existing, is a priority.
These monitoring systems must be integrated by a Geographical Information System, able to identify environmental problems and useful to check the effectiveness of all the interventions.
First of all industries are in charge of cleaning up interventions.
Actions are shared through a technical meeting.
They are binding prescriptions that must attend the provisions and they must reach advanced environmental quality standard.
Other strategic, non priority interventions, must be identified after an evaluation of effectiveness of the priority ones and of the results of the territorial monitoring systems.
The intervention plan is supported by a financial plan where all the necessary financial resources and the possible financial support are identified.
Public financial resources must fund public interest interventions, while in case of private actions they co-found wide strategic or strongly innovative interventions: in any case they don't fund interventions aimed to reclaim illegal situations.
This very complex phase of work is characterized by a big effort to harmonize technical needs, political wills, popular expectations, productive requests.
The final document "Recovery Plan" is the technical support for the administration having jurisdiction to take the following decisions about the Area at High Risk of Environmental Crisis Of Ancona, Falconara and lower Esino valley.

As already done in other similar cases (the senior Italian Areas at High Risk of Environmental Crisis of Sulcis Iglesiente in Sardinia, or Priolo and Gela in Sicily, or Brindisi and Taranto in Puglia), in the following scheme we describe a logic structure for a recovery plan.
The main chapters that make up the plan are:

- statement of the aims to be pursued by explicit action lines setting extreme limits for each environmental quality indicator;
- statement of the most suitable general strategies for the attainment of aims with reference to the Area specificities;
- identification of the specific interventions to be undertaken according to their priority and distinguished according to the field of application;
- outline of the financial needs and identification of the available and potential resources;
- definition of the modalities of performance and control of the several phases of the plan.

The Document must be open to updating as needed, with the variations that, in the several phases of the plan, are made by verification of attainment of the aims.
To obtain the best effectiveness and quality of the administrative action, during the making of the plan we devised a course of actions which is coherent with the relevant normative background and allows to respond properly to the specific problems of the Area..
This course indicates a series of consecutive phases, characterized by different purposes, activities and times.
Anyway they are strongly functionally connected because they are aimed to the final task, that is to activate an integrated process of sustainable management of the territorial development.
The Marche Region issued a Council Deliberation (n. 172 of 09/02/05) which definitively approves the Plan that must be open to updating as needed, with the variations that, in the several phases of the plan, are made by verification of attainment of the aims.

The phases are outlined as follows:

1. a cognitive phase (already ended), consisting in the analysis and the appraisal of the present conditions and trends of AERCA, through an integrated and interdisciplinary approach, that allows to highlight environmental and territorial priorities. It constitutes the referring system on which we base the following updates, and the appraisal of the effects of reorganization of political and environmental management.
The territories and the related environmental problems were mapped and overlapped to obtain a global environmental outline. This gives the first fundamental indications to be further detailed, during the writing of the Recovery Plan, in order to assign a priority degree to the actions.
2. a phase of planning (presently being concluded), aimed to define the recovery interventions, facing the main emergencies in the short-medium term (about 5 years), but also to delineate environmental scenarios in medium/long term (10 years). These interventions, on the medium-long term (10 years), are able not only to affect the environmental state (or related impacts), but also (and above all) the driving forces and the pressures (of social, economic and environmental character) that determine the present state of environmental. They derived from the cognitive phase, they have been preliminarily organized in an introductory document. At the same time this document is undergoing a process of concertation among the numerous public and private stakeholders operating in the Area.
Moreover, the definition of interventions on the productive system is more effective if it comes from a concertation process, in which all the private and public actors, find an agreement on the actions to undertake, acknowledging the mutual advantages deriving from an environmentally compatible productive and socially accepted situation.
3. phase of implementation, concerning the realization of the interventions identified by the Plan, and the starting of an integrated system of monitoring and decision with the aid of GIS and Decision Support System - DSS).
Phase of performance of The Plan and management of the Area.
Given the complex articulation of the environmental problems and the distribution of the relative competences between the various levels of the Local Administrations, which are responsible for the interventions, the application of the Plan will demand the integrated management of the recovery initiatives, through the constitution of a Board. It will be assigned roles and functions of technical

coordination, so as to guarantee the corrected execution and verification of the Recovery Plan, within the prescribed time.
Such Board will have to be collective, like a Committee for coordination and control of the plan, in which several public subjects are represented.
Its essential tasks are:

- To verify the state of advancement of the implementation projects and the adequacy of the ongoing interventions with respect to the aims and the prescriptions of the plan;
- to assess further financial requirements in relation to the allocated resources;
- to take care of the updating of the plan, by the review of the interventions, according to the evolution of environmental situations and technological means.

For the implementation of the interventions, where no normative dispositions exist, it will be necessary to set up specific rules, as Program Agreements and Contracts, or to characterize detailed specific procedures.
The aims of the defined course of work summarize the few experiences realized or in course of realization in other national contexts.
The integrated interpretation of environmental problems is a pre-requirement for planning, like the making of a Recovery Plan, aimed to reduce the single hazardous situations, but above all to reduce the factor of multiplication of the environmental risk: this target directly stems from the status of Area. The co-existence of more hazardous elements (punctual and diffuse) increases the environmental risk more than the simple sum of single elements.

A regional law was issued in April 2004. It establishes the rules for the drawing up and the implementation of the recovery plan.

The main steps of the recovery process are:

- 2001-2003 specific studies were carried out by multidisciplinary work groups;
- in April 2004 a Regional bill has been prepared and approved;
- in May 2004 a Draft Plan, acknowledging the results of the studies, was issued;
- in June 2004 a systematic series of stakeholder consultation meetings started and it is presently still going on;
- in August 2004, in accordance with the EU Directive 2001/42/EC concerning Strategic Environmental Assesment, new uban planning Guidelines were defined for the Area;
- by December 2004 the Draft Plan was converted into a Final Plan;
- In February 2005 the Final Plan was endorsed and adopted by the Regional Government (Council Deliberation n. 172 of 09/02/05) ;
- the Plan will be active for 10 years.

Image 6: methodology and targets of the recovery plan

A Recovery and protection of the quality of air
B Recovery and protection of the quality of water
C Improvement of the acoustic climate
D Recovery and protection of the quality of soil
E Water geologic order of the area and coastal defense
F Valorization and protection of environmental, cultural and landscaped emergencies
G Optimization of the management of the refusals
H Reduction of the technological risk
I Strategic buildings, strategic infrastructures, ways of escape
L Territorial and urban requalification
M Optimization of strategic systems
N Optimization of mobility and infrastructures
O Support to the social-economic development
P Promotion of studies and searches
Q Instruments for supporting and the monitoring of the Plan

Image 7: objectives of environmental sustainability to pursue

3. ORGANIZATIONAL GUIDELINES FOR THE PREPARATION AND THE MONITORING OF THE ACTIONS OF THE RECOVERY PLAN

The great number and the complexity of the recovery actions contained in the forthcoming Plan impose the use of adequate tools in order to guarantee an effective inventory and monitoring of the implementation and of the financial resources.

Numerous public agencies and different private operators will be called on to act and to interact for the achievement of complete recovery of AERCA.

Given the heterogeneity of the disciplines and the actors involved, apparently simple actions of location and monitoring must be well distinguished and coordinated.

The right instrument has been identified as a database, already in a testing phase, that allows the storing of existing data and the continuous updating due to forthcoming events.

The method of definition of the interventions contained in the Plan previews the location of OBJECTIVES of environmental sustainability to pursue, with reference to the various uses of the natural resources, the most suitable ACTION LINES and specific INTERVENTIONS subdivided in PHASES.

The location and the coding of all the recovery actions catalogued by typology and title, the definition of all the actors and the schematic input of the great amount of data supplied and elaborated in the preliminary cognitive phase and in the drawing up of the preliminary, will be available in the database for further elaborations.

Flexibility, easy accessibility and updating of data, allows the periodic issuing of reports in coordination with a Geographic Information System, an interactive instrument continually updated.

Some interventions are already completed such as the cessation of the activities of the Liquigas Plant in Falconara. This operation increased the emergency conditions of the area and reduced the domino effect risk events. Some other interventions are in progress. Marche Region has the task to carry out directly its own responsibility interventions. Moreover it has to manage all the plan by a technical financial monitoring of all the other ones, even when it doesn't participate to the execution. It locates the financial sources available (European, national and regional funds) for the priority interventions.

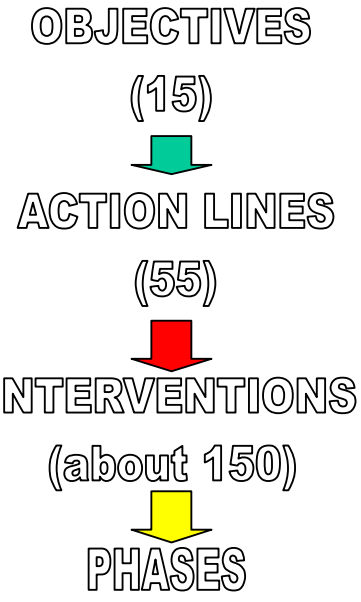
1) LOCATION of the **OBJECTIVES** TO PURSUE, defining the limits of the pointers of environmental quality, refering to the various uses of natural resources; 2) LOCATION of the more suitable **ACTION LINES** for the attainment of the OBJECTIVES TO PURSUE; 3) IDENTIFICATION of the SPECIFIC **INTERVENTIONS** to realize the priority first; they are subdivided in **PHASES** 4) FINANCIAL REPORT: location of the resources available and the mechanisms of expense; 5) DEFINITION of the MODALITIES OF CARRYING OUT and CONTROL of the plan.	

Image 8: the structure of the plan - database

4. THE "ENVIRONMENTAL REPORT": THE APPLICATION OF INSTRUMENTS OF ENVIRONMENTAL SUSTAINABILITY ASSESSMENT ON TERRITORIAL AND URBAN PLANNING.

In April 2004 the Regional bill "Discipline for the Areas at High Risk of Environmental Crisis" was approved.
In August 2004, in accordance with the EU Directive 2001/42/EC concerning Strategic Environmental Assessment, the Regional Environmental Authority defined new urban planning Guidelines for the Area supported by a scheme of "environmental report" in which the likely significant effects on the environment of implementing the plan or programme, and reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme, are identified, described and evaluated.
The Guidelines are finalized to render available to the competent authorities a reasoned directory of suitable criteria to orient objectives and actions of the specific instrument of planning towards environmental sustainability.

Image 9: the environmental report

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