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ENVIRONMENTAL RECOVERY IN CENTRAL LOMBARDY: THE DIFFICULT SEARCH FOR EFFECTIVE PLANNING INSTRUMENTS (*)

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ABSTRACT

The paper describes attempts to design and implement public policy for the recovery of the environment in the most polluted metropolitan area of Italy: the central part of the Region of Lombardy comprising Milan and 380 other municipalities belonging to three provinces with a total population of nearly 5 million inhabitants.

The first part tells the story of the failure of a top-down "end-of-pipe" sector specific approach. In 1986 a national law classified the area as being "subject to high risk of environmental crisis" to which massive financial resources (nearly 3 billion US dollars) should have been allocated on the basis of a Master Plan that was supposed to be approved within twelve months.

Drawing up of the Master Plan was commissioned to a private agency and in fact was approved in 1988. However, after four years of attempts to implement it, it was rejected by a commission set up by Regional government to evaluate its content. The reason given was its inability to deal with the basic factors of environmental pollution.

In 1992, the Regional government set a feasibility study in motion for a new plan with the explicit brief to deal with the "wicked problem" of changing the unsustainable economic development model of the richest area of Italy.

An interdisciplinary group was set up that started a large program of consultation with experts, politicians and bureaucrats. The objective was to explore interconnections between different policy areas, the potential use of various policy instruments and the possibility of drawing up a comprehensive program that rejects the rational-comprehensive approach.

A discussion is then given of the role of Government authorities (local, regional, central, etc.), now the subject of debate by politicians and experts following the findings of the feasibility study. The scheme proposed takes the form of an agency to co-ordinate other actors but having no formal power. It would concentrate on the preparation and updating of a sort of "cultural manifesto" on a possible development strategy for the area and then, with a bottom up approach, start from positive action, and pilot projects move on to the recognition and diffusion of innovations through networking between institutions and so forth. It is an approach that seems to be innovative and promising.

1. The Unsustainable development models of central Lombardy

Central Lombardy is made up of the basins of the Lambro, Seveso and Olona rivers, has a surface area of 330,204 hectares, a population of 4,839,300 inhabitants and a labor force of 1,811,800 people, 884,800 in industry and 845,100 in services. The area consists of the provinces of Milan, Como and Varese and these are divided into 381 municipalities. Economically the area is the most highly developed in Italy having experienced accelerated growth in the postwar years, this being fuelled by a large influx of migration from the less developed regions of the country.

Intense and concentrated economic growth led to serious deterioration of the environment as shown by all available indicators: for example air pollution, water pollution and noise levels all above the limits set by EEC norms. Not only is the

situation the worst in the country but it is continuing to deteriorate as there are no specific policies being implemented to contain it. In recent years pollution has been added to with increases in the circulation of private automobiles, the quantity of refuse produced, land development, water and energy consumption and farming production. Many of these tendencies are destined to continue into the future.

Furthermore, in the recent past this area has suffered incidents causing very serious pollution: the toxic cloud (Dioxin) that escaped from the ICMESA plant at Seveso in 1976 and various episodes of water pollution (atrazina) caused by farming that resulted in emergencies with drinking water supplies being repeatedly cut off in some districts of the area during the 1980s.

The environmental problem of the Lambro, Seveso, Olona (LSO) area is therefore a complex problem determined by the accumulation and combination of a number of specific and varied problems. It is bound up with a number of factors: the pressure of uncontrolled population and economic growth, decision-making difficulties connected with an excess of governmental institutions and delays in recognising and coming to terms with environmental problems.

2. The failure of an oversimplified general approach

A Ministry of the Environment was set up for the first time in Italy in 1986. The same law which set up the Ministry (Law No. 349, 1986) classified the LSO area as one of those "subject to high risk of environmental crisis". The "risk" classification was almost ironic because the environmental crisis quite obviously already well underway. In any case, for the first time Government attempted to draw up and implement co-ordinated and wide sweeping policies to deal with areas suffering from particularly serious pollution:

- it co-ordinated individual sector policies centrally by means of specific plans for intervention;
- it provided extra finance in addition to that available through normal channels;
- it attempted to deal with the problem of the allocation and dispersion of funds to those bodies responsible for environmental policies by giving priority to high risk emergency areas.

The law was designed to function as follows:

- the Ministry, in agreement with the Regions, declares various areas to be "subject to high risk of environmental crisis", triggering the mechanisms of the law designed to solve environmental problems; the declaration is valid for five years;
- the Council of Ministers approves the declaration and sets the objectives of a Master Plan;
- the Master Plan is drawn up by the Ministry of the Environment and identifies urgent measures to be taken to eliminate risks and to safeguard the environment; it also decides on methods of finance and of monitoring the state of the environment and as well as the implementation of the intervention planned.

The LSO area was finally declared an area "subject to high risk" by order of the Ministry of the Environment on 18.09.1987 (in accordance with art. 7 of Law No. 349, 1986).

A private engineering company, Dagh Watson, was commissioned to draw up the Master Plan which within six months was presented to, adopted and approved by the Council of Ministers with Decree No. 363, 1988: the "Five year plan for cleaning up pollution in the catchment basin of the Lambro, Seveso and Olona rivers". The **objectives** of the plan were very detailed and included the following: eliminating water pollution as defined by national and EEC standards; solving problems relating to urban, hospital, industrial and toxic and harmful refuse disposal; monitoring of atmospheric and acoustic pollution; accident prevention at high risk plants; the creation and improvement of parks, nature reserves and green areas; the setting up of a system for monitoring environmental pollution; monitoring the implementation of the Master Plan.

The **contents** of the plan consists of a detailed list of 110 projects divided by sector. For each project the Master Plan stipulated who was responsible (Region of Lombardy, Municipalities, Consortiums of Municipalities, etc.), the cost and the time scheduling within the five year period of validity of the "subject to high risk of environmental crisis" status.

Total finance required for implementation of the Master Plan was set at 4,800 billion Lire, 2,000 of which was to be provided by central government and the rest by the other authorities concerned.

The finance was divided by sector (in billions of Lire):

-	water pollution	3,154
-	waste disposal	1,100
-	soil pollution	200
-	noise pollution	3
-	atmospheric pollution	3
-	accident prevention for high risk plant	6
-	nature reserves	100
-	monitoring of the environment and of implementation of the Master Plan	140
-	personnel training	65
-	environmental education and information	29
-	Total	4,800

It should first be said that in April 1992 on expiration of the Master Plan only 16.5% of the central government finance had been made available; only twelve (at a cost of approximately 22 billion Lire) of the 110 projects had been completed, while other projects had not even been started or were just in the initial stages.

The overall picture at the time when the validity of the Master Plan expired was essentially one of failure if the list of objectives is compared with that of projects completed.

There are *two main reasons* for the failure: the first concerns the *content of the Master Plan* and the second, *problems essentially related to implementation*. As

far as the first aspect is concerned, an examination of the the table above clearly shows that in passing from the objectives of the plan to the actual projects there is a drastic reduction in the field of operation. Eighty eight percent of the finance is concentrated in the water pollution and waste disposal sectors, specifically those sectors where it is possible to construct "plants" employing a typical "end of pipe approach". While the objectives set are of a general nature, aimed at eliminating pollution and improving the environment in the whole of the area, the Master Plan proposes a series of sector specific interventions which attempt to deal with only some of the final symptoms of environmental pollution.

There are at least two factors which have encouraged this approach:

- the first is the fact that no agency is granted any independent spending power under the Master Plan; this is designed as an overall means of reorganising (and perhaps accelerating) the provision of finance already decided by individual sector policies mainly in the field of the construction of refuse disposal plants, sewage treatment plants and waterworks; it is a collection and reorganisation of already prepared projects: the fruit of environmental policy models belonging to a prior stage that preferred to intervene "down stream" from the problem;
- the second factor is that the Master Plan only allows finance for projects in which the authorities responsible (Regions, Municipalities, clean up consortiums, etc.) can acquire supplementary funds, particularly by making charges on the final users. Once again the intervention typically involved is that relating to refuse disposal plants, sewage treatment plants and waterworks.

As far as implementation was concerned, the model laid down in the Master Plan provided for two main controlling bodies:

- * a **Co-ordinating Committee** presided by the prime minister and consisting of the Ministers of the Environment, of Civil Defence, Agriculture, Cultural Heritage, Industry and State controlled companies, the president of the Regional Council, the relevant chairmen of Regional Council committees, the presidents of the three Provinces and the Mayor of Milan; this constituted the body with political control over the implementation of the plan and had wide decision-making powers;
- * the **Operational agency** for the finance, implementation and management of the works set up in agreement between the Government and the Regions; an agency to which *all the powers for the implementation of the projects of State and Regional concern* were to be delegated and which through the Committee would have had *control and jurisdiction over the projects managed by the other authorities involved.*

As far as governmental management (from central, to regional, provincial and finally municipal) is concerned it is quite obviously an attempt to deal with the enormous fragmentation of government and complex overlapping of powers by co-ordinating centrally through the authority of the political Committee and the Operational agency which should have had wide powers for the management, finance and implementation of the projects.

The Co-ordinating Committee, however, was never set up due to the difficulties involved in the central co-ordination of the various authorities represented on it. The operational agency (IRVA) was set up in December 1989 in the form of a joint stock company with the Region possessing 51% and ENI (the state oil company), IRI (a large state owned holding company) Assolombarda (Lombard branch of the Italian Confederation of Industry) and the principal regional banks as the other shareholders. Although it was granted wide powers and considerable resources it rapidly became an empty box. Projects of State and Regional concern never took off and none of the municipalities, refuse disposal plants, sewage treatment plants and waterworks consortiums and other authorities responsible for works ever conferred any powers on the IRVA for the finance, implementation and management of its own projects.

When the Scientific and Technical Commission set up by the Region of Lombardy to examine the implementation of the Master Plan came up with its findings criticising the basic weakness of the objectives and the intervention proposed for the Lambro, Seveso, Olona area, the whole episode of the Master Plan seemed to have come to a end at all levels. The report of the Technical Commission was adopted by the Regional Council itself in March of 1990. It pointed out the intrinsic contradictions of the Master Plan in that the intervention it proposed would not in any case be sufficient to reduce pollution levels even if it were possible to solve the problems involved in actually carrying the intervention out. The report finally invited those concerned to rethink the whole plan with the aim of defining a strategy that would tackle the causes and not just the effects of pollution.

3. Redefinition of the planning strategy

This third part of the paper discusses recent developments and the debate surrounding various proposals that began in December 1991 when the Regional Government asked the IReR, the Regional Research Institute, to carry out a research and experimentation study aimed at defining an "integrated programme" of action and civil works for fighting pollution improving the quality of life in the area.

The group of experts (of which I was one) began work in the Autumn of 1992 finishing in the Spring of 1994 with a report. As a first step, this proposed a process for the drawing up of a new Master Plan for solving the problem of pollution in the LSO area.

The basic proposal deals directly with the problem of changing the model of economic development and the settlement system of the area as a means of tackling the causes of pollution at an adequate level. This would involve the construction of a very comprehensive and distinctly interdisciplinary "Planning process" that would attempt to deal as a whole with the environmental, industrial, social and settlement factors that lie at the roots of and continue to sustain the "unsustainable" growth model of the Region.

The "Disposal Plant" model acting "downstream" from the causes based heavily on specific sectors proposed by the antipollution plan is left behind in favour of a model which focuses on the interconnection between environmental policies and other policies, policies concerning the use of land in particular. It is above all necessary to control the progressive development of land resulting from the actions of a whole range of public and private actors that is transforming central Lombardy into one huge sprawling city.

There are two reasons for moving in this direction. One is because the mandate from the Region expressly requests the formulation of policies that attack the causes of environmental problems and the other is the conviction that it is impossible to tackle the problem in terms of individual sectors.

The greatest and most immediate problem that arises from a broad and interdisciplinary approach is that of the difficult relationship between comprehensiveness and political feasibility.

It seems clear that there is in fact a tendency to fall back into the vicious circle that has undermined the effectiveness of all forms of planning, a tendency that is given ample consideration in planning theory. The growth of the planner's knowledge together with the growth in the complexity of land use and social systems leads to a recognition of the increasingly integrated nature of planning problems. This is reflected in the tendency of institutions to put forward planning policies that are more and more comprehensive and multi-sector. However, it is the more complex nature of the interrelationships between sectors that makes it impossible to deal with the problems using the instruments of traditional planning because these tend to multiply the weaknesses of planning by sector or within limited areas (Webber 1983). On the other hand this syndrome, which was recognised as early as the 1960s in urban planning, is now having a direct affect on the relationship between environmental policies and other policies. In Italy, in particular, the last 15 years have seen attention move from the strong sector specific approach that characterised the legislation of the 1970s to the expansion of environmental policies into new fields in the 1980s and finally to the discovery of the overall and intersector nature of environmental policies at the beginning of the 1990s. This latter approach tends to define its scope and role as a sort of super policy which individual sector policies must fall into line with. It is therefore not surprising that from the viewpoint of planning strategies these developments in approach have seen the same problems arise as were encountered in the past with urban and regional planning. Neither is it surprising that land use and environmental planning are now found sharing common ground on which land use and environmental questions are increasingly interconnected. The network of dominating actors in the two policy sectors, however, are not interconnected and often not even communicating. The discovery of clear and distinct interconnections between the respective fields of action has paradoxically corresponded to a systematic strengthening of the sector specific approach on the level of the mechanisms governing the implementation of policy.

This seems to be one of the major reasons lying behind the failure of the Lambro, Seveso, Olona plan as it was originally defined.

4. Breaking the vicious circle of planning: the difficult search for effective tools of government

A solution to the various dilemmas of the planning process was sought by the Technical Group set up by the Institute for Regional Research (**). It moves in three main directions:

- a. emphasising the the comprehensive nature of the planning policies while at the same time renouncing central and co-ordinated control of them;
- b. the setting up of institutional structures in which the various political, economic and social protagonists of the individual sector policies can come together so as to facilitate communication between actors belonging to different sector networks but sharing the same geographical territory;
- c. towards a strategy that is not based on central organization of intervention but on the one hand on networking of existing policies, plans, agencies, and on the other hand on pilot projects and active policies aimed at encouraging innovations, even if limited, which begin at a local grass roots level and which can then be developed on a broader scale.

a. Comprehensive planning

The problem was initially tackled by producing, on conclusion of the prefeasibility study, a policy statement document for starting a process for the "Reclamation, reconversion and environmental improvement of the Lambro, Seveso and Olona river basins" (this was the title of the document IReR 1994). It suggests that the current model of development is not sustainable and recommends that the Region consider general objectives and the paths to be followed for one way of transforming the environment of the area.

It is the starting point of a process the object of which is to *de-link the comprehensive nature of the Master Plan from the attempt to assert overall control.*

The document proposes a new way of looking at the development of the area in terms of an overall project which on the one hand directs attention towards the problem of pollution in the area making people aware of how serious it is and *on the other hand seems to be an essential stage in the process of building up consensus among all the actors involved* around possible lines of action: the creation of green areas in urban districts, recycling of refuse, the conversion of production plant, the introduction of clean technologies, etc.

In this context the purpose of the document is prevalently communicative (Fischer and Forester 1993); *it must be able to aid the creation of a common concern and language among the interested parties*, without in anyway trying to represent either an exhaustive analysis of the situation or a detailed program of the action required to trigger an environmental clean-up of the area as was done with the previous 1988 Master Plan.

In this context the policy statement recognises a series of articulated environmental systems (Fig. 1) as against the simplified view of a single city, of a single metropolitan area with one single centre (Milan) and of a vast borderless

hinterland. The recognition of environmental systems equipped with their own settlement structures, their own centres, specific social and economic characteristics, and their own particular land and environmental resources is an important step in the direction of recognising local identities covering a vast area. These may constitute the necessary premise for bringing together the interests of public and private actors, independently of administrative organisations and cutting across existing power structures moving towards a process of conversion of the development model.

It is therefore a sort of "*cultural manifesto*", a strategic scenario that does not depend on the definition of obligations and impositions for its effectiveness but more on its capacity to convince actors of the possibilities available for recovering the environment. It is a proposal that seems consistent with some emerging positions in the field of planning theory which have the objective of saving comprehensiveness in planning from the disasters of traditional comprehensive planning (Innes 1993, Benveniste 1994).

b. Institution building

While the policy statement produced in April 1994 constitutes the strategic scenario and starting point, the proposal drawn up by the Technical Group is to create a Master Plan for cleaning up the environment, as provided for by the law for high risk areas, which goes beyond the traditional logic of the analysis, planning and implementation sequence.

The construction of the strategic scenario was the first step in the drawing up of the Master Plan. Drawing up of the Master Plan then consists of a series of activities to be carried on in parallel: detailed study of individual lines of planning; experimentation of policies with a broad range of action; institutional planning.

These decisions were based on the assumption that the great complexity of the area could not be dealt with using centralised mechanisms and tools of government nor did it lend itself to the construction of a detailed and exhaustive overall picture which could be provided in sufficient time.

This means on the one hand that study and planning resources must be used selectively and be targeted and on the other hand that the *difficulties of analysis must be got around by using a rich mix of analysis and interaction* (Lindholm 1975) relying on immediately mobilising the actors concerned and exploiting action systems that are already working in the directions indicated by the strategic scenario.

The idea is strictly tied to the vision of planning as a process and the adoption of incentives rather than compulsory policies. It is basically that of a "lightweight" institutional set-up based on a Planning Agency of technical nature having no formal powers, flanked by a Consultative Committee that would bring political actors together for exchange and discussion of environmental policies and act as a sounding board with regard to the general public and other institutions.

The **Planning Agency** consisting of a small group of experts covering the various sectors involved would carry out the following:

- co-ordination of research projects aimed at drawing up and managing planning policies in the various sectors (e.g. antipollution, urban planning, socio-economic and energy sectors);
- co-ordination of planning and monitoring for pilot projects;
- assessment of tenders for the access to the financial and technical support for public and private initiatives;
- functioning as a "focal point" for existing data banks on the environment with the aim of making information as accessible as possible for all concerned in the planning process;
- consultation of public and private bodies in general and promotion of the objectives and contents of the planning policies;
- monitoring and auditing of the implementation of policies aimed at stimulating the actors involved into implementing the policies.

The Agency should draw its authority from its sound technical capabilities and from its ability to mobilise and coordinate actors with formal power rather than from its ability to impose choices from the top-down.

On the other hand, the **Consultative Committee** should constitute the permanent *forum* for orientations, discussion and the presentation of planning proposals made by the Agency. All public and private bodies (public authorities, associations, cultural organizations, groups of local authorities, business, trade and labor union organizations, etc.) concerned in the implementation of the Master Plan should be represented on it.

c. experimental, incremental and bottom up approaches

The strategy for the construction and implementation of the Master Plan is based, as already mentioned, on carrying out a series of experimental activities.

These involve the experimentation of new relationships between institutions with the aim of promoting regulatory policies that have already been identified (as is the case with the enforcement of some EEC regulations). They include above all the setting up of pilot projects at local level, which commit the Planning Agency to recognising, supporting and spreading innovative experiences in the various fields of environmental conversion.

The reasons for this type of action lie on the one hand with the need to trigger positive processes immediately without waiting for a Master Plan to be drawn up and on the other because the nature of the problem itself (uncertain consensus on objectives and *often unknown technologies* according to the scheme proposed by K. Christensen 1985) dictates the choice of experimental strategies capable of favouring and spreading innovation.

5. A few questions to conclude

Is it possible, in such an informal manner and so far from the normal approaches that rely on central co-ordination and the setting up of strong hierarchical links between the institutions involved, to deal with such a *wicked problem* (Rittel and Webber 1973) as that of changing the development model of a vast metropolitan region? Aren't these instruments too weak and out of proportion to the size of the

problem to be tackled? Is there any sense in relying on *enabling policies* and on *consensus building* strategies in a situation like that of Italy characterised by an out-of-date bureaucracy and a highly turbulent and conflict-filled political situation? What we certainly do know is that other traditional type strategies employed by the 1988 Master Plan have failed for a number of reasons. The *joint action* required from the many institutional bodies on which the implementation of the Master Plan depended was too complex. Given the multidimensional nature and widespread and very varied causes of pollution in the area, the strategies employed were intrinsically incapable of dealing with it. Most importantly, however, the Master Plan was not designed to deal with the general relationship between the socio-economic and land use system of the area and the resultant pollution. It is therefore one of the most classic failures of a complex policy along the lines already described by Pressman and Wildavsky as early as 1973 in their book *Implementation*. The solution, however, can no longer be "more of the same", more hierarchy, co-ordination and resources because the complexity of the problem will not allow it. The experience described is that of an attempt to move in the opposite direction of reframing the problem and the possible solutions.

Furthermore, examples of environmental policies that have moved in the same direction do exist. One of the most well known in Europe is that of the IBA Emshar Park in the Ruhr where a public sector cultural institution (IBA) managed to trigger substantial environmental conversion processes in one of the most badly polluted areas of central Europe. It did this through the totally voluntary involvement of public and private bodies in the project (Siebel 1993).

Experiences of growth management in the United States or more generally of consensus building strategies to deal with environmental or regional planning problems present the same characteristics (Innes, Landis and Bradshaw, 1993).

They deal with the problem of causing interaction between institutional and non-institutional actors belonging to different networks with the objective of favouring co-ordination and mobilisation as an effect of interaction and not as an imposition. For the last year, action in Italy has been paralysed by radical conflicts between new and old political parties who have removed the main protagonists of this affair both at a national and a regional level and prevented any decisions whatsoever being taken. The next few months will show whether the proposals described here will take effect.

(*) This article is an elaboration of a paper presented to the Urban Affairs Association -25th Annual Meeting - in Portland, 3-6 May 1995.

The approach to planning problems that underlies this experience has been already presented and discussed in the issue n. 6 of *Regenerating Cities* in two articles written by Paolo Fareri and by myself.

(**) The Technical Group responsible for the work reported here (IReR 1994) was formed as follows: A. Magnaghi and C. Cagli (coordinators), A. Balducci, M. Borasio, B. Della Vedova, C. Francia, A. Lanzani, S. Malcevski, M. Prusicki, F. Saldini, G. Scudo.

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