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Sustainability and urban planning processes.

An integrated tool for sustainable urban management.

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#### 1. Some elements of conflict between territorial and economic planning.

In recent times, the political debates regarding the choices concerning economic planning are increasingly directed towards ideas of development which are shown to be compatible with problematic social and environmental issues, or rather, following that which is today known as sustainable development.

There is a conflict of interests, in Italy, between these objectives, given the high level of unemployment and the existence of many areas in economic crisis, with places where development mechanisms are stagnating and relevant systems in these areas are unable to compete. These conditions have brought an increase in the demand for modernisation and have placed the communication network, innovation in production, the employment market, economic liberalisation, reduction of administration, de-regularisation and simplification of decision-making

into the centre of attention. In simple terms, more market, less state.

There is also the consideration that in satisfying these needs, territorial repercussions could inevitably be generated, as could repercussions for the regulations concerning urban planning and the transformation of land, with particular emphasis on environmental protection, protection and defence of land and the safeguarding of cultural heritage and landscape.

In fact, the conflict between environmental planning and economic strategy appears evident, and the former, whether in large urban centres or in small to medium sized areas, is increasingly seen as an obstacle to the possibilities of productive work and the improvement of the quality of life, rather than as a reference for respecting a resource increasingly sensitive to changes.

This condition is aggravated by the lack of coordination between the agents of area planning on the one hand, and those of economic planning on the other. These latter establish, for planning, the conditions necessary for obtaining sources of funding for carrying out plans, with choices not necessarily in line with those for which planning acts were formed.

So at this point there is a systematic reliance on the repeal of law, or a push, for the entrepreneur, towards other places or situations (councils, regional government or other nations) where the economic undertaking has been seen to be faster and more secure. Following this, the conclusion is that it should not be an urban plan to determine the locational choices, but that the economic factors, and market forces, should dictate the real urban and regional assets.

However, in this view it is fundamental to understand if it is appropriate that planning of land use should be ceded completely to an exclusively private vision and if, therefore, with regard to a scarce resource such as land, it is appropriate to leave aside a regulatory instrument capable of guaranteeing public interests and social justice.

### 2. Ways to escape the conflict: participation, evaluation and communication.

From this conflict, it may be possible to escape by the definition of an asset model and the possibilities of agreed and consensual planning systems. In this way citizens participate in the planning choices and can express themselves at the beginning and not just see decisions that have been already taken. In addition, public and private powers must agree on the regional choices only when the social and economic interests are clear (Urbani, 2000).

In particular, with reference to areas where safeguarding the environment is a priority there is a need to find a path between the liberalisation of regional activities, an appropriate definition of the freedom of economic initiatives and the subordination of any particular land transformation. These

factors have brought Italian local authorities to experiment, in the management of urban and regional policies, with various tools with which to put in place conditions for decisions concerning the use and transformation of an area.

In relation to the need to combine the safeguarding and protection of environmental and cultural resources with social and economic development, people have turned to certain devices, or controls, which can satisfy the needs of regional authorities regarding four fundamental requirements: the participation of citizens in decisions, the use of due processes in evaluating the outcomes of decisions taken, control of management operations and the continual use of communication.

# 2.1 Employment of participatory practices in the government of environmental problems.

The demands of so-called participatory democracy grew in the 1960s, looking at the plans designed to define the grand themes of social and economic development. This was done to find solutions to the inherent problems of transforming infrastructure and socio-economic considerations of the territorial development in question. The awareness that these decision-making and organisational phases of planning had interested a wide range of people widened the negotiation and consultation towards a range of groups. If before such relationships were limited to principle stakeholders, holders of power, now participation is extended to secondary stakeholders (local communities, trade unions, the press, citizen groups and environmental stakeholders), whose participation is desired from the initial phases to the improved identification of the needs and wants of diverse social groups. This is designed to eliminate conflicts of interest and to increase the efforts of different groups towards a shared vision of development.

At present, among the ways to promote the use of practical participation the most common is Local Agenda 21, a partnership process for which various regional powers (councils, provinces or regions) individually or collectively (mountain communities, council unions, etc., ) operate in collaboration with all sectors of the community to define a plan of action, aimed at local sustainability.

A fundamental phase of this process is the Civic Forum. This attempts to pull together institutions, economic interests, citizens' associations and all relevant local subjects. The purpose is to arrive at a shared vision of sustainable development. Equally, this can represent the permanent consultation of the local community and as such it has the scope to recognise needs, identify the resources of each part and manage eventual conflicts of interest.

In Italy, according to the latest updates from the Italian Coordination of Local Agenda 21 (A21L,

2006), there are over 300 regional bodies that have started such processes (the regions that can boast the highest numbers of Local Agenda 21 in action are Lombardy and Emilia-Romagna) and there are over 1000 structures that, while not having started the process, are near the themes of sustainable development.

Whatever the case, even without the great range of interests, this method has shown two things. The first is connected to the scarce turnout at meetings, although this is in part attributable to the inefficiency of the process. This must be seen as being related to the lack of trust towards the promoters (A21L, 2006). It was clear that the stakeholders and the citizens did not participate in Local Agenda 21 because they did not believe the promoting bodies were really interested in the ideas derived from the forums nor following plans of action. This perception is the main cause of absenteeism among primary stakeholders, who snub the forums in favour of other, more direct, channels. However, it is essential that promoting bodies give clear signals of the value the give to the processes, in a way in which the forum is not seen as a secondary tool, but rather as a primary seat where problems concerning the promoter and the management of resources can be solved.

The second point is that Local Agenda 21 is a method which, presupposing the definition of local sustainability, needs to proceed case by case. Every case has different results for culture, resources and so on. There is a need to find the best environmental position, social and economic, and also to use suitable ways to resolve specific problems in their specific contexts. It would be useful to have a definition and application of participation based on flexible guidelines and adaptable to specific situations.

# 2.2 The use of monitoring systems and environmental evaluation.

Another requirement, also derived from the application of strategic planning, is the need to look at the processes, the objectives of which are improving the quality of decision-making by the regional government. This need has taken evaluation to the centre of the process (Fusco Girard and Nijkamp, 1997) and, therefore, a concept inseparable from the process (Khakee, 1998; De Montis, 2003). This scenario has to take into account the two ways in which evaluation was placed into the decision-making process. The evaluation of environmental impact, developed in the early 1980s with directive 85/337/CEE, has the scope to identify, describe and evaluate the environmental compatibility of private or public projects, and the effects thereof, before their realisation. Furthermore, there is the strategic environmental evaluation, introduced with directive 2001/42/CE which, with respect to precedents, is on a higher level, inasmuch as it undertakes the evaluation of

environmental planning in such a way as to guarantee that any consequences, for example to social or economic order, are adequately analysed in the initial stages of planning (Sadler and Verheem, 1996).

In applying evaluating methods it is necessary to guarantee the option of noting, measuring and evaluating the modifications and eventual concerns of the region concerning the execution of plans. For this, environmental indicators are essential, the principle factors from which it is possible to construct the cognitive base of the territory and carry out any necessary evaluations of the consequences of human activity.

In particular, there is a branch of research which looks at measures and indicators that can express the environmental impact of economic processes in physical terms. The result produces aggregate indicators (for example, Ecological Footprint, which measures the space given to resource production and absorption of polluting emissions relating to the operations of specific communities) which show, in a single measure, the environmental effects and point the way to eco-efficiency and sustainability. The application of these indicators has shown a limit, as they require a notable amount of information relating to the consumption of resources and of goods, to cultural exchanges, the technological efficiency of industrial processes, agricultural production, etc. This information, available at a national level, is difficult to obtain at a local one.

With respect to these indicators, environmental accounting is an easier method. The application to public administrations, already advanced at the Conference of Rio de Janeiro and taken up by the European Parliament in 1995, is hoped to induce a system able to gather, manage and communicate information and data relating to the economic aspects of a public organisation, often local government, that is involved with environmental problems. In this way, it becomes a useful tool for taking correct decisions in fundamental areas of management which are, for example, associated with the location of sites, residential or productive, waste management, energy consumption, transport problems, etc.

In line with this, the first European project of accounting applied to local bodies known as CLEAR (City and Local Environmental Accounting and Reporting) has taken place. Financed by the Life Ambient programme, CLEAR has finished its first stage with the drafting of the experimental environmental accounts of local bodies, for the most part Italian (among these are the administrations, provincial and council, of Reggio-Emilia, Modena and Ferrara, the provinces of Bologna and Naples and the council of Varese Ligure, the first Italian council to obtain the environmental certificate ISO 14001) and with the draft of a reference manual. The second phase has now been concluded with the campaign "Facciamo i conti con l'ambiente" and the reinforcement of the network between councils and provinces that adopt environmental accounting

and consolidate the method. The third phase has been started with the objective of integrating the environmental accounting and the environmental certificates, a plan of urban environmental management being finalised in line with the European Union's announcement "Towards a Thematic Strategy on the Urban Environment".

Unfortunately, at a political level, the proposition to adopt environmental accounting for public bodies is still in a phase of debate: the first bill of environmental accounting, resulting from the collaboration between the Senate Environment Commission and CNEL, was presented in 1998, approved by the Senate in July 1999, but was unable to arrive in the Chamber of Deputies before the end of that legislative term. In the next legislature, it was joined with three other bills in one measure that passed the examination of the Commission but was not able to reach discussion in the Chamber.

# 2.3 Implementation of certified systems for environmental management.

For the management of the execution of the planning options, referral can be made to the use of systems taken from a business sphere and imposed on decision-making processes regarding land use. This deals specifically with devices which go under the name of environmental management systems, that refer to a complex system of management dedicated to the guidance of relations between human activities and the environmental context in which the organisation operates.

But, other than to show the work local governments can do to contain and gradually lessen the impact of activities and structures on the environment, environmental management systems are today also a guarantee for a model of regional government looking towards a balance between economic growth and the quality of life and of the environment (Verdesca and Falorni, 2003).

Increasingly, in fact, besides the objectives such as the reduction of energy consumption, the increase in efficiency of management systems concerning water supplies and sewerage or the reduction of the environmental impact of waste, there are more strategic aims such as the improvement of urban areas and the reduction of vehicles and the fluidity of traffic (Cavriago Council, Emilia-Romagna). There is also the aim of increasing pedestrian areas and cycle paths (Grosseto Council, Tuscany); the increase of green areas in neighbourhoods and the improvement of urban parks (Camerino Council, Marches); the improvement of hydro-geological assets and protection against forest fires (Comunità Montana Alta Val Polcevera, Liguria); the promotion of sustainable tourism (Jesolo Council, Veneto); the return of artisan workshops to safeguard cultural heritage (Santa Caterina dello Jonio Council, Calabria); the evaluation and renewal of architectural

areas in historic centres (Varese Council, Ligure, Liguria, the first public body to receive the UNI EN ISO 14001 certificate, in 1999).

Among the tools available for the articulation of these organisational systems, the most used are the EMAS Community Regulation and Regulation UNI EN ISO 14001. These do not present great differences, in fact now EMAS II (01/761/CE) refers to UNI EN ISO 14001 as a standard base for the implementation of environmental management systems. The fundamental difference regards the objectives of improvement that, in the case of EMAS, have to be quantitative, inasmuch as the purpose is the pursuit of improvement in the environmental performance and it is not possible to define the results in a clear way. For the same reason, in the application of EMAS the environmental objectives must be well identified at the time, so that it is clear when they are being followed.

At the end of the evaluation of the systems' applicability, some Italian administrative bodies (with the Province of Bologna at the top of the list) have moved forward, within the European programme Life, with the Tandem project. The object of this is to define the methodology of work to ease the application and spread of EMAS to public bodies operating in a wide area, and in particular to evaluate the possibilities of coordination with the processes of Local Agenda 21.

# 2.4 The use of tools for environmental communication.

Environmental communication has assumed a fundamental importance most of all with reference to the objectives found by the consensus of stakeholders, in light of the premise that majority consensus equals a competitive factor.

There are many effectiveness requirements that environmental communication must have. In the first place it must be transparent, it must guarantee the technical and scientific accuracy and credibility of the information and it should be presented in a way so as to be sensitive to the subject of the communication. Secondly, it must be open, in terms of exchange between parties, and must be able to listen and involve varied participants. It must also be a continuous process, towards a systematic relationship and in time build an impression of trustworthiness.

The systems of the environmental communication, originally used in business and now a part of regional organisation, are three: environmental accounts, environmental relationships and the environmental declaration.

The environmental account is, in a business sphere, the document which shows data accounting and the relevant environmental information. It represents, quantitatively and qualitatively, the type of impact a business has on an area, whether the consumption and impoverishment of natural resources and polluting emission, or economic and financial efforts to protect the environment.

This environmental account, transposed onto the management of territorial processes and the consequences thereof, becomes a document that, in the field of regional bodies' jurisdiction, registers, for example, how much waste is produced, how much water is consumed, how much land remains undeveloped, if and how green land has increased or decreased, levels of air pollution, energy production and consumption, how many resources have been subtracted or made available. As such, it is not limited to only numbers (physical and/or monetary), but also indicators of environmental results.

The environmental relationship, however, is an informative document which contains principle information, quantitative or qualitative, on the management and environmental performance of an organisation, with the scope to inform stakeholders on the results of actions taken and on improvements in environmental resource use and minimization of pollution.

It is usually made of two macro sections. The first describes the activity being carried out, the environmental policies, the general objectives and initiatives developed to mitigate and keep the environmental pressure of any activity under control. The second is a quantitative section that puts together the physical principles which characterise the pressure on the environment, the costs and the environmental performance indicators. These two sections come together to illustrate the economic strains in terms of management cost, investments and research and development in the environmental field.

The environmental declaration is a public communication document that agencies and bodies adhering to the EMAS Regulation must compile and distribute after the initial environmental analysis or the completion of every audit or audit cycle. Among the objectives of EMAS is dialogue between other interests in the area of operation, to which the publication and distribution of the document is directed. It synthesises the main environmental questions connected to the activity of an organisation and the results regarding the minimization and prevention of impact. Furthermore, the credibility and compilation of the information must be assured by an accredited environmental agent.

Examples of the first communication tool can be found in the results of the Clear-Life project. Examples of the application of relationships and of the environmental declaration can be found in the documents of the Committee for the Organisation of the XXI Winter Olympics in Torino. This involves the field of implementation procedure and environmental management for EMAS registration.

#### 3. A HYPOTHESIS OF INTEGRATION AND COORDINATION BETWEEN DIFFERENT SYSTEMS.

The analysis of the systems in the preceding paragraphs and the study of each, in numerous cases, has identified efficient and effective ways to apply the systems to asset choices in an area. This includes possible integration in planning process so that results can be coherent with the aspects of the social and economic realities of the community.

The investigation into the best practices has noted how such tools are activated and operated, concerning choices for territories and land transformation, with all possible results. This, however, comes in a manner distinct from the real processes of the planning. Hopefully, it will be the coordination of these tools or systems of participation, evaluation, management and communication of environmental aspects with the systems which control regional assets, or with the systems of planning, urban and regional, not only at an applicative level.

At an operational level, there are already significant points which can be seen from the integration of these systems. To cite just one example, the aforementioned Committee for the Organisation of the XXI Winter Olympics in Torino, 2006. Here they worked for both the ISO 14001 certificate and EMAS registration (with the draft of an environmental policy document and an environmental declaration) for the execution of an environmental report. This also produced a sustainable relationship report, for the implementation of ecological acquisitions, the activation of Local Agenda 21 of the Olympic Movement and for the activation of procedures for ecological label.

At a more general level, however, the integration of these systems in planning was not reached. One possible solution to this problem came from the Department of Land Engineering of the University of Cagliari and his research activities. The possibility of experimentation for this research theme in the field of the group work "Evaluating environmental strategy and regional government", by the association of environmental analysts, was being evaluated.

The idea is to prepare, at the draft stage of the plan, an introductory phase of definition and preparation taking in the local entity concerned, systems and the structures that are indispensable for the execution of urban planning and for the successive phase of managing the use and transformation of a zone.

This introductory phase could articulate, in four sequential points:

- organisation of management procedures, and the implementation thereof, in administrative sectors directly involved in the processes for sustainable regional management and operating towards codified systems and protocols;
- 2. participatory institutions to involve and inform the local community;
- 3. construct a regional and structural picture of the evaluation and control systems for outcomes of

- the planning choices;
- 4. organisation of communication, in particular the drafting and availability of documents to convey the information regarding the state of the area and the outcomes of planning.

# 3.1 Implementation of certificated systems for environmental management.

The first thing to put into place is a management system, the activities and outcomes of which can be seen (for this, see ISO 900 on system quality, ISO 14000 on environmental management systems and the EMAS regulation). It will be necessary to impose specific procedures that permit the evaluation and recording of all the regional body's activities, in particular environmental aspects, social and economic, an appropriate level of priority given to each specific question, the proposed functions of these activities and the surveillance of these activities. Most of all there is the verification of the local body's behaviour in relation to the objectives of improvement and eventual action if the plan is not followed.

Other than the implementation of management systems, there is the need to bring back the environmental accounting system, that in this case has the task of measuring the solidity of natural resources, flux and change thereof, the effects of human nature on the environment (Giovannelli, 2000) and in particular to take account of what economists call outside factors. In practice, these are the environmental effects that cannot be foreseen and cannot be given monetary value.

# 3.2 Employment of participatory practices.

The second thing, participatory institutions, coincides with the Civic Forum as a permanent meeting place where various groups, bringing conflicting interests, have the possibility to share a view of sustainable development at a local level and to follow the planning processes.

There could be many different participants involved. In general there will be five main categories (Pareglio, 1999): local authorities, citizens, interest groups, local business and government agencies (meaning regional bases for guarding national or regional interests). In any case, the different elements of the Civic Forum must be able to represent all the varied parties in the best way possible. The President of the Forum is particularly important. This role concerns facilitating the exchanges. For this, the President must be able to encourage and move the participants, to keep order and referee the group debate, to mediate between different interests and most of all to motivate and

solicit the collective and individual qualities present. The President must be decisive in making choices while also being open to others' opinions. The imposition of personal decisions must be avoided, the forum must be managed in a democratic fashion, giving way to everyone to express themselves and the domination of a single group must also be avoided.

# 3.3 Use of environmental evaluation and control systems

The third thing is the construction of a regional picture and the structuring of evaluation and control systems of outcomes derived from the realisation of planning decisions. This is an essential phase for understanding problems of local sustainability and, in consequence, for the success of the planning because the picture allows all the elements relating to the region to be fixed together, the imbalances and the possibilities and with the definition of choices inherent to use and transformation of land.

Characteristic elements of this phase are environmental indicators. The choice of these represents one of the most complex moments because their use must allow simplification of integration regarding sustainability themes, facilitating the identification and systematic analysis of changes and trends in environmental areas, economic and social, and giving a useful support to decision-making processes.

In this scenario, these functions must be carried out in many ways. In particular, they have to help and understand the correlations between different phenomena at local level and among these, the corresponding problems at a global level. They also have to anticipate problems and promote the adoption of long-term strategy, allowing the efficient monitoring of actions taken, increase collaboration between local councils and between these and higher levels of government. In addition, they must let local communities interact, giving reference points to better understand the situation and to elicit competition from other local communities.

To define the environmental indicators which refer to specific regional areas, one can look to the international and European agencies which have compiled lists of indicators. This, however, is a preliminary reference that does not give a universally valid list but rather a base from which to choose the indicators most suitable to the area in question, whether economic or social.

In this field, the indicators used to make the regional picture and evaluate and control the execution of the plan must satisfy four specific criteria.

First of all, all this must be relevant to sustainable development policies. Being an instrument with which to identify objectives and target and verify effectiveness of strategies and lines of action for

following sustainable goals, the chosen indicators must be coherent with the objectives, represent local conditions, the pressures on local and global resources, the relevant national and international policies and manifest the connection of responsibilities concerning regional planning.

Secondly, the indicators must be able to steer the decisions and the behaviour of public authorities and private concerns. Considering their communicative use, these indicators must be able to simply show the effectiveness of policy choices and must therefore be comprehensible for the public, whether as restraints or as elaboration and return of data.

Thirdly, indicators must be scientifically valid. The chosen indicators, other than demonstrating themselves to be credible and reliable in gathering and measuring data and guaranteeing the comparability of estimates and measures taken at the time, must be adaptable to the socio-economic and environmental context. They must also be sensitive to changes and the phenomena which they are intended to describe. In addition, the indicators must be able to represent the differences in performance between the region in question and other regional fields of interest.

In short, they must show themselves to be applicable to the area in question. The existence, availability and reliability of data is highly important, as is the frequency of updates as well as the costs and time needed for the gathering and elaboration of data. In this sense it is fundamental to activate all possible synergies between sectors and bodies where data are found.

# 3.4 Organisation of communicative aspects.

The last part of this phase concerns the organisation of communicative aspects, and is as important as other parts because it sees the drafting of documents to transmit information to the community. This information regards the operational results of the introductory phase and in particular the results of the environmental accounting procedures and the construction of a cognitive regional picture.

This phase foresees the drafting of two fundamental documents: the Sustainability Account and the Report on the State of the Region. The first is a document aimed at integrating, in one act, the relative accounts of three aspects of sustainability: environmental, social and economic. Thus it is possible to illustrate the capability of an organisation to manage the balance between the three variables and implement itself as a system of planning and strategic control that analyses the regional management process and verifies the capability of developing in a sustainable manner. It examines the various capabilities of local organisations and the corresponding activities referring to problems of sustainability. Then it can identify for each the relation between the three factors and

the fields in which this balance is most difficult to achieve.

Instead, the Report on the State of the Region represents the result of the regional picture. On one hand, it has the scope to inform the public, giving important information on the state of environmental factors, social and economic, in the area. On the other hand, it brings a technoscientific communication to impose on every decision on use and transformation of an area, on the base of indicators from the regional picture.

#### 4. CONCLUSIONS.

The hypothesis of the formation of urban planning in the introductory phase appears to be, at least on paper, a path which can be followed effectively.

In fact, it is notable that in this way the process of formulating the urban plan is transformed in a complete system managing the uses and transformations of the environment.

The build up of knowledge, expert and everyday, is drafted in the report on the state of the region, and the definition of environmental policy is presented in appropriate practical participation, to arrive at a shared local vision of development.

Environmental management systems refer to, specifically, the organisational structure, planning activity, the responsibility, the practices and procedures, the processes and resources needed to develop, put in action, re-examine and improve the use and transformation of an area.

Thus the planning procedures will be smoother, most of all for administration and for local bodies already orientated towards sustainability and among those active in an un-coordinated manner but with valuable results nonetheless. These are the important systems which, in the field of sustainable development, make policy and coherent strategy possible.

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