

Research

A Methodology for Participatory Local Environmental Planning⁽¹⁾

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Abstract:

Many of the current procedures and tools of urban and environmental planning may need to be revised and developed at a local level to achieve more sustainable cities and neighborhoods.

Furthermore, since the activities of a community would have direct impacts on the environment, many views of planning recognize that good plans spring from the local community. But how can communities be planned and developed that will meet both human and environmental needs?

"Local Environmental Plans" are starting to be known as one of the most utilized tools to explore such needs. But it should be recognized that people intervention does not just happen. The most active participation in planning is found in those communities where involvement is planned and managed accurately.

In addition, a plan will never achieve its goals unless it can be implemented. This reveals another significant barrier to achieve sustainable cities, which is the absence of a clear articulated method of implementation.

Therefore, in this research an attempt has been made to develop a relatively inclusive methodology to produce and implement "participatory local environmental plans". It has been achieved by analyzing and comparing some case studies of such experiments in other countries.

The main and first basis of this methodology is to establish an independent and empowered local organization consisting of any local interest groups, for every small city or neighborhood which is going to be changed. Then, all the steps of producing and implementing participatory plans will go through that organization, its structure and members.

Key words:

Sustainable Cities, Community, Participation, Interest Groups, Implementation, Local Environmental Plan, Organization.

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Introduction

The concept of sustainability is increasingly becoming a goal of official city plans, and is also informing architecture, urban planning and design and many other disciplines, especially environmental planning (Wheeler and Beatly, 2004). Environmental Planning toward sustainable development - as any kind of planning - needs to be set in a hierarchy of global, regional, national and local (urban and rural) levels. It is obvious that development programs will be transformed from policy to action while moving down to lower levels.

Considering "local" as where we experience the environment, local construction and settlement configurations are the major determinants of environmental degradation. Thus, it seems that desire for sustainability must be first subtended locally, (Warner and Molotch, 2000).

Cities, within the local scale are the most important causes of damage to natural resources, and also the most damaged and hazardous environments. It would significantly reduce demands and pressure on the planet's resources and ecosystems if urban practices were to be improved (Nelson, 2001; European Research, 1999; McMakin et al.2002, Faryadi, 1383). Addressing this idea, Agenda 21 - which is the most valid global guide yet - calls for local governments to prepare sustainable action plans. It is emphasized that global aims should be developed by local planning in cities and this could be done through setting the implementation tools and effectuation of plans (Agenda 21, 1992). These issues lead us to ask

how we could ensure the implementation of such a local plan in cities.

Cities, as physical environments, have an impact on community's behaviors, and interdependent citizens are interested in the maintenance or enhancement of the places to which they feel attached. That means all individuals exist as interdependent members of communities, and communities share large complexes of commonalities, beginning with common physical and cultural environments, or "commons". Thus, when there are some actions taken by people (even when they are a small minority of the community) in quick succession, or all at once, the effect can be disproportionately large (Ayres, 2003; Mazmanian and Kraff, 1999; McMakin et al.2002; Faryadi, 1381; UNDP, 2003).

Consequently, local plans and targets are also dependent on local community and authorities, as they are main stakeholders. This leads us to a considerable answer to the above question, which is local planning with "*public intervention*" (Maldonado and Merrill, 2000; Nelson, 2001; Faryadi, 2004, 1383; Srinivas, 2004). Therefore, setting environmental local plans in a cyclical process from policy to action needs to be accompanied by "*public participation*" since even the participation of a single person would be of much influence (Mitchell, 1996; Maldonado and Merrill, 2000; Layzer, 2002; Carmin 2003).

Briefly, the main aim of this research is to formulate a basic methodology (or framework) to set and implement "local environmental plans with public participation" in cities and

neighborhoods. Such a methodology should be based on global values (to cover global sustainability aims) either as a logical process or as a formal/documented local environmental planning tool. The parameters of such a framework have been achieved through a comparative analysis process first. Then it has been set, completed and presented in a more organized shape. It is obvious that this methodology should be applied in some real case studies in Iran, so that its limitations and potentials would be recognized. Thus, it has to be considered as an "ideal type" for a participatory local environmental planning, which has to be adapted to characteristics of any local environment.

Methodology and research methods

The structure of this research is based on inductive logic, and comparative analysis has been used as the main method to test the goals of research. First, nearly forty occasions of environmental participatory planning case studies were studied and analyzed which took place in many different neighborhoods, cities and regions of the world. Many important aspects of local environmental planning have been extracted as the result of this phase. These aspects were then categorized and organized as the common parameters of a model for comparing the main case studies. These parameters are set at the right column of the model (following table). After that, the most interesting, complete and successful case studies, were selected to be compared in detail against the parameters of the model. These are

Mosonmagyaróvár-Hungary (Peter and Csepiga, 1996), *Stocksbridge*- England (Local agenda 21, 1998), *Horsens*-Denmark (Municipality of Horsens, 1996), *Richmond*-Canada (The University of B.C., 1995) and *Tangail*- Bangladesh (Rotterdam Seminar Report, 2000). The analysis of the results of the comparison revealed the constraints and potentials of each experiment. Then, the best specifications of a participatory local environmental planning which were emphasized in each experiment were extracted. Finally the extracted aspects were categorized and completed so as to form a participatory local environmental planning methodology consisting of set stages. A short comparison of the two main case studies is presented through the following explanations and tables.

Case Study1: Stocksbridge Local Agenda 21 Stocksbridge, Sheffield, UK

Stocksbridge Local Agenda 21 was established in January 1998 when a team of Local Agenda 21 workers, (Helen Pick Ford and Claire Wilson) was appointed to carry out Local Agenda 21 objectives in the Stocksbridge area. The idea of Local Agenda 21 for Stocksbridge was first initiated by Stocksbridge Training and Enterprise Partnership (STEP), a voluntary organization which sought to provide job training and help to create new businesses in the area. The project was funded for 12 months, and the two Local Agenda 21 workers had to produce an action plan to develop Local Agenda 21 initiatives in the area. Stocksbridge Local Agenda 21 was considered as a part of

Sheffield's "Living City" initiative to provide a more friendly title to the issues of Local Agenda 21. A living city is one which "provides opportunities for everyone to earn a living and live a good life, but recognizes that this can only be achieved by working in harmony with the living environment which supports all of our lives"(Local agenda 21, 1998). It had been recommended that Stocksbridge Local Agenda 21 be used as a guide to assist the community in planning their own sustainable community for the 21st century. It was aimed at utilizing the potential of communities to take action for sustainable development.

Case Study 2: Sustainable Communities Program in Hungary; Local Environmental Action Plan (LEAP) for Mosonmagyaróvár

The Local Environmental Action Program (LEAP) is a participatory process for a regional or local community which leads to concrete environmental investments. LEAP involves setting environmental priorities and selecting the most appropriate actions for addressing priority environmental issues in the community. LEAP provides a forum for bringing together a diverse group of individuals - sometimes referred to as a "Stakeholder Group" - with different interests, values, and perspectives. These individuals worked together over a 12-24 month period -

in partnership with the regional or local government - to agree on common priorities and actions for addressing environmental problems in the community. These priorities and actions are compiled in an "Environmental Action Plan" that serves as a blueprint for future environmental investments in the community. Recommendations from the environmental action plan are then incorporated into the decisions of the regional or municipal council and other implementing bodies. The first LEAPs were implemented in Bulgaria and Hungary in the early 90's, and have also been implemented to some degree, in most Central and Eastern European (CEE) countries. For the Hungarian project, the "Comparative Risk Methodology," developed by the US Environmental Protection Agency in order to set environmental priorities, had been adopted according to local knowledge and opinion. This method helps merge the views of both experts and the public. It was used to develop local environmental action plans in two cities, Mosonmagyaróvár and Satoraljaujhely, of which the first one is presented here. This 18-month project was initiated by the Institute for Sustainable Communities (ISC) in Vermont, USA; the Independent Ecological Center (IEC)- in Budapest served as the local project coordinator.

Comparing Model: Two Case Studies of Local Environmental Planning Projects

Name of Project → Comparative ↓ Parameters	Case study 1: Stocksbridge Local Agenda 21 Stocksbridge, Sheffield, UK	Case study 2: Local Environmental Action Plan for Mosonmagyarovar (Hungary)
Organization (producer)	Local Agenda 21	Independent Ecological Center (IEC)
Organization Members	A team of Local Agenda 21 workers	<ul style="list-style-type: none"> • Institute for Sustainable Communities(ISC) • Independent Ecological Center (IEC) • Local government(municipality) • Local residents • Citizen committees <div style="margin-left: 20px;"> { Policy Committee (PC) } Technical Committee </div>
Responsibility of Members	To carry out Local Agenda 21 objectives in the Stocksbridge area the Local Agenda 21 team had compiled the action plan. They also gathered Information through official sources, purpose designed questionnaires and ground field surveys. All quantitative data had been entered into a database and a GIS had been established containing all data to be used to combine spatial statistics and identify issues of concern.	<ul style="list-style-type: none"> • ISC-To provide financial assistance to develop environmental action plans, trainers, and a study tour. • IEC-To provide organizational and technical assistance through a project director; coordinating the project, and to create publicity. • Local government -To recognize and support the project officially, manage the program, provide office space and a local coordinator, and provide additional financial assistance. • Citizen committees-To work on environmental problems evaluation and strategies selection. • Local residents -To be consulted at every phase of the process.
Area Characteristics	Stocksbridge is an outlying district of Sheffield, 13,000 people, where over 80% of the built up land is suburban (medium density) in character (A.R.Beer, 1998).	Mosonmagyarovar, 30,000 people, lies in the northwest corner of Hungary, close to the Austrian-Slovak border. The city is on the main highway between Budapest and Vienna, and consequently suffers from traffic congestion and air pollution from automobile emissions.
Project Goals	To produce an action plan which will layout what the future of Stocksbridge could hold. It will contain general information about resources in Stocksbridge and how they can be better managed to produce a sustainable Stocskbridge, with an emphasis on people informing, educating and participation.	ISC launched the community action project in order to demonstrate community-based, environmental decision-making and action in Hungary, and to demonstrate the application of Comparative Risk Assessment Methodology as a basis for prioritizing environmental protection at municipal level. This goal is carried on by producing a " <i>Local Environmental Action Program</i> " (LEAP).

<p>Aims and Objectives of Action Plan</p>	<ul style="list-style-type: none"> • To provide an overview of the resources available by the community on Stocksbridge ; • To research the issues which affect the quality of life of people in the area; • To identify and assess issues and priorities in the area • To assess public attitude towards their local environment; • To raise awareness of Local Agenda 21 ; • To foster community networking and community participation; • To act as a guidance for the community; • To carry out Local Agenda 21 projects; • To act as a yardstick to measure changes in the future and evaluate the success of actions towards the sustainable environment in the area; • To make recommendations for future actions and policy ; • To provide an information base for action. 	<ul style="list-style-type: none"> • To develop local environmental action plans which are based on wide consensus; • To adapt the Risk Assessment process to the political, economic and social realities of CEE countries; • To increase replicability of the methodology by developing training materials tested and proved in Hungary; • To improve the skills of Hungarian government officials, social and technical professionals, NGOs, and citizens in techniques of collaborative decision-making, environmental analysis, conflict resolution, public participation, strategic planning and program implementation; • Continue to attract national attention on sustainable communities through the national and professional media; • To draw the attention of the national government to community sustainable development projects.
<p>Program Phases</p>	<p>1 To produce an agenda for action, containing identification issues and priorities, what needs to be sustained and what needs to develop and change;</p> <p>2 To develop programs of action, to put forward suggestions on sustainable projects and to create a better quality of life for everyone in the area;</p> <p>3 Continuous support and monitoring to ensure they are running on a sustainable basis, through the sustainability indicators of measurement;</p> <p>4 To draw a vision for the future of the area, where environmental, social and economic components all balance and where every citizen lives in an equitable society and have a sense of identity and belonging.</p>	<ol style="list-style-type: none"> 1. Project organization and initial training; 2. Identification of local environmental problems, causes, and priorities, 3. Identification of various strategies for actions and setting up the entire environmental action plan 4. Develop the Implementation Plan.

<p>Concern Areas of Problems</p>	<ol style="list-style-type: none"> 1) Biodiversity 2) Energy 3) Housing 4) Transport 5) Waste 6) Water <p>Other Issues(Yet to be analyzed);</p> <ul style="list-style-type: none"> • Social Issues:Crime,Vandalism,Health,Drugs • Shopping • Businesses • Open Space • Agriculture • Air Quality • Heritage 	<ol style="list-style-type: none"> 1) Air pollution from traffic 2) Water pollution 3) Industrial water pollution 4) Water pollution from communal sewage 5) Red sludge 6) Dust 7) Import surface water pollution 8) Galvanic sludge 9) Oil holders and sewage sludge water
<p>Action Plan-Targets</p>	<p>There were a lot of suggestive targets at district and even family level. But considering the aim of this article which is to propose a methodology for local environmental plans, just a few examples are presented here:</p> <p><u>ENERGY</u></p> <ul style="list-style-type: none"> • Clothesline in the Wind: Hanging the washing on a clothes line rather than using an electric dryer, • To develop a Combined heat and power(CHP) system to generate heat and power for buildings and industry by using equipment located on site, • Reduce the use of fuel at district level, rethink initiatively local journeys, make shortest routes through footpaths and cycle ways, • To use Energy derived from wastes. <p><u>TRANSPORT</u></p> <ul style="list-style-type: none"> • Looking for a job in the locality or move near to the place of work and shopping locally to reduce the need of travel, • To increase the attractiveness of pubic transport, .Co-ordination of timetables, connections, tickets and prices and the mode of transport used. <p><u>WASTE</u></p> <ul style="list-style-type: none"> • To reduce, reuse and recycle items through Composting kitchen and garden waste, • To reuse materials through careful demolition and recycling of building materials, • To choose goods with minimum packaging. <p><u>Water</u></p> <ul style="list-style-type: none"> • To collect and store more water on a large scale • Use and reuse water more efficiently • To reduce demand of consuming 	<p>Taking all aspects - possibilities of municipality, costs, etc. - into account, the committees decided to narrow the Implementation Plan down and spend grant money on water quality protection, as that was the main problem. So the targets are:</p> <ul style="list-style-type: none"> • Dredging the river bed, • Cleaning the river bed and the river side, • Weeding of the river side, • Creation of a pedestrian zone with benches on the river bank, • Planting trees, • Installing new street lights • Investigating illegal effluents to the river

The Phases and Ways of People Participation	It had been noted in the action plan that “Stocksbridge belongs to the community and can be improved only if people want it to. To achieve this vision, community empowerment is needed, allowing people to make decisions, suggest, plan and implement projects. This can not be achieved without developing partnerships to come together for a common purpose and share skills, knowledge and resources”. So Stocksbridge Local Agenda 21 could be considered as a scientific base for their future participatory actions.	<p><i>The Policy Committee (PC):</i></p> <ul style="list-style-type: none"> • To manage effective public participation • To pass information gathered from the public by disseminating information in the regional newspaper • TO distribute questionnaires to local residents <p><i>The Technical Committee (TC)</i></p> <ul style="list-style-type: none"> • To collect and analyze technical and scientific data for PC • To collaborate on problem ranking
Training and Learning	Had not been mentioned.	<p>The Policy Committee (PC) were trained in:</p> <ul style="list-style-type: none"> • Community organization, • Public participation techniques, • Meeting facilitation, • Leadership development. <p>The Tech.Com. (TC) learned these skills:</p> <ul style="list-style-type: none"> • Group decision-making; • Public participation techniques; • Comparative risk analysis; • Work plan preparation and development; • Project implementation and financing strategies.
Information System	Had not been mentioned.	<ul style="list-style-type: none"> • Publishing a civic newsletter • Organizing fora at the town hall • Undertakings excursions and River Days

Results

The comparison of two studies showed that public participation was more emphasized in *Mosonmagyaróvár* than *Stocksbridge*, since setting the local development program in the former had begun at the first phase which was establishing the project organization by public participation. People had been involved in the structure of the organization in two forms; as local residents and as citizen members of the committees. In *Stocksbridge* however, the local plan had been produced first and then

presented as a guidance to improve the quality of local environment by public participation. But public participation had been later emphasized by presenting more possible and actual targets. Thus, implementing the phases of the plan by the people and determining the local authorities would be ensured if people first confirmed it.

There are also some similarities between the two studies, of which “*logical planning process*” is the most important. Both experiments included phases of: identification

of environmental problems, evaluating them, setting the priorities, and setting the goals, strategies, objectives and targets to eliminate the problems.

Therefore, it seems that *a basic methodology for preparing local environmental plans with public participation will be based on a planning process too, as it might have been guessed*. But this comparative analysis – especially in the case of *Mosonmagyaróvár* - showed that *public participation might be accurately utilized in all the steps of planning and implementing local environmental programs*. Thus, local community might intervene actively in the identification of problems, setting the objectives and implementation phases, at least. The other important result was emphasizing the *establishment of a local organization* consisting of people, local authorities, NGOs and even international organizations to improve local environmental plans. In many cases public audits were also considered in the implementation of plans. Regarding these concepts and also the results of the other three comparing experiments, finally the desired common methodology is suggested. This methodology and its components -which will be introduced later- might be considered as a formulated, integrative and logical methodology and even capable of being a legal tool for local environmental planning.

As it will be realized, in this proposal *public participation* has been emphasized in all the steps of local environmental planning, from plan to implementation. This participation

would be more effective through establishing the *“local planning and management organization”* consisting of a variety of local groups as its main members. Improving the environmental quality of places with direct and continual public involvement will be enhanced if public planning and management were to be made formal and legal through this kind of tools.

The main parameters of an EMS (Environmental Management System) have been added to the proposed methodology. An Environmental Management System is a method of incorporating environmental concern through the corporate structure (UNEP, 2001). EMS is usually utilized for some single industrial projects. This method has been developed to be adjusted to the structure of a local environmental plan which covers projects, actions and larger activities.

Proposed methodology for a local environmental plan with public participation:

1- Organization

1-1-Organization and Policy

Organization here is an independent local organization consisting of a variety of interest groups in each neighborhood or town. The policy of the organization is “to guide the whole variety of actions and activities which will have some impact on urban environment toward avoidance from pollution and deterioration of local environment and improving its quality with public participation”. This policy will be addressed by transforming

it into three main goals; 1- setting the local environmental action plan, 2- implementing the suggested action plan with high involvement of local residents, 3- checking the operations. So, the organization will be responsible for planning, implementation and operational control, with public participation. In addition, any other actions which might occur out of plan suggestions should also be coordinated with the organization.

1-2-Organizational structure

-Citizen Committees:

- *Policy Committee* (PC) consists of representatives of community residents such as citizens, farmers, industry managers, workers, parents, teachers, doctors, representatives of NGOs, and other interest groups. Policy committee consists of thirty or forty Volunteers from local interest groups who might be confirmed by citizens and municipality.
- *Technical Committee* (TC) includes local experts in environmental health, public health, natural sciences, economics, pollution control and related fields. Local professionals are preferred first and then others would be invited from nearest universities or other scientific organizations.
- *Operational Committees* (OC) consist of expert local contractors to implement the plans.
- *Audit Committees* (AC) consist of organization members and other residents

-Local Municipality representative

It is suggested in many of the case studies to

coordinate with a governmental organization in setting environmental plans to get the formal confirmations.

-International Organizations

As in the case studies, it is suggested to cooperate with some international organizations so as to be coordinated with global criteria and attract financial aid from those organizations.

1-3- Responsibilities

-Municipality:

- Governmental confirmation and support of environmental projects
- Provision of the required administrative space
- Local coordination
- Financial aid

-International organization:

- Technical and organizational cooperation in the proposed plans
- Financial aids

-Local residents:

- To put forward their ideas about different stages of environmental plans
- Financial aid if possible

-Policy committee:

- To manage effective public participation
- To gather and pass the information received from the public
- To represent a non-technical viewpoint on environmental problems
- To identify and rank environmental problems

-Technical committee:

- Cooperation in gathering and analyzing technical information
- Cooperation in setting the ranking of problems

-Operational committees:

- Implementing the action plans

-Checking committee:

- To control the quality of operational actions

1-4-Training (sectors and fields)

As it has been suggested to do all steps of producing and implementing the plans by the member groups of the organization, it would be important to improve the knowledge of its members about the environment, local environmental problems and causes, and different viewpoints and methods to solve them. This will help improve the quality of decision making, proposed plans and coordination of members. The different characteristics and needs of each environmental project will determine the main area of training, what should be taught, who should teach, and the training methods. There are different training fields which could be used for different member groups:

-Local community:

- Public training about environmental issues and their importance by local prospectuses and newspapers
- Presentation of case studies of local environmental projects and their success

-Policy committee:

- Organizational methods for effective public participation
- Simple ways of public and specific meetings
- Community leading ways toward organization goals

-Technical committee:

- Group decision making
- Public participation techniques
- Comparative risk analysis
- Work plan preparation and development
- Project implementation and financing strategies

-Operational committees:

- Operational methods compatible with project objectives
- Documentation methods of actions

-Checking committees

- Methods of monitoring, measuring and documenting of environmental impacts of actions
- Methods for checking and auditing the operations

1-5-Training methods

These are some suggestions:

- To publish local newspapers and bulletins
- To offer public and professional environmental tutorial courses
- To publish papers and guidelines
- To set workshops
- To set professional seminars and conferences

2-Planning**2-1-Identification of the environmental problems and their ranking****2-1-1-Preliminary identification of the environmental problems with public participation:**

- Public consultation with the local community (using questionnaires)
- Gathering and classifying public viewpoints
- Determining study field and visiting the problem areas
- Participatory discussion of policy committee to classify the problems

2-1-2-Professional problem identification:

- Analyzing the information gathered by (PC) by technical committee
- Determining study field and visiting the problem areas by (TC)
- Gathering and analyzing technical data related to problems

2-1-3- Classification of the problems and setting the priorities

- Conclusions of (PC) viewpoints
- Conclusions of (TC) viewpoints
- Classification of the problems and setting the priorities in a cooperative work of (PC) and (TC)
- Identification of activities which generates the problems

2-2-Formulation of the goals and objectives of local environmental plan

- Formulating the goals for eliminating the

problems

- Transforming the goals into objectives
- Evaluating the objectives based on some criteria, such as costs of impacts, costs and benefits of corrective actions, their role in eliminating the environmental hazards, flexibility, time scale, public and governmental acceptability, technical possibility
- Formulating the main strategies for future actions

2-3-Formulation of the targets of local environmental action plan

- Public consultation for targets to improve the problems
- Gathering and classifying the residents' targets
- Formulating operational targets through a cooperative work of (PC) and (TC) and analyzing public suggestions in which they could be operated by people
- Evaluating suggestions and selecting the final targets by public consultation

2-3-1- Setting the phases and ways of implementation

- To divide each target into all the required activities
- To set the operational, financial, legal and formal criteria needed for operation
- To set the time scale of operational actions
- To coordinate the necessary tools for effectuation of targets

3-Operation of targets

3-1- Documenting all key parameters of plan, including environmental policies, objectives and targets

3-2- Identifying responsibilities of each member of the organization in the operational process

3-3-Training for the technical and general aspects of operations

- Training of organization members(local community and citizen committees) for their responsibilities
- Training of contractors and foreign agencies

3-4-Reporting the details of each action by agencies (both foreign and local)

- In paper
- In electronic publications

3-5-Checking the operational actions by checking committee

3-6-Controlling the documents of operations (from environmental aspects) by the checking committee

3-7-Setting the legal aspects for the responses of organization against non-conformance of doers

3-8-Developing public communication and information

To produce effective and clear information systems by the organization will improve the legitimacy and clarity of decisions and actions. Such a system will reflect the view points of community and local authorities to the organization. Public communication and

information would consist of the following parts:

- To publish the explanations on the actions done by any of the local or foreign agents
- To conduct local meetings and report the operations of the organization or other agents
- To consult with members, vested interest groups and public
- To consult with upper authorities, and environmental organizations
- To publish in the public press articles about local environmental plans

4-Checking and corrective action

The environmental impacts of different actions will be measured and evaluated at this step. If any incompatible aspects are identified against country laws or objectives of the organization, the operation will be stopped. Then, remedial actions will be proposed by the related committees. Some checking and corrective steps will be repeated through a cyclical process during the whole implementation period:

- Monitoring and measuring the impacts of operational actions
- Identifying operations non conforming with country laws or project objectives (by citizen committees)
- Suggesting corrective actions by related committees
- Recording the environmental characteristics of actions -specially the

history of the organization's goal achievements.

- Conducting environmental management system audit – for repeated control of operational results, and monitoring them by environmental plans criteria.

5-Management review

- To review the whole structure of the organization and its plans, operations, checking at set periods
- To suggest some corrections for moving toward more local environmental qualities.

Conclusion

This research presented an innovative framework or structure to produce and implement local environmental plans with public participation. The main structure of this framework is based on the formation of a *comprehensive local organization* in order to bring about sustainability. This organization may facilitate the connections between communities and authorities which might make the decision making process become more transparent.

In addition, this study emphasized that environmental programs should include a hierarchy of global, regional, national and local levels. It also revealed that environmental innovations, for example in transportation, conservation and rehabilitation of cultural sites, reserved areas, aesthetics values and so on, might be more effective if they go through local community policies rather than national and governmental strategies. This result

emphasizes the significant role of any individual and also small urban units in the improvement of local environmental qualities. While the *local community* might be more empowered through this framework, it is also proposed that it cooperate with *science professionals* for technological decision making.

This research also illustrated that public communication and information is another basis for active public intervention in environmental plans. This might be simply developed by both new and traditional information systems.

The suggested structure should be supported by legal foundations to insure its implementation. Indeed, enhancing the public to influence their environment needs a formal context to be prepared first, as in any other areas of public participation.

In order to achieve this goal, this methodology might be simply adjusted to a *formal* environmental management as EMS (Environmental Management System). Because the proposed structure covers almost all parameters of an EMS, and also suggests establishing a local planning and management organization at the first stage. Thus, this methodology is capable of integrating public participation with legal systems of management.

In addition, the aims of governments to gradually transfer the authority of cities to the people (through city councils) have prepared a suitable realm for applying the proposed methodology.

Therefore, this structure might be considered as a *Community Management System* too, which has been recently regarded as a *potentially effective way of sustainably managing the environment* (Castro and McGraath, 2003).

But it is obvious that the application of this methodology would have to be completed with some changes based on different locations and scales of plans.

Finally, it is hoped that the proposed framework will be used and improved through research or, at least, tested in a neighborhood in Tehran.

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روش شناسی برنامه ریزی محیط زیستی محلی با مشارکت مردم^(۱) (به شکل یک سیستم مدیریت محیط زیست)

دکتر شهرزاد فریادی *

چکیده

بسیاری از روشها و ابزارهای برنامه ریزی شهری و محیط زیست برای حصول شهرها و محلاتی پایدارتر به سوی تهیه طرحها در مقیاس محلی گرایش یافته اند. علاوه بر این، از آنجاییکه فعالیت های جوامع تأثیرات مستقیمی بر محیط زیست دارد، بسیاری از دیدگاههای برنامه ریزی بر این باور هستند که تدوین طرحها و برنامه های خوب با استفاده از مشارکت جامعه محلی امکان پذیر می گردد. اما باید دید که جامعه چگونه می تواند در جهت تأمین هر دو نیازهای انسانی و محیط زیستی فعال شود. در دو دهه اخیر «طرح های محیط زیستی محلی» به عنوان یکی از کارآمدترین ابزارها برای تأمین چنین نیازهایی شناخته شده است. البته باید توجه داشت که مداخله مردم در چنین فرایندی، حداقل در شرایط پیچیده شهرهای امروز، به صورت خود به خودی به وقوع نخواهد پیوست. بلکه فعال ترین نوع مشارکت مردم در برنامه ریزی در جوامعی دیده می شود که فرایند و شیوه های مداخله آنها در تدوین طرحها مورد توجه قرار گرفته و به دقت سازمان دهی شده باشد. از سوی دیگر یک طرح محیط زیستی محلی مثل هر طرح دیگری تا زمانی که اجرا نشود نمی تواند به اهداف خود دست یابد. این نکته مانع دیگری را برای ایجاد شهرهای پایدار پیش می آورد که عبارت است از فقدان یک روش کاملاً مدون برای اجرای طرحها. بنابراین، در این تحقیق تلاش شده است تا روش شناسی نسبتاً جامعی برای تهیه و اجرای «طرح های محیط زیستی محلی مشارکتی» شناسایی و تدوین گردد. روش شناسی مورد نظر از طریق تجزیه و تحلیل و مقایسه چنین تجربیاتی در سایر کشورها حاصل شده است. اولین و مهمترین اصل در این روش شناسی عبارت از تأسیس یک سازمان مستقل و قدرتمند محلی در هر محله یا شهر کوچک متشکل از انواع گروههای ذینفع است، تا مستقیماً در هدایت تغییرات محیط زندگی خود نقش داشته باشند. با ایجاد چنین سازمانی تمامی مراحل و گامهای بعدی تهیه و اجرای طرح های اجرایی مشارکتی در قالب ساختار سازمان و با استفاده از اعضای آن انجام خواهد شد.

کلید واژه

شهرهای پایدار، جامعه، مشارکت، گروههای ذینفع، اجرا، طرح محیط زیستی محلی، سازمان.

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