PROBLEMS OF CITY MANAGEMENT AND ECOLOGICALLY SUSTAINABLE CITY ENVIRONMENTS.

Leszek B. Mroczynski

Senior Urban Fellow
The Johns Hopkins International
Fellowship in Urban Program

May 1992

CONTENTS:

I. PROBLEMS OF URBAN MANAGEMENT .. 1

1. THE REASONS AND SYMPTOMS OF URBAN CRYSIS IN POLAND .. 2

2. THE U.S. EXPERIENCE - SIMILARITIES AND DIFFERENCES .. 4

3. URBAN PLANNING IN POLAND AND IN U.S. .. 6

4. CITIZEN PARTICIPATION IN URBAN PLANNING ..10

5. RECOMMENDATIONS FOR SPATIAL POLICY CHANGES AND THE PLANNING PROCESS IN POLAND .. 15

II. PROBLEM OF ECOLOGICALLY SUSTAINABLE CITY ENVIRONMENTS .. 17

1. THE NATIONAL SCALE .. 18

2. THE REGIONAL SCALE .. 21

3. THE SCALE OF THE CITY .. 22

4. A CITY AS AN ECO-SYSTEM .. 24

III. REFERENCES .. 39

1. THE REASONS AND SYMPTOMS OF URBAN CRISIS IN POLAND.

Actually the necessity of reform in the field of urban management in Poland is the result of:

- **a massive economical crisis;**
- **an ecological catastrophe;**
- **a social catastrophe resulting from the transition from a centrally planned to a market economy. Also, an advancing degradation of towns and communities.**

The need for reform in urban management in Poland is not fully understood either by the society nor by its present ruling elites. Despite heavy criticisms, almost nothing is done to change social attitudes, to reform the law, institutions and routines in the urban planning. Existing practice brought about the crisis in architecture, urban planning, housing and ecology. The doctrine established in post-war Poland is still taught at our universities and is resistant to any attempts to change. The system of public control on architecture and urban planning was systematicaly impeded and restricted by intricate procedures and was destroyed in effect. The resulting system of urban management also created a difficult situation for professional urban planners. The society was identifying their activities with unpopular decisions and ideas of authorities that, the government was not taking social opinion into its account, this was one of the causes of the big crisis in the sphere of urban management.

Within the field of urban planning two aspects of the crisis can be distinguished.

First, the profound crisis of the profession of urban planners can be observed.

I think the urban planners with their professional routine, legislation, regulation and education of a future staff are among the most important factors influencing the proper functioning of systems and the possible reform of a model of urban management. It is not only the problem in Poland because there are some news about urban planner dictatorship in almost each country. It is apparent in the Prince's of Wales appearance, that on the occasion of 150th anniversary of formation of the Royal British Architects Association ("Newsweek" 1988, March 7). We can only imagine the big dimensions of this problem particularly in an area and country of long-time tradition in the social control on urban planners, politicial activities and every public services.

The situation of the Polish Urban Planners is worsened due to their social prestige and professional status and is not recognized by the community. At this moment he has to operate in complicated, non-favourable conditions, and must come to decisions which are not accepted by the society in spite of their regularity and reasonableness.

It was caused earlier by the politics of the previous authority. The citizen was identifying the urban planner as the individual with the authority for decision making (which was limited). The dialogue was lasting only between the politician and the urban planner; the society was usually passed over. I can only add that ideas and decisions were often disregarded or passed over. It is these obvious reasons why this profession has lost its social appreciation.

Briefly; the urban planner was working for the authority and not for society. The authority had not the acceptation of the society and that was the main reason of the urban planner's excluding.

Today the urban planners are trying to correct the situation by the socialization of planning process but alas the citizens are still afraid of them,

thinking that they and the authority are one in the same. Unfortunately there is no other model of partner in dialogue with the urban planner.

I must pray for your attention to my opinion that the preceding authority was disregarding the citizen's education. It was more convenient to govern the citizens who did not understand the politics and planning. Today's urban planner are embittered and resigned engineers who have a very low level of social and material status, often their conceptions fail them. More operative of them try their luck in architecture or in other different professions. This presently is the situation in Poland with some given reservations.

The second aspect is the crisis of the professional urban doctrine.

It is evident that the crisis of contemporary urban doctrine is not reserved for Poland only. At present it is a general crisis in all world the, and the experts and specialists from many countries of different political systems try to untie it.

2. THE U.S. EXPERIENCE - SIMILARITIES AND DIFFERENCES.

Trying to compare the course of this process in Poland and in U.S.A. we must pay attention to following conditions:

- enormous disturbance ruling now in Poland and in other countries of former socialist group;
- deficiency of any stabilisation, it means continuous changes of governmental crew and many changes in legislation;

- really mad crisis of social confidence and unwillingness to any public activity;

- obvious urgency, complexity and simultaneousity during of these all big problems comparing them to long process of changes in West Countries;

- with removal of communist system destruction completely of respect and any social appreciation for the urban planner, the clerk or the communal official. So there is a necessity of reconstruction of this respect.

There is a generally better situation in U.S., in spite of intensity of recession. Of course every year, it seems like Americans become less and less content with the quality of their government and leaders. Many people have argued that one major reason for this is that Americans citizens no longer feel they have meaningful opportunities to participate in their government, and consequently they do not participate.

This has created a vicious cycle where Americans are not able to become knowledgeable about their governments, and they become dissatisfied with everything they see in their governments doing.

This is often referred to as the "Proposition 13 mentality". Many Americans would prefer to see less tax money going to government because they no longer trust their governments to use this money wisely (of course urban planners are experts in this model).

If the loss of trust in government is the root of diminished support for governmental efforts, then it is very important to begin to understand what kinds of efforts seem able to keep peoples' sense of trust in government high or to regenerate their sense of trust once it is lost.

3. URBAN PLANNING IN POLAND AND IN U.S.

Now I would like to compare Polish and American city comprehensive plans. Generally there are no differences in a capacity of them, but it is impression only. Polish plans are called "general plans of city management". To date, they are very rigid in spite of their name. They contain mostly one version of plan. There are no variants. Everything depends on decision of a clerk but an American plan is full of ideas, and above all is much more socializing like a planning and confirming process. The Comprehensive Plan serves as a formally adopted statement of policies regarding the City,s future. It provides guidelines for public decisions with regard to development regulations and capital improvements, and informs City residents and others of the City's intent with regard to its future. It identifies the controls and incentives necessary to make the Plan a reality.

The Plan must be referred to regularly in order to assure that the many decisions made from day-to-day affecting land use and development and investment in the City are insofar as is possible made in conformance with adopted policies.

The Plan's most important elements are its long range goals and policy directions, which are intended to provide guidance for the City and its residents through the year 2000 (Annapolis Comprehensive Plan). More specific detailed recommendations describe short and mid-range steps to realize the goals of the plan.

Other examples for socializing of planning process are small area plans. They are developed in collaboration with neighborhood groups and connect planning recommendations with implementation strategies. They are intended to be amendments or additions to the Land Use Plan of the City's Comprehensive Plan. A small area plan contains specific public policy recommendations for the development/ redevelopment of an identified area in the city. A plan may be requested by a neighborhood business group, a district council, the Mayor,

City Council as a whole, Planning Commission, PED, or other departments boards, and commissions.

With the assistance of PED staff, a neighborhood task force develops planning recommendations, which are then typically reviewed by the District Council, approved by the Planning Commission, and eventually adopted by the City Council. The role of the planner assigned to a small area plan is to work with the neighborhood task force as well as coordinate with other City departments to insure that the plan recommendation reflect a shared vision between the neighborhood and City about how to resolve outstanding policy issues. A 40-Acre zoning study and/or HRA (Housing and Redevelopment Authority) redevelpment plan will be developed at the same time if needed to implement plan recommendations.

Small Area Planning Process contains:

Development of Task Force's Draft Plan:

- Review of issues and process.
- Identification of land use/redevelopment options.
- Discussion of basic data and identification of additional information needs.
- Commitment to schedule for completion of task force's work.
- Discussion and selection of preferred alternatives.
- Review of staff draft of small area plan (and redevelopment plan and 40-acre study if necessary).
- Revision and approval of small area plan by task force.

Review and Adoption:

- **Approval of the plan by the District Council.**
- **Review by the Land Use Committee of the Planning Commission. Public hearing date set.**
- **Preliminary review of redevelopment plan (if there is one) by HRA Board.**
- **Planning Commission holds public hearing.**
- **Planning Commission recommends small area plan/40-acre study/ redevelopment plan to Mayor and City Council/HRA Board.**
- **City Council/HRA Board holds public hearing.**
- **Review and adoption by the City Council/HRA Board.**

Key features of small area planning are:

1. **Workable size - targeting specific critical areas with land use and development issues.**
2. **Effective neighborhood leadership.**
3. **Collaborative process - good communication between neighborhoods and city government throughout the planning process.**
4. **Multidisciplinary team participation among city staff (within PED, interdepartmental, intergovernmental).**
5. **Implementation - balancing creative vision with market and budget realities. Short-term and long-term planning.**

6. Efficient process and short, readable plans. (Consolidate plan with 40-acre studies and redevelopment plans; append plans to comprehensive plan.)

7. Comprehensive strategies to address neighborhood problems and opportunities. A shared vision for future of neighborhood.

It is very important for the implementation of computer technology to assist in urban planning and decision making. Each urban or regional planners utilize in their duties enormous amounts of data and the possibility of including computer technology into the planning process would improve productivity. Of course not only for storing information, but above all for direct easy access and the possibility of transforming data. It is very important for making decisions towards land utilization. A personal recommendation for a few software packages are listed below.

1. Programs of a "data base" for data accumulating; e.g. PFS: First Choice, for spreadsheets e.g. Lotus 1-2-3.

2. Statistical programs; e.g. SPSS

3. GIS (Geographical Information System) - programs for mapping and spatial analyses; for example Atlas GIS, Map-Info, Arc-Info..

4. Auxiliary programs for better communication between society and urban planners; e.g. Desktop Publisher, Corel Draw etc.

4. CITIZEN PARTICIPATION IN URBAN PLANNING.

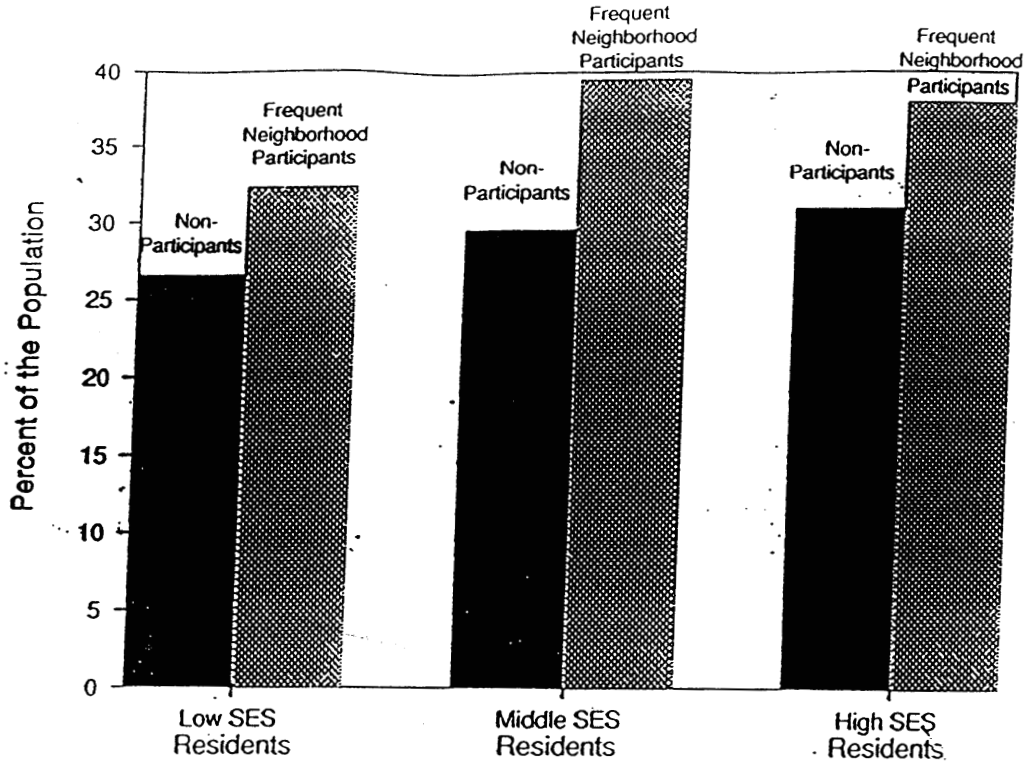
Areas of important factor is increased cooperation with the citizens and the urban planners. We can assume that the planning process in the U.S. is a nature of socialization. An example when looking for the answer is the National Citizen Participation Development Project, which studied the citywide neighborhood-based participation efforts in Birmingham, Dayton, St. Paul, and Portland, as well as the efforts of COPS in San Antonio, who tried to systematically determine whether these efforts seem to affect peoples' senses of trust in government. Each of these first four cities has evolved a system to channel citizen concerns and input into the decision and policy making processes of city agencies and officials. COPS has also tried to accomplish the same for parts of San Antonio.

There is clear evidence that these participative efforts are able to overcome the powerful forces undermining government's credibility, because citizens who participate in the citywide systems of participation are consistently more confident in and trusting of their local governments.

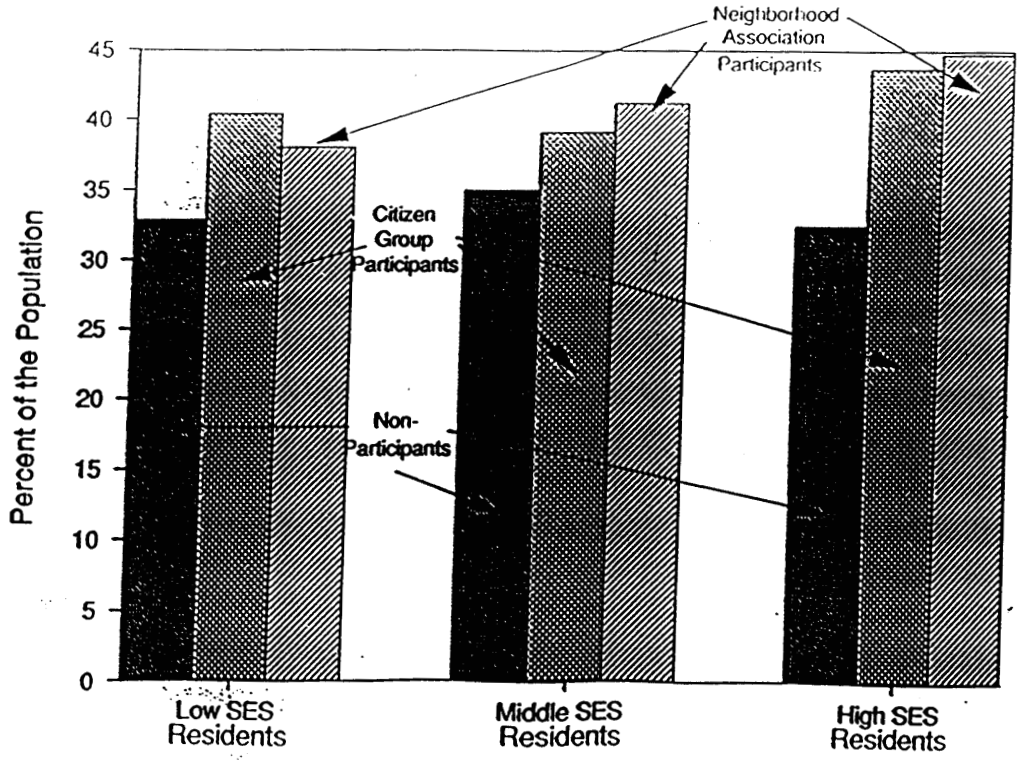
In the two graphs accompanying this discussion, the differences between the regular participants in their neighborhood associations and the people who do not participate is quite substantial.

In one graph, it can be seen that regardless of how much income or education a person has (reffered to as SES, or socio-economic status), participants in the neighborhoods associations are much more likely than nonparticipants to "trust the city to do what is good for all the people" rather then just what is good for a small or powerful group of people or a special interest.

How Much Do Citizens "Trust the City to Do Whats Good for All the People?"
Results from the Citizen Participation Development Project
in Birmingham, Dayton, Portland, San Antonio, and St. Paul



How Much Do Citizens "Trust the City to Do What is Right?"
Results from the National Citizen Participation Development Project
in Birmingham, Dayton, Portland, San Antonio, and St. Paul



In the other graph, neighborhood association participants consistently report a greater tendency to "trust the city to do what is right" than people who do not participate. With the middle and high SES residents who participate in their neighborhood associations are more likely to "trust the city to do what is correct " than residents who participate in other types of local citizen groups.

Overall, it seems clear that the efforts to involve citizens in the day-to-day decision and policy making of their cities have made impressive progress toward overcoming the drastic loss of trust in government that has come to characterize the contemporary state of American politics. Certainly, there it is very important to include a citizens education to this process.

I have noticed in the states even non governmental institutions care for preparing partners for negotiations with urban planners by organizing special courses or by other ways for impelling activity of small and bigger social groups. The example for it can be Community Design Exchange.

CDE is a non-profit (501-C-3) corporation based in Seattle, Washington.

CDE provides assistance that enables people to work together to improve the quality of the environment and livability of neighborhoods, communities and whole regions.

CDE fosters dialogue, cooperation and partnerships between volunteer groups, governments, business associations and non-profit organizations through communications, citizen-based planning, and education programs.

CDE works with national, state, regional and local programs.

The background is that from the grass roots to the top of corporate decision tree, people are seeking ways to find a common vision and to chart a course into their community's future. New approaches to self governance are being explored that include people from all walks of life working with partnerships to solve their critical problems. Through these collaborations, people are turning ideas into plans and plans into actions to create places that reflect the civic spirit and public values of a community.

In this climate of concern that seeks to balance progressive chance with desired preservation of traditional values, CDE's mission is to act as a facilitator, an information source and educator. Its successful programs draw from an exceptional set of skills including group process expertise, a broad range of public planning and policy experience and innovative uses of communication media in the public interest.

CDE assist national and local public service organizations and governments deal with change related to community and environment including its physical, organizational and social aspects.

CDE has extensive experience bridging the gaps between the professional experts, officials and grass roots interests.

CDE seeks to transform potential conflict into collaboration and find new win/win solutions between differing points of view.

CDE fosters consensus across all social, economic and ethnic lines by providing strategic planning, public communications and process management assistance. It pursues its public interest mission by applying the following principles:

- **to create approaches that engage officials, business groups, nonprofit organizations and grass roots participants alike,**

- to develop activities based on innovative use of communication media to reach the public,

- to provide professional expertise that integrates a public information strategy with technical planning,

- to link interests across ethnic and economic boundaries to foster cooperation between disparate groups,

- to offer capabilities to provide the level of management, team training or technical assistance required for the most effective management of the process,

- to bring the perspective that is national in scope and practice.

New approaches to community-wide leadership planning are emerging as community attempt to take charge and control their futures, and many places are describing their approaches as Vision Planning.

Vision Plans, Strategic Plans, Action Plans are all different stages of this new form of cooperative public planning. The goal is to create a consensus that will catalyze resources to move proactively and productively toward future goals. This civic leadership approach to planning is very different from the well established official planning programs like comprehensive planning. In effect these emerging techniques, many of which are being adapted from other sources like business strategic planning, help set the planning agenda through public dialogue. Official planning activities can then follow more smoothly from the established consensus. A visioning can often create the opportunity and means to agree on goals, thereby establishing a foundation for resolving any potential conflict around specific issues. It is the opportunity for all aspects of community leadership from officials to business to grassroots to come together in informal ways of cooperating across old, entrenched

community boundaries and barriers.

A Vision process entails bringing people together in a neutral forum with third party facilitators to explore problems and possibilities and seek agreement on future goals. Such a process depends both on the wilingness of the participants to work together and also on the informational resources available to arrive at successful resolution.

CDE provides a unique combination of strategic, policy and community planning expertise, process facilitation experience and communication skills especially suited to the VISION process.

I must bring to your attention that this organization helps also to understand and participate in realization of comprehensive plans.

5. RECOMMENDATIONS FOR SPATIAL POLICY CHANGES AND THE PLANNING PROCESS IN POLAND.

I would like to mention some main points which exert an influence on the profession of an urban planner:

The necessary changes in urban management in Poland are following:

- reconstruction of our institutions;
- change of techniques in planning; the involvment of a computer technology into planning and decision making process; (computer programs use);
- to rebuild the position of urban planner profession as an expert ;

- implementation of more sociological analysis and research into the planning process;

- change of ways and principles of land use management;

- socialization of urban planning and confirming process and involvment of citizens in the day-to-day decision and policy making for rebuilding the trust in government;

- will refer to the Plan regularly;

- to educate and to inform the community;

- to support citizen vision planning for social recommendations making;

- implementation of lawful control of these activities;

- change of registration and contents of these plans;

- facilitation of local procedures;

- implementation of fundamental rights of economy in space management;

- the creation of various and offered plans;

and other changes which we cannot imagine now in this moment. This changes will be necessary to return our country TO EUROPE.

II. PROBLEM OF ECOLOGICALLY SUSTAINABLE CITY ENVIRONMENTS.

The problem of necessity of environmental protection on the global scale today is mainly acknowledged. However we are still far from drawing practical conclusions in all areas of human activity. The problem is extremely diversified and stratified. It order to overcome it and to apply relevant policy in this respect it is necessary to consider its specifity in all its aspects.

The dominant goal of all environmental concerns have to be ECOLOGICALLY SUSTAINABLE CONDITIONS. This implies a durable balance of all resources, physical, economical, political...etc. All forms of life, man, animals and plants must have a chance for long-term survival. These concepts have to include the use the non-renewable resource for which people must secure substitutes if they insist on current levels of consumption. They live in a finite world.

The man is far, very far from such a balance, and is moving further away from it in every corner of the world. All forms of human existence are based on the use of resources. Whereas nature cured the impositions of man on the environment in earlier civilizations, it can no longer repair all damages inflicted on it in the aggregate, and, moreover, at an accelerating pace. He is depleting resources at a rate in excess of their generation or renewal.

Cause and effect relationships must be re-evaluated. The man is beyond ecological conditions sustainable by means of technical remedies. No longer can he trust in his ability to treat the "end of pipe" conditions. He must scale down the input into the ecological equations, i.e. prevent the creation of toxic products which inevitably show up as toxic waste. Furthermore, he must learn to perceive aggregate impacts. The world cannot continue to support both explosive levels of population and a high level of consumption of resources. He must change his attitudes toward life, towards part of his life-style, towards certain components of age-old belief. Technical means alone will not achieve ecological balance.

It is not our business to discuss grave global problems of environment protection on the scale of the entire globe, oceans and the atmosphere forever and on all continents. It is our business as town and regional planners to be concerned with the phenomenon of urbanization, that is the city as a primary factor of ecological threats, to be concerned with mechanisms governing its antiecological development and the strategy of actions aimed at saving its proecological balance as well as the role of town and regional planners in this area.

The problem of ecological threats should be considered in three scales of reference: national, regional and local. These are at the same time three platforms for discussion and action.

1. THE NATIONAL SCALE refers to considering specific effects of urbanization on ecological disbalance, to identify the laws governing this phenomena and outlining the principles of proper physical development. In each country it depends on its geographical situation, history, legal and political system, economy. For example in Poland, this phenomenon is closely associated with the period of intensive industralization and maximum exploitation of natural resources, especially after World War II. In addition, it is also linked with a similar economic system prevailing at that time in the neighbouring countries.

In the U.S., the states have broad responsibilities for managing environmental and resource issues at both state and regional levels. Given present political realities, environmental planning in individual states and regions will probably occur before the federal government makes a commitment to strategy development. Such programs can lay the groundwork for various aspects of a national strategy.

Some states have already begun to lead the way. California, Minesota, Vermont, Massachusetts, and Washington are among states that have developed innovative environmental and resource programs that can prove

valuable as models, pilot programs, and demonstration projects for aspects of national strategy.

California, under a program called "Investing For Prosperity", established an Energy and Resources Fund (ERF) in 1980. This pioneering program reinvested funds derived from depleting nonrenewable resources into natural resources. In addition to other funding sources, over a period of several years, the state allocated $125 million annually from state tideland oil revenues to environmental and resource projects, including forestry, renewable energy and energy efficiency, fisheries, and parkland acquisition. Although oil revenues were reallocated to other purposes in 1983, funding for ERF from various sources has continued through the present day, and a total of roughly $1 billion has been spent on environmental projects. Payback for some projects have exceeded costs by several times.

Minnesota established an Environmental and Natural Resources Trust Fund in 1988 to be used for environmental protection and natural resource enhancement. Money for the Fund is allocated from the state lottery proceeds for the first five years. Additional monies will be available from cigarette taxes, and from oil overcharge monies received as settlement from litigation. In the first two years, projects financed by the fund have been restricted to research, information gathering, and education. Funding in subsequent years will favor projects that address long-term problems and timeframes, that leverage state financing with participation from private and other public sector sources, and that are interdisciplinary, innovative, and results--oriented. Citizen input and biennial reviews will provide the opportunity for course corrections along the way.

Massachusetts has adopted strong "pollution prevention" legislation intended to reduce the total amount of hazardous and other wastes generated within the state. The Massachusetts law aims at reducing by half the volume of hazardous waste produced in state by 1997. Companies using stipulated quantities of hazardous materials must submit a plan for using less hazardous materials and/or reducing wastes. Four new institutions were created to facilitate the program. (Waste reduction legislation has been adopted in 13 other states as

well, but the programs vary widely. However, all state programs have established technical assistance programs and information clearinghouses.)

Vermont and Louisiana have completed the first phase of a two phase risk assessment project. Under a grant from the U.S. EPA, they sought to rank risks to ecosystems, human health, and quality of life in order to determine what state environmental programs should be emphasized. Both states hope to proceed to a second phase which will select risks to be addressed, and will develop monitoring plans and action programs designed to reduce those risks.

The State of Washington began a long-range planning effort in 1988. "Washington Environment 2010" has been designed as a multi--stage process. In the first phase, a comprehensive assessment of Washington's natural resources and environmental problems was completed. After considerable citizen input, 23 environmental threats that had been identified were ranked so as to assist decision-makers in determining which issues should receive priority attention. In 1990, the State proceeded to begin to address these priority problems via legislation and government programs.

New Jersey has attempted to integrate environmental and natural resource management with other state development plans. Issues receiving specific mention in the state "development plan" include growth management, air and water pollution control, protection of biological diversity and lands, energy efficiency improvements, and recycling and waste management.

In this macro aspect it is worth noting specific features of urbanization in different geographical regions as well as under different political and economic system, for example:

- chaotic urbanization in Third World countries, combined with unusual

swelling of big agglomerations of gigantic sities with extremely poor municipal economy,

- rapid (and "planned") urbanization in the countries of real socialism, frequently reminding the phenomena characteristic of the Third World,

- more or less balanced urbanization in West European and North American countries, with gradual disappearance of the differences in phisical aspect between cities and villages,

- the force of inertia in the urbanization system of some usually small (formerly economically weak) countries, causing further unrestrained growth of the central urban pole at the expense of other cities , interesting examples of which may be the big idustrial cities of United States or the capitals Denmark, Austria and even Finland.

The above phenomena have different varieties and nuances depending on the specificity and historical development of different countries and different geographical regions.

2. THE REGIONAL SCALE is characterized primarily by the impact of a big city as a factor crystallizing the structure of the surrounding area, the functional (not administrative) region as well as interaction between the city (main growth factor) and the region. In this scale, mechanisms shaping the living conditions of inhabitants may be best understood and assessed. The processes of spatial transformations taking place in the region are most adequate to treating this area as an ecosystem. It is necessary specifically to become aware of the factors conditioning the proper course of the living processes of region's inhabitants. These factors may be of the following types: natural, economic and legal, technological, sociological.

A planistic (urbanistic) diagnosis of further actions depends on the analysis of this factors.

3. THE SCALE OF THE CITY is of primary importance in forming the settlement system as an ecostructure, that is an urbanistic unit in which physical and spiritual conditions of living are shaped in the most concrete and specific way. This scale most clearly reveals threats and it is possible to most legibly postulate the strategy and instruments of actions aimed at improving people's living conditions.

The following problems have to be distinguished here:

- **general spatial structure of the city (aglommeration), its compliance or divergence with natural potential geophysio-graphical and climatic conditions; this factor should constitute a major point of reference as regards postulating future investment activities as well as determining the nature and size of the thresholds of further urbanization,**

- **cooperation of all elements of technical infrastructure with investment policy as well as determination of marginal needs and possibilities in this respect,**

- **choice of the primary priority directions and ways of further proecological actions,**

- **determination of technical, organizational, economic and political conditions stemming from reasons of e higher order (national or regional) together with presenting a strategy of actions (cooperation of town planners with other specialists, local authorities and the community),**

- **spatial effects following thereof, associated with creating favourable conditions of development of individual city districts and fragments, propitious to health and human welfare in urban environment.**

The later postulate - concerning biological and psychological comfort of human life - refers e.g. to such elements as:

- size of city,

- functional zoning of the city as a whole,

- choosing the type of building structures, communal construction, etc.,

- structure of open and developed areas inside the city, their mutual proportions and mode of development,

- system of urban green areas as a tool for ventillation and regulation of natural climate and its penetration to districts, housing estates and residential blocs,

- population density and the mode of using communal grounds by inhabitants,

- methods of regulating and improving the network of city amenities (infrastructure) on the local scale in order to properly supply the inhabitants with water, gas, electricity and laundering facilities, as well as the functioning of the sewer system and garbage management, efficient functioning of the system of communications and transport,

- shaping urbanistic-architectural forms of individual city fragments (squares, streets, parks, embankments, waters, etc.) favouring aesthetic satisfaction and the sense of order, safety and beauty of each place in which people live, work, rest and communicate with each other,

- particular concern and reverence as regards historical city districts, aimed at integrating "new" with "old" in the name of a creative and harmonious interpretation of tradition.

The later postulates, no less important than the former ones, are frequently

considered to be manifestations of "exaggerated aestheticism", "beautifying" the city which frequently follows from multiplicity of various needs and impossibility to meet them under the conditions of economic depression and absence of inrooted, long-time tradition of urban culture. That is why they have to be specifically stressed and respected since it is them that should crown all the activities of spatial management. They generaly do not require special additional financial outlays, but first of all skills and urbanistic culture, linked with properly correlating all factors contributing to the respect for the principles of ecopolicy in urbanized areas.

It is obvious that efforts aimed at preserving clean environment must not be reduced to fighting the city as such as a civilizational phenomenon. It would be tantamount to attacking windmills, an utopian striving at moving the civilization backwards, having no grounds in the logic of universal progress. The core of contemporary culture is associated with urban management. The time of "garden cities" as the remedy to attain a new brave world has passed.

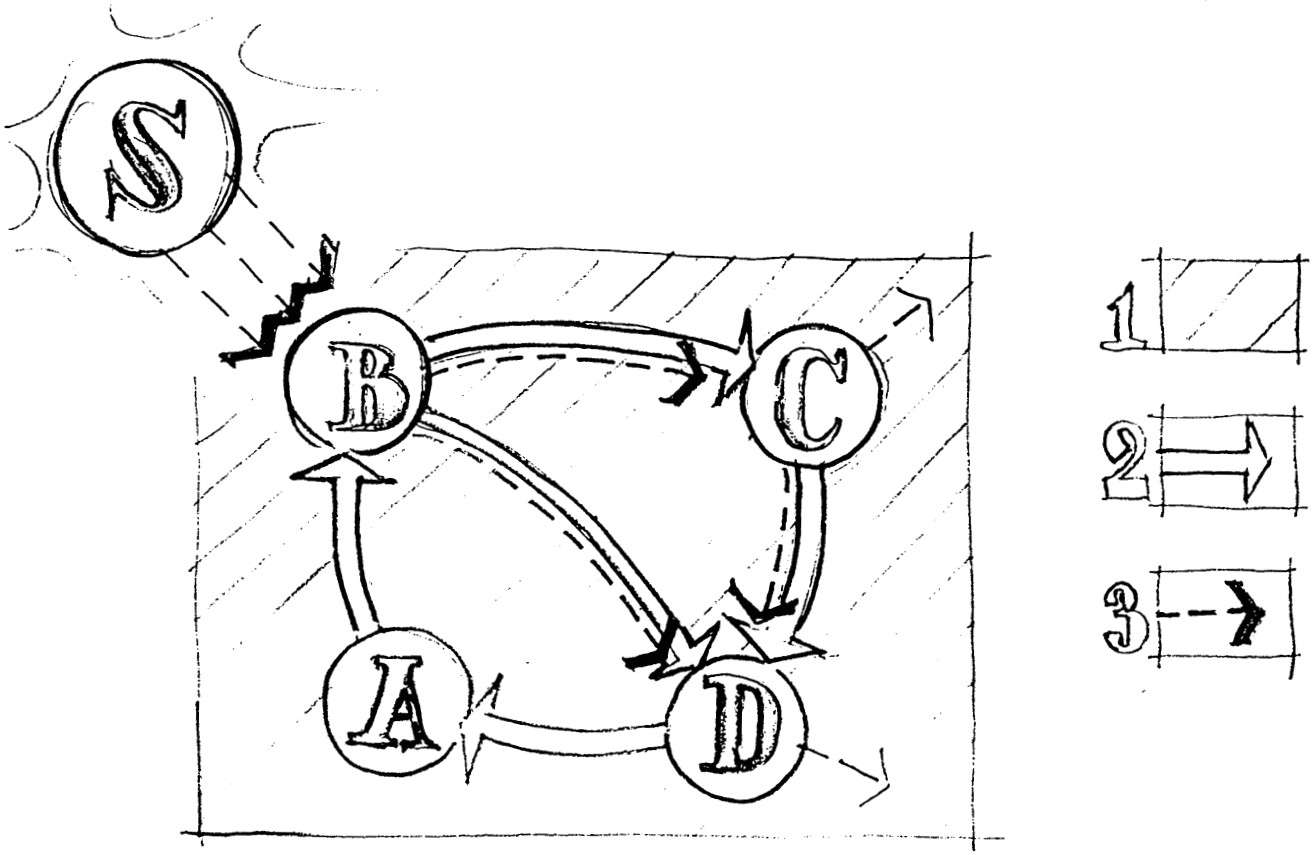
4. A CITY AS AN ECO-SYSTEM.

The discussion whether the town can or cannot be considered as an ecosystem is very long. Being a habitat of extremely intensive life, the town constitutes a very specific structure, very different from all natural systems as far as their spatial and organizational aspects are considered. However translating urban phenomena into the ecological language seems to be possible.

Frankly speaking, if the fusion of town planning and ecology in order to create the appropriate environment for the human being in the town is to take place, such translation will be necessary.

It is essential to define concepts like: production, consumption and reduction.

1. Simplified model of matter and energy flows in natural, balanced ecosystem.A - habitat resources, B - production level, C - consumption level, D - reduction level, S - sun, 1 - natural habitat elements, 2 - matter flow, 3 - energy flow.



According to the ecological terminology we assume that:

- PRODUCTION consists in the fixation of solar energy during transformation of inorganic compounds into organic ones; under such meaning only plants asautotrophic organisms are able to produce;

- CONSUMPTION is the utilization of energy received from organic compounds developed at the production level, with their simultaneous conversion into forms available for consuming organisms;

- REDUCTION (destruction) consists in the reconstruction of organic matter, while the rest of its energy is used.

These three essential phenomena - the levels of ecosystem organization - give simple picture of matter circulation and energy flow in systems created by nature.

In practice, ideally balanced systems occur rarely. The unbalanced cases, namely of the overgrowth type are prevailing:

- overproduction connected with the succession phenomena, functional and spatial patterns of the ecosystem being continuously enriched;

- overconsumption accompanied by degradation and weakening of organizational connections of the ecosystem, its richness, productivity and self-regulation.

In order to make an objective diagnosis on the type and quality of the town ecosystem, it is necessary to define specific urban patterns and phenomena according to ecological terminology. They are as follows: human society, techniques and technologies being at its disposal, and durable results of human activity (buildings and infrastructure).

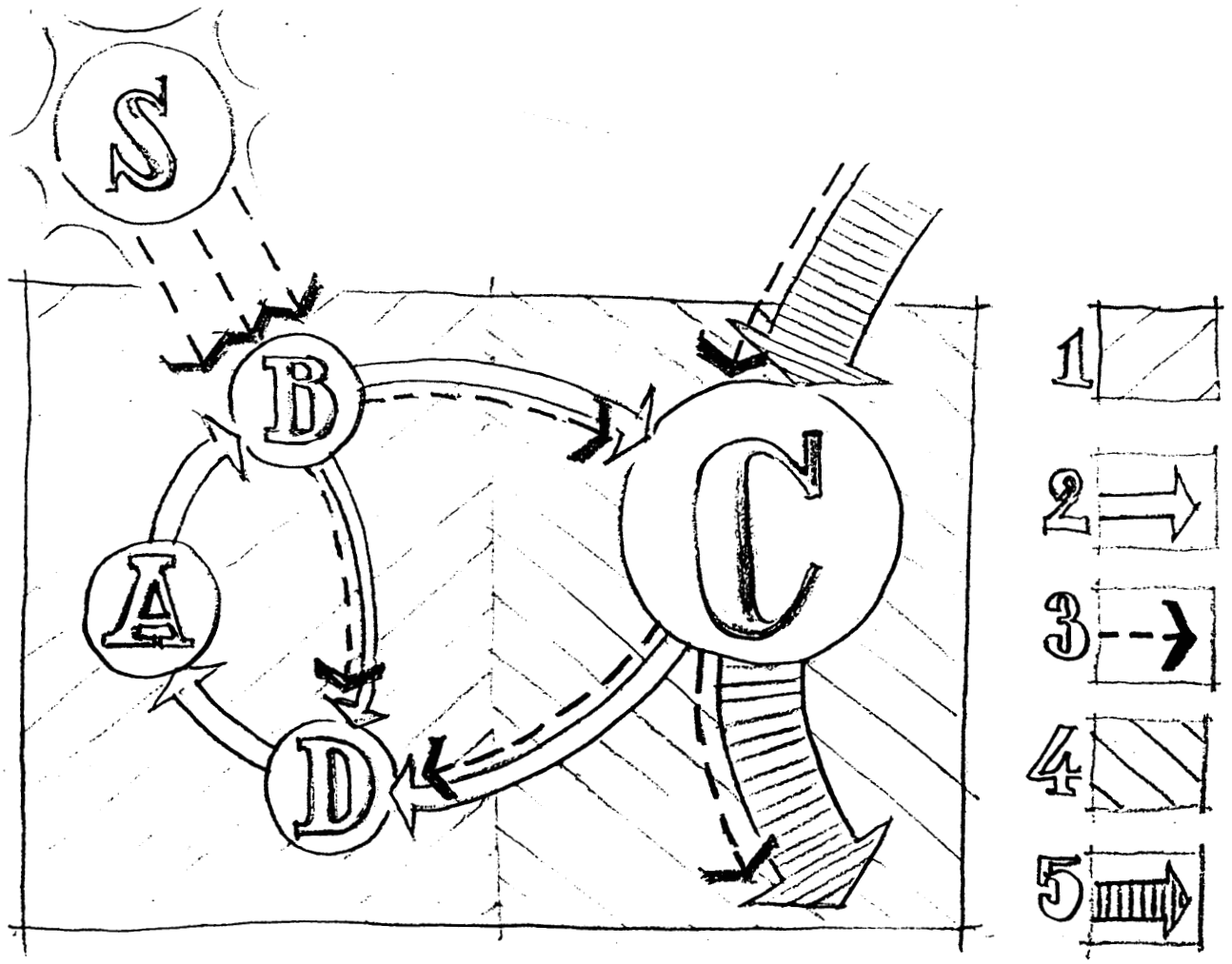
The human society - under accepted ecological definitions, means the level of consumption (when philosophical, sociological, economic, legal and other definitions are not taken into account).

Techniques and technologies - cannot be included into the production level either. They are only applicable to the process of intensive drawing and conversion of natural resources according to human demand. Consequently, while serving the consumption, they should be placed at this particular level of the ecosystem.

Buildings and urban infrastructure giving a framework of life in the shape and standard desired by the human being, directly determine living conditions for all living organisms. They also influence the development of specific climatic conditions, alteration of soil and water habitat, changing them irreversibly. They affect (as a rule - negatively) energy flow and matter cycle among natural elements of the urban ecosystem. Therefore it seems to be justified to include them into the ecosystem model which constitutes a habitat.

The above mentioned statements transferred to the ecosystem model, let us assume that we have to do with self-degrading system distinguished by overconsumption and requiring wide import of matter and energy, while production and reduction remain undeveloped.

2. Ecosystem model upon interpretation of urbanization phenomena - city as open non-self- sufficient ecosystem.
A - habitat resources, B - production level, C - consumption level, D - reduction level, S - sun, 1 - natural habitat elements, 2 - matter flow, 3 - energy flow, 4 - anthropogenic habitat elemenets, 5 - import and export outside local habitat

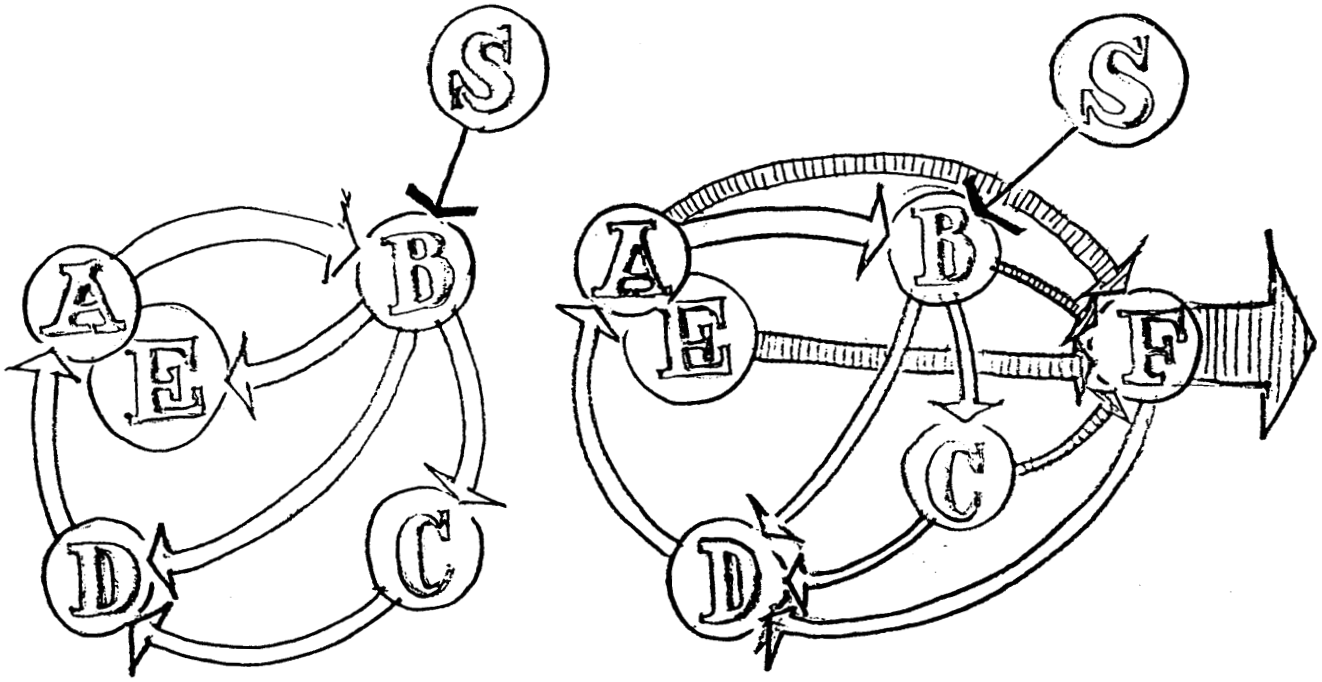


In nature unbalanced, self-degrading ecosystems can exist for a short period of time. In such a case mechanisms eliminating the species which disturb the balance are initiated. This was the reason of the stable human population for

millenia. Local ecocatastrophes - pestilence plagues, laying waste of overexploited areas, famines - acted as human population regulating factors.

The development of technology and utilization of nature to obtain increased amounts of energy and matter enabled the man to be independent of local ecosystem productiwity. It placed the man in the position of "a superconsumer" who exploits all levels of natural resources.

3. Deformation of the natural matter flow cycle caused by man's economic activity.
A - land, B - producers, C - consumers, D - reducers, E - resources of organic energy carriers, F - man as super-consumer, S - sun.



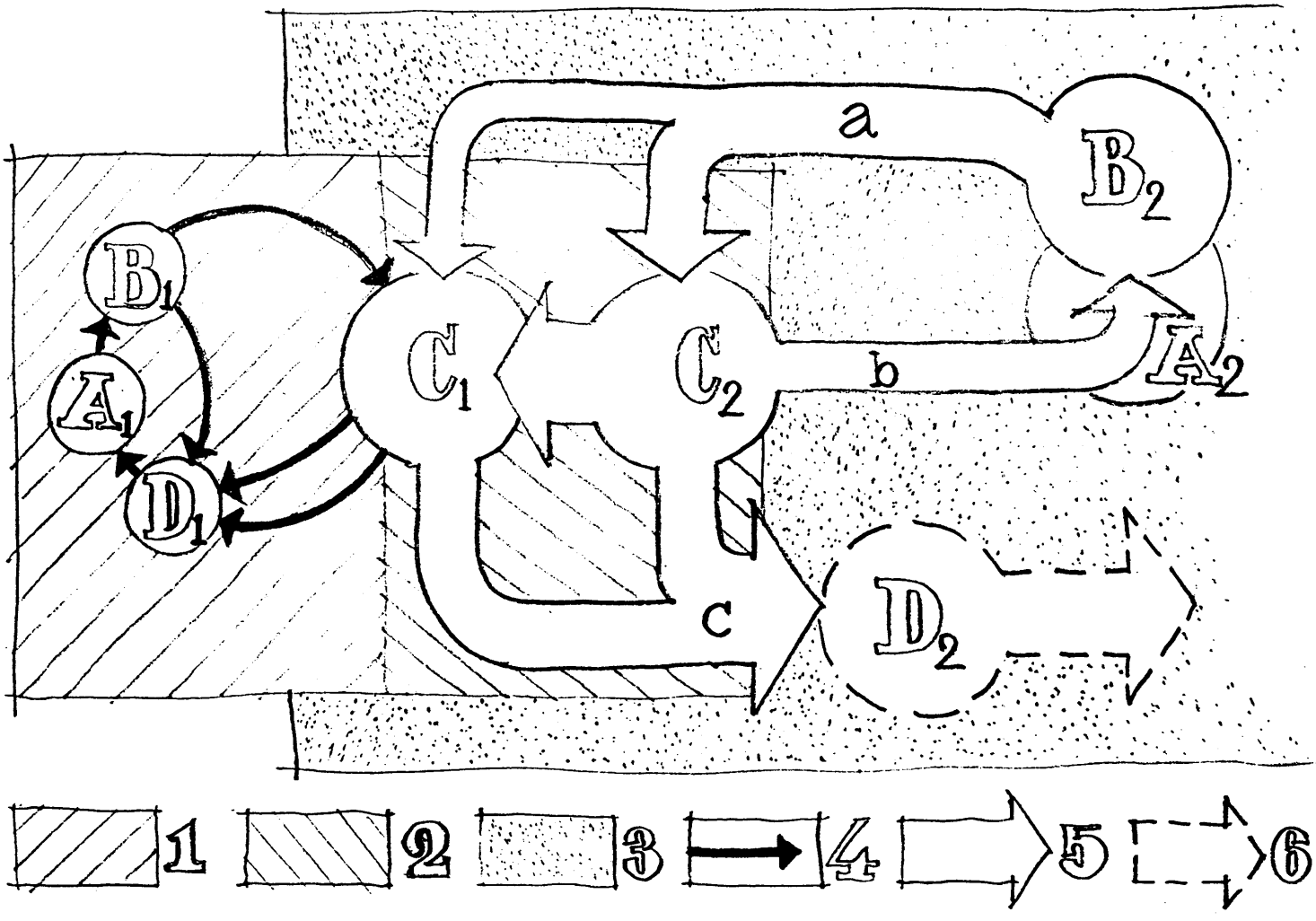
It mobilized the system in which technologies stimulating consumption tend to enhance the increase of population (as well as its demands and requirements), which consequently forces further development of consumer-aimed technologies. This process creates some unexpected problems:

- we are not able to put the majority of man-made products (both desired and by-products) into the natural cycle, which results in pollution and waste problems,

- exploiting all levels of natural resources, we weaken available matter and energy sources.

These phenomena can be included into the town ecosystem model.

4. Expanded model of urban ecosystem functioning - interpretation of the process of drawing from outside local habitat.
A1 - local habitat resources, B1 - production level, C1 - consumption level - urban community, D1 - reduction level; A2 - land, B2 - production level, C2 - consumption - oriented processing technologies, D2 - reduction level deficit; technologies of: a - transport, b - import base replenishment, c - transport of onerous metabolites outside local habitat; 1 - natural habitat elements, 2 - anthropogenic habitat elements, 3 - import base - range depending on technological advancement, 4 - natural matter flow, 5 - technological matter flow, 6 - missing link in technological flow (reduction processes).



As such a situation produces symptoms which seem alarming for their creator - the man, the increased interest from the townplanners' side has been observed since the end of the 19th century. Both town planning theoreticians and practicians have made attemps to assume an attitude towards heavy life in the town. These attemps could be divided into two groups:

- the first - of the "science-fiction" type, assuming unlimited development of technologies offering total isolation of the man from the natural environment,

- the second - of the "organic" type, preferring the method of spatial arrangement of urban functions combined with isolation of arduous structures and possibly remote "export" of unwanted metabolities. Even the typical organic terminology has been accepted e.g. "green lungs", "arteries", etc.

The main misconception of both mentioned approaches results from the fact that wide basis of import used by the town is not taken into account. There is a justifiable danger that selfregulating processes of degenerated ecosystems may appear in a wholeregion-scale, as a result of total and multidirectional exceeding of natural environment resistance thresholds. Such regions are defined to be threatened by an ecological catastrophe.

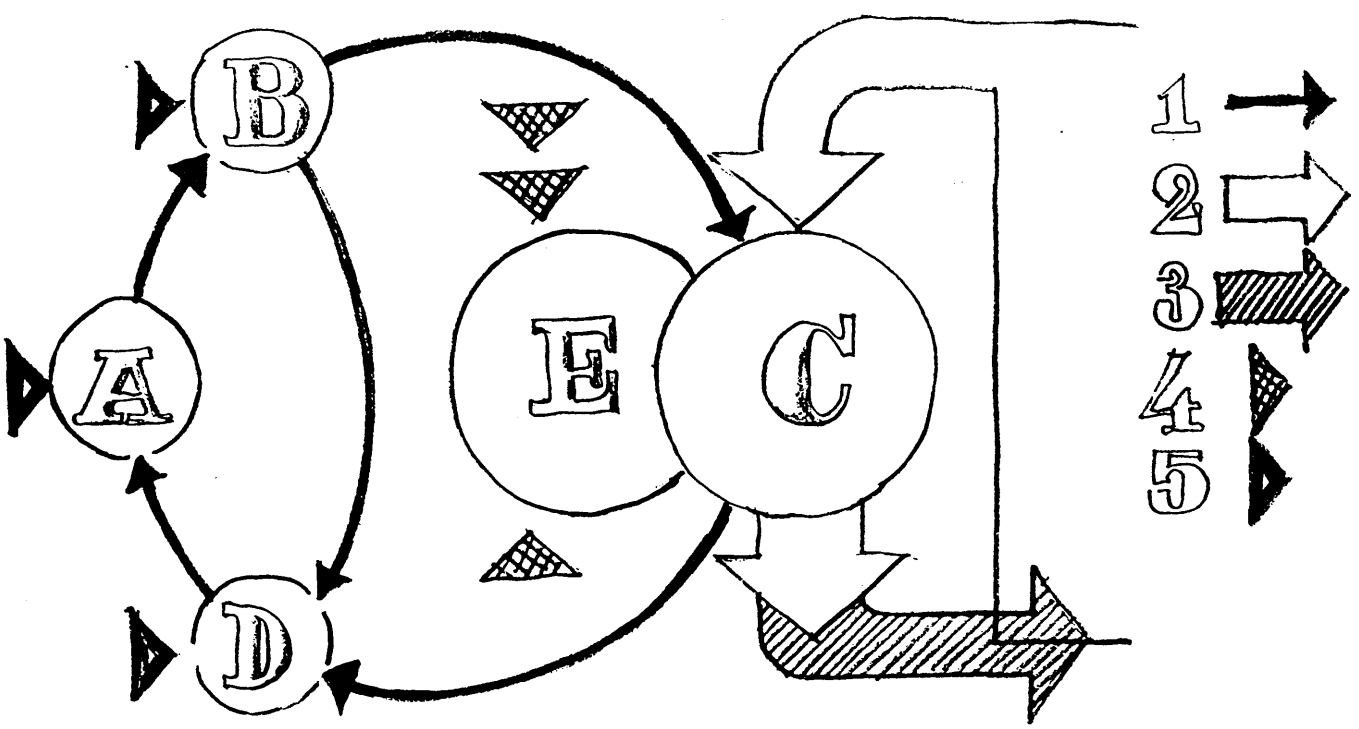
Now the following question should be answered: to what extent, how effectively and with what methods can town-planners create appropriate living conditions in the town and to establish conflictless relations between urbanized areas and their import basis.

And again - from the ecological point view - a number of methods which have been applied till now should be called into question, especially these which spread impendencies, as they do not take into account the matter cycle chain. It is obvious that the problems of urban environment toxication will not be solved by town-planning methods (Fig.5).

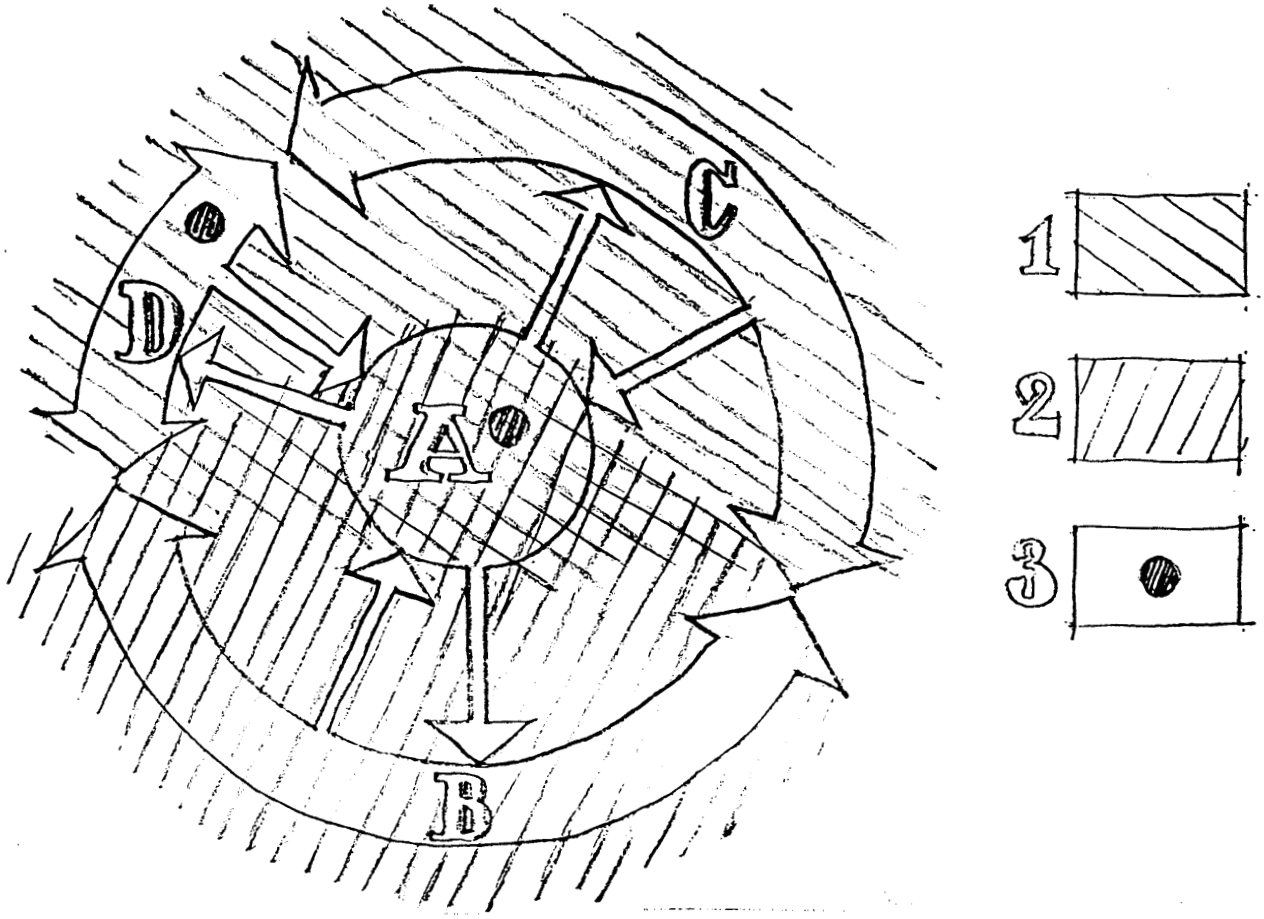
Consequently, functional zoning of towns, designing protection zones for arduous structures and transmitting intensive recreational programmes to the suburbs seem doubtful.

But it is essential to create ecological multifunctional corridors (climatic, natural, recreational) which join the town with open areas. Strict accomplishment discipline is necessary in the process. The other important direction is to promote the natural cycle reconstrution in the towns, enhancing natural vegetation structure and sanitation of soil-water relations in order to improve health and climatic conditions in the microscale of individual, differently used areas.

5. Methods of protecting man's living environment in cities - on the model of city as ecosystem.
A - habitat resources, B - production level, C - consumption level, D - reduction level, E - anthropogenic habitat elements; 1 - natural matter flow, 2 - technological matter flow, 3 - technological methods of treatment and utilization of onerous metabolites - tying flow at reduction level, 4 - urbanistic methods - shaping of city's climate, elimination of local conflicts, 5 - urbanistic-ecological methods for initiating succession in the process of reconstructing natural environment.



6. Model arrangement of interactions between environment elements initiated by man's creative activity.
A - urban community, B - urbanizing factors, C - habitat factors, D - greenery; elements: 1 - natural of urban ecosystem (A - as biological species), 2 - anthropogenic of urban ecosystem (A - as social structures), 3 - active (A - as creator).

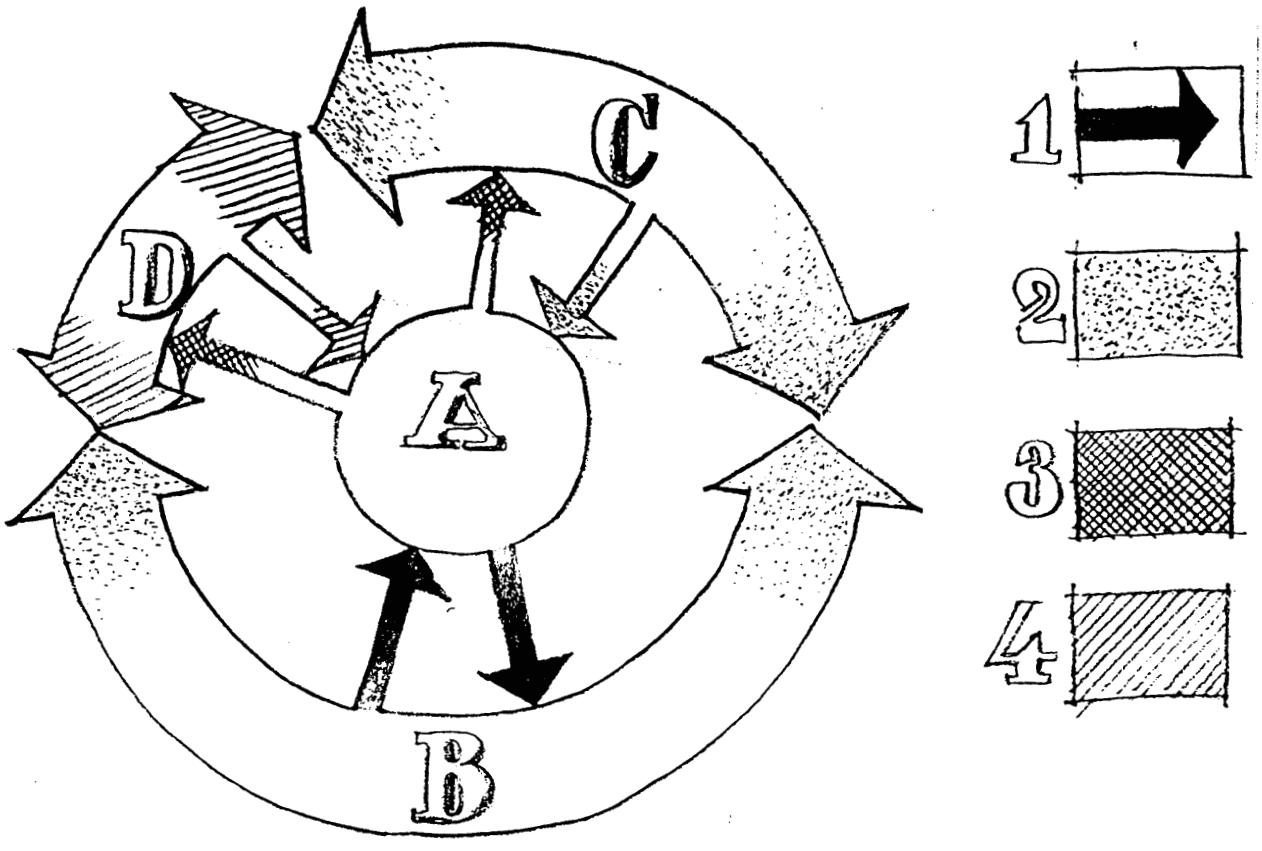


The proposed model is likely to explain sufficiently -according to ecological categories - the matter and energy flow. Within these categories it is possible to determine and estimate functional mechanisms of the town ecosystem comprising two cycles: the natural and the technological, joined through the urban society as a more or less durable system at the consumption level.

Estimating human creative activity we have to do with quite a new category which could be named information i.e. an impulse for desired transformations.

In such a case no ecosystem model is needed, but rather a system of interaction between more or less explicitly definable elements of the human environment.

7. Diagnosis of quality of impacts in creating man's living environment in city. A - urban community, B - urbanizing factors, C - habitat factors, D - greenery;



This model, worked out and used to estimate the town verdure conditions, proved some important regularities of creative processes. The above regularities can undoubtedly be related to all town-planning phenomena.

They are as follows:

1. There are interstimulating relations between the social environment and urbanizing factors (building development, infrastructure and their functioning). They lead to accomplishing consumption aims - in the widest meaning of that term.

The prevailing majority of decisions concerning aims and directions of urban development is undertaken within is field.

2. In fact there is lack of control (apart from post factum statements about existing arduousness) of further results of urban development, which is proved by generally negative influence on: habitat factors (the load by exploitation results) and town verdure (spacial competition);

Secondary negative influence of the degradet environment on vegetation, urban society and urban developing factors themselves.

3. Reasonable, creative influence of the society on habitat factors and vegetation are of incidental nature and marginal importance, in relation to the main process (see point 1).

4. The influence of town's verdure, as a naturally active element, on creation of the human environment is usually favourable, but it is strictly limited in space and far from desired scope of effects.

The above diagnosis on the activity of urban society, as far as the creation of its own environment is considered, lets us determine the aims and directions necessary to improve the existing situation and to estimate the decisions being made.

The only posibility to improve this situation is a common activity and looking for compromises. Very good sample of it is a case of Baltimore. Environmental protection is increasingly recognized as a crucial prerequisite to the region's economic vitality. In today's economy the key to success is brain power. Success will therefore go to those regions best able to attract retain skilled personnel. The rich waters of the Chesapeake and Maryland's rolling countryside give the region a character that is central to its ability to attract new economic strength. In today's world of technique businesses can locate almost anywhere they choose and the Baltimore region may bring them, their employees and tourists an attractive environment in which they can live, work and play. A healthy economy requires a healthy environment; the two are inextricably joined. To seek a consensus on how to achieve their common interest in improving Baltimore's environment, leaders from business,

government, environmental organizations and the community formed the Environmental Working Group. It came together in 1990 under the umbrella of the Johns Hopkins Institute for Policy Studies and with support from the Abell Foundation to develop an Environmental Agenda for the Baltimore region. The first product of that effort is "From Diversity to Unity". This report presents the results of their first eighteen months' deliberation.

The Environmental Working Group seeks to build a broad regional coalition across both public and private sektors to support environmental progress in the Baltimore region without jeopardizing economic development. At the time of fiscal crisis and economy downturn, they offer proposals that will enhance the region's economy, provide new revenues to local governments, and ensure the restoration and preservation of their environment as well as economic viability.

There are following activities recommended in their report:

- The Regional Environmental Forum coordinate efforts in the region to reduce ozone levels,

- land use planning and growth management decisions that concentrate populations close to work, shopping and recreation, and that make possible alternatives to single-occupancy vehicle use,

- an education program designed to inform the public about ground-level ozone and the seriousness of its health and environmental consequences, with practical advice about ways to reduce vehicle miles traveled,

- the state should immediately adopt California standards, establish a strong enforcement program for ensuring compliance by new vehicle, and set up a clean-vehicle program that provides economic incentives for using cleaner-burning fuels, purchasing vehicles that run on alternative fuels, and converting vehicles to enable them to use such fuels,

- the governments and employers of the Baltimore region should develop a comprehensive program to improve the flow of traffic, to reduce the use of

cars by lone occupants, to enhance mass transit, and to encourage the use of high-occupancy vehicles,

- the governments in the Baltimore region should immediately update and implement a comprehensive mass-transit plan,

- the state government should move quickly to adopt the requirements of the Clean Air Act for 25-ton-per-year sources of VOC, and to develop a program of incentives for voluntarily improving the efficiency of emissions control at sources not required by the Clean Air Act,

- and that the state government move as quickly as possible to require all gas stations and refueling facilities to install VOC-recovery devices.

Other way for protecting of environment is ecological education of society and government. Positive sample of it is a case of Hull. It is a narrow peninsula, located 25 miles south of Boston, which is nearly surrounded by the coastal waters of Quincy Bay, Boston Harbor and Massachusetts Bay. Due to the town's geographical attributes, the welfare of the community is heavily dependent upon the behavior of the ocean and those influences that affect the quality of the surrounding waters. Coastal flooding and the resulting erosion of protective dunes and beaches is of great concern to many of the town's residents who must cope with flooded basements, loss of property, costly insurance and repairs. The recreational of Hull's beautiful beaches, the shellfish industry and fishing are all threatened by pollutants that the tide and inland watersheds bring into local waters.

Three years ago the Hull Public Schools underwent a reorganization and restructuring. One of the changes in the curriculum focus resulted in the adoption of themes at the various grade levels. Given the abundance of local critical environmental issues, it was only appriopriate that Hull High School adopt the environment as a curriculum theme, which was formally implemented in 1990.

The desired outcome is to graduate students who are aware of, sensitive and

motivated to take action on local, regional, national and global environmental issues.

To date, students and teachers have become involved with projects such as monitoring the water quality of the Weir River, studying possible solutions to a midge infestation on Straits Pond, developing an estuarine field study station, recycling, beach clean-ups, dune reclamation, and studying some of the harbor islans.

A spin-off of the school program has been the Hull Marine Environment Institute, which is a community school program that sponsors programs addressing marine environmental issues. Institute programs are offered during the summer months to students and adults.

Conclusions for local environmental protection:

- Efforts to conserve biological and natural resources should focus on protecting ecosystems and ecoregions; to create a stable regulatory environment;

- to emphasize broad scope and long-term horizons

- to increase governmental awareness and political commitment to local environmental improvement;

- to make better local environmental information/data and, even short of that, improved pricing mechanisms and policies for energy, water, urban services such as sewage, waste management;

- to educate and to inform society; to make information publicly available;

- to mobilize public support and build constituencies;

- to develop city-specific environmental strategies;

- prioritization - example: sanitation, water supply, industrial water and air pollution control, solid waste; gradual implementation via capital facilities

planning;

- **to set long-term environmental goals for urban areas, and intermediate objectives and policies for getting there (basic environmental planning). For example, if the goal is clean surface or drinking water, develop pollution prevention policies, inocentives to deal with depletion and contamination.**

- **to improve local financing capabilities for example, for sewage treatment plants. Mix of user charges, taxes, central/regional/state/provincial government transfers, bonds, public-private mechanisms.**

III. REFERENCES

Saint Paul Planning Commission, Annual Report 1991, Department of Planning and Economic Development, Planning Division City of Saint Paul, James Scheibel, Mayor.

State of New Jersey. 1971. New Jersey Green Acres Land Acquisition Act of 1971

Guidelines for Neighborhood Associations, Districts Coalition(s) and the Office of Neighborhood Associations. Office of Neighborhood Association. Portland, Oregon, Guidelines Review Committee, Jan. 1992;

Stein Greenblat, Cathy "Designing Games and Simulation", Sage Publications 1988;

Scheffer, David, "Two Centuries of American Planning", The JHU Press, Baltimore 1988;

"Zalecany zakres ustalen i tryb aktualizacji miejscowego planu zagospodarowania przestrzennego", MGPiB, Dep. Urb., Arch. i Nadz. Budowl., Warszawa, Dec. 1990;

City of Sierpc - General Plan of Spatial Management, 17/III/88 Dec. 12, 1988;

City of Annapolis - Inner West Street Corridor - Action Plan, The Phipps Group, June 1985;

Annapolis Comprehensive Plan, Wallace Roberts & Todd, Dec. 1984;

City of Annapolis - "Critical Area Program", Department of Planning and

Zoning, November, 1987

"Miasto 90" - International Society of City and Regional Planners, August 1990;

"Newsweek", March 7, 1988;

"Not In My Back Yard" - Removing Barriers to Affordable Housing, Report to President Bush and Secretary Kemp by the Advisory Commission on Regulatory Barriers to Affordable Housing;

Greenberg, Phillip A. "Toward a U.S. Green Plan - Thinking about a U.S. Strategy for Sustainable Development", Resource Renewal Institute;

"Canada's Green Plan" - Minister of Supply and Services Canada 1990;

State of Maryland - "A Guide to the Chesapeake Bay Critical Area Criteria", Chesapeake Bay Critical Area Commission, May 1986;

"Environmental News", Spring 1992, Vol. XI, No.2 Lincoln Filene Center at Tufts University, Medford, Massachusetts;

"From Diversity to Unity" - Environmental Working Group, IPS, The JHU;

Cordell, H. Ken. 1990. "Out Recreation and Wilderness. In Natural Resources for the 21th Century". R. Neil Sampson and Dwight Hair (eds.). American Forestry Association. Island Press. Washington, D.C.;

French, Hilary F.,"Worldwatch Paper 99" Worldwatch Institute, 1990;

Council of Economic Advisers. 1991. Economic Report of the President. United States Government Printing Office. Washington, D.C.;

Davis, Jeanne M. and Peter House. 1968. "Open Space: Its Use and Preservation." Miscellaneous Publication No. 1121. Economic Research Service, U.S. Department of Agriculture. Washington, D.C.;

Dixon, John A. and Paul B. Sherman. 1990. "Economics of Protected Areas". Island Press. Washington, D.C.;

Gates, Edward J. 1991. "Powerline Corridors, Edge Effects, and Wildlife in Forested Landscapes of the Central Appalachians. In Wildlife and Habitats in Managed Landscapes", Jon E. Bodiek and Eric G. Bolen (eds.) Island Press. Washington, D.C.;