

The operative process in sustainable urban planning

M. P. Amado

Departamento de Engenharia, Faculdade de Ciências e Tecnologia da Universidade Nova de Lisboa, Portugal

Abstract

This document is intended to present a contribution to the development of urban planning actions through the establishment of an operative process that allows a sustainable development either for existing or for new urban areas.

This operative process is theoretical, supported and adapted to the environmental and territorial planning. This process was previously checked in an application to establish the main factors and critical aspects in the achievement of the goals of the sustainable development.

The checking list of objectives and sustainable strategies was carried out in the beginning through criteria based on the feasibility of the process. It is clear that the determinate factors of the process promoted the participation and conduct of the population in the planning phase. Nonetheless, the operability of the process was checked one could realize that a critical aspect related to the enormous amount of data to collect was mislead in the implementation of stage 2. This situation may lead to an eventual loss of objectivity in case it is not verified an efficient and simultaneous coordination.

In conclusion, the document shows the base of a new operative process that promotes the inclusion at any level of urban intervention of the concept of sustainable development. This inclusion is established as the main strategy in the transformation of the use of the land.

Keywords: sustainable development, urban planning, process, goal, reference situation, conception, implementation phases.



1 Introduction

The enlarged use of the concept of sustainable development had as starting point two conferences of the United Nations on environmental and development (WCED, 1987), where the need to adopt new development strategies at local and global level was recognized.

That need had already been felt in 1969 by a study developed by UNESCO, which admitted that, in the year of 2000, the urban population would be equivalent to the rural population in just 15% of the area.

In 1993 another study by the World Bank pointed the 2010 year as the one when the population will inhabit in cities which represents a very problematic situation for the urban systems with related consequences and for the rural areas in what desertification and shortage of resources concerns.

However, until recently the use of the concept, even of the expression “sustainable development” was only used by the political class who always intended to mean that any development proposal should be framed in the spirit and orientation of the concept. Being not significant, this fact was however enough for the dissemination and implementation of the concept.

2 The sustainability in planning process

Through the Green Book of the Urban Environmental (UE, 1990), the reinforcement appears in the sense of the city as one of the main step of action in the process of sustainable development. The same book relates the matter of the expected expansion of the urban areas in an exponential degree the same as the issues that one will create to the urban planning.

The necessary approach to the process of action and the concept of sustainable development will be guaranteed through the process of territorial planning “... the regional and urban planning is directed to the communities, its population and for the use of land and economics’ structures, through processes of goals definition, planning actions and rules...” (Slocombe, 1993).

To Nogueira and Pinho (1996), it is possible to consider three different perspectives for the territorial planning process towards the actions of the sustainable development – the conceptual perspective, the operative and methodological perspective and the politics and institutional perspective.

The first – conceptual perspective – is dedicated to the rule of the planning with environmental politics and sustainable development, process and methodological.

The second embraces the integration of new objectives in the phases of planning process.

The third and last – politics and institutional - is related to the management of interests among the several social and economics agents involved in the process.

On the other hand, Winters (1994) refers that territorial planning has always integrated sustainability concepts through the objectives definition in programs of long term, and the interaction of social dimensions, economics and environmental protection. However, although we cannot check this position, it is



possible to verify that the practical results don't show this contribution for the performance of the development process.

Another contribution to this issue is given by Redclift (1989), who refers that territorial planning is limited to seek better locations for the human activity admitting more growth. This situation is hardly accepted by social consent when faced to the economic, environmental and social justness goals.

For Marshal (1992) the main role of territorial planning to reach the sustainable development takes place when avoiding or reducing negative impacts and in having a leader role through solutions adapted to the environmental changes.

Owens (1993) facing the expectable demographic and urban growth of the cities refers that although limits may exist to prevent the growth and that development may become unsustainable the territorial planning can be a valuable assessment to turn those limits more elastic when associated to the components of the sustainability.

In addition to these different contributions to the process of planning to reach to the sustainable development is the Thomas (1994) position. He refers that the growing of politics positions of the society and the consequent involvement of the population in the process of social education will contribute to the creation of a new type of political redistribution of costs and benefits associated to an appropriate implementation of the sustainable development.

Blowers [4] refers that the sustainable development will never be effective if an articulation between environmental and development promoted by the integration in the traditional planning of the social concerns does not exist.

The planning as preponderant vehicle for the actions of transformation of the use of the land and the promotion of life's quality of the population's lead, according to Jacobs (1991), to integrate sustainability measures, of intensities differentiated in agreement with the objectives. The same author still refers that according to the defined goals these can be ponder and changed for other, in elapsing of the process, or then to facilitate that the environmental subjects are treated as determinate for the warranty of effectiveness of the process. On the other hand, and taking into consideration the resultant plan of the action of territorial planning, as a head office of support approaches the taking of decisions, we have the process of transformation of the use of the soil.

In this activity the subjects of economic social and environmental ambit are articulated on the space dimensions of the administration of the territory, and its contribution for the sustainable development will depend on the existence of a conceptual structure that facilitates to assist to the interactions between use of the land and environmental alterations and simultaneously make possible the definition of a methodological theory that identifies the "critical" natural capital (Healey and Shaw - 1993) and the "thresholds of the sustainability" (Blowers [4]; Jacobs 1991).

Another important aspect for the territorial planning is to contain in its process the specific analysis of the environmental and social components, in the sense of valuing its importance in the actions, integrated in the debate on the



objectives and development strategies, promoting the discussion and inducing to the obtaining of consents among all the intervening agents.

Other aspect in the planning, which compete in the promotion of the sustainable development, is that it has to take into consideration the obtaining of consents in the goals and strategies, through the different political, social agents' responsibility and economics with view to a larger procedure celerity from where it will result evident gains for the communities embraced by the planning actions.

Such notorious responsibility is due to a larger animation and transparency of the process and to the promotion of a new posture for the citizenship, avoiding that the process promotes conditions for the occurrence of situations of social exclusion or economic discrimination.

In conclusion, one can say that sustainable development is possible to reach at an operable level by the use of a new process of territorial planning, which should guarantee the promotion of the integration and inter-relationship in equal ways to the three sustainability components – economic, social and environmental.

2.1 The process to sustainable urban planning

For process it is understood that it is “the way of doing a thing” (Porto Editora, 5 Ed^o), understanding this as corresponding to the intended objective of promoting the sustainable development through the urban planning.

The necessary relationship that exists between the objectives of the sustainable development and the operative process of the sustainable planning corresponds to the decisive factor for the success of the development.

That role fits to the operative process with a view to its interpretation and forward action in the field. This action, as developed, shows us the disjointed expectations between the real capacities of the natural resource and the effective satisfaction of the expectations of the population, coming to attend a preference for the accomplishment of the promoters' economics expectations. Nonetheless the legal board of framing process doesn't guarantee the results of the elaborated plans, in its totality, to be considered framed in the sustainability concept.

The social subjects are not always treated and when it happens they don't have the same depth level that is used for the treatment of the economics subjects in special the related with financial profits of the operation. On the other hand, the actual process of urban development, to be continued, will bring disastrous consequences for the future generations, face to the overload that is done on the natural resource and to the excessive consumption of natural resources as well as to the absence of actions in the social field. Conditions are not created so that the future generations can continue to use certain natural resources and to live with safety with the same or superior level of quality life comparing to the actual one.

Another negative aspect of the present development process is the absence of solutions that promote the social and cultural integration among differentiated groups, as well as measures that foresee the resulting swinging movements of the options of centralization of functions and activities side by side with actions of



promotion of conviviality places in natural spaces and which conservation should be promoted.

It is the time for the urban development to stop being dictated almost exclusively by the economic component that since the sixties has led the process, by using a new and actual operative process of urban planning, to promote framed actions in the concept of sustainable development in according to the possible warranties of obtaining through its application.

Just as in the beginning of the industrial revolution, the mechanization of the productive system intended the improvement of the work conditions and productivity, the process of urban planning also wants to guarantee the improvement of the quality of life of the populations in an effective manner. This situation needs to be promoted by the public institutions, in its role of guaranty of a social justness and of operation of the public systems, through the production of new legal diplomas.

It is also understood that the “new” process of urban planning will need to guide strategies that seek the effective promotion of the improvement of the quality of life of the populations, of the largest and more efficiency enlargement of the systems of infrastructures, larger and better relationships of urbanity, more safety in the public spaces and a larger effectiveness in the relationship with the natural field. It is considered to be possible the guarantee of the treatment and observance of these aspects in the ambit of the operability in the “new process” of urban planning to develop. This way the need of the existence of a “new” process elapses of the adaptability lack that today is recognized in the existing process and of its framing in the concept of sustainable development, that it intends implemented in a more widespread way. This situation is tied to the need that the growth of the urban agglomerates was to be processed in a harmonious way, guaranteeing the maintenance of a high level of life quality.

The great urban centres in its majority, present a preponderance of the economics relationships face to the social ones and they are one of the origin of the swinging movements of the populations and of the urban expansion. However, the continuity of the development of the economics actions only has viability in case they increase, in number and in rhythm and the social relationships set as way of balance in global development board. This new way to face the global system of social relationships requires innovative solutions to be adopted, one of which can be the work through a new process of the actions of the urban planning. That process should allow giving a driven answer and adapted to the challenge that the sustainable development places to the transformation of the use of the land and of the social relationships and those that the urban centre promote.

Considering that it has been the environmental component whose treatment is more careless in the actual system of development of society, the new process should guarantee that it should be this component to assume the decisive role in the future actions not only for the implications that certain type of solutions can provoke but also as that determination it will constitute a factor in the promotion of the treatment justness, in a process that the economic component is far too much influential in the determination of the level of quality of life of the



populations. This new process will have to handle and to relate the countless variables that specific situations recommend they be treated in an expedite way for the team of the plan, and accompanied by the public entities and population.

The accompaniment by the part of the population in its civic role can be promoted through inquiries regular information and direct intervention with base in opinions and petitions.

According to Sanoff [10], these procedures increase the transparency of the process and its efficiency, because the continuous accompaniment allows a reduction of periods so much of approvals as of implementation and a better future appropriation of the site where take place the transformation.

3 Proposal of process to sustainable urban planning

By the analysis of several theoretical aspects related to the methodological process of the urban planning, and to the need of the introduction in a clear way of the environmental component in it, becomes evident the existing disconnection of the processes used until now in the practice of the urban planning. The need that the interventions on the territory don't commit the expectations of the presents and futures generations and in parallel they guarantee the sustained administration of the natural resources is one of the various factors that conditioned the process of the urban planning. Such is related, until today, to the fact that the environmental component has not been integrated in the process of urban planning in a continuous and large form.

The possibility of the process to develop to endow and to guide the intervention in the sense of preservation and rehabilitation, so much on the natural space as in the built, it turns the challenge of conception of the process more incentive for the result that it can drive, face to the sustainable development.

To guarantee the execution of the goals of sustainable development it is necessary that the new process of sustainable urban planning possesses a simple structure with clear goals and is easy to use. It will owe that process to facilitate the obtaining of gains possible to quantify in the several action areas, in way to assure the satisfaction of the largest number of sustainability strategies.

As strategic beginnings of sustainability, important evidencing in the ambit of this way are the constant ones in the following table for they be including and they cover the environmental, social and economics areas and still of the participation of the population:

Table 1: Strategic beginnings of sustainability.

Use sustainable of the natural resources; Reduction of consumptions and wastes; Preservation of the natural diversity, economic and cultural in a relationship of justness; Promotion of the economy and employment places; Promotion of the use of energy renewed; Involvement of the local population in the process; Promotion of the popularization and information on the foreseen development and verified along the process.



These strategic beginnings present an adaptation to the picture of the territorial planning, tends as reference the Aalborg Chart.

Together with these sustainability beginnings of having enlarged action ambit, it is necessary for articulation in the process, that goals must be enumerated and beginnings of action taken into consideration for the interdisciplinary equips of the plan, in the elaboration of its work and conception of the urban drawing.

To the level of the measures and essential beginnings that the process of sustainable urban planning should contain and guarantee they are considered the constant of the following table:

Table 2: Measures and essential beginnings.

Definition of the strategic goals of the intervention; Definition of the reference situations in the environmental aspects, economic, social and urbanistic; Motivation to the participation of the population and local players; To assure the balance between different sectors and social groups; Promotion of new mobility types; Motivation for the modernization in the activities sectors; Motivation to the saving of energy and the use of solutions of energy renewed; Promotion of quality in the urban space.
--

The presented list has the characteristic of being open and, for the goals conditions of application; it should be enlarged and adapted according the case being the referred elements the ones that it can consider as anchors of the process of sustainable urban planning.

3.1 The process

The process of sustainable urban planning comes with a structure of conception composed for 4 stages, stages that are developed with base in the process of logical reasoning and are sequential of the development of an urban intervention supported in the practical sense of the empiric knowledge, that until today it has been characterizing in an enlarged way in every action of the urban planning process.

The process comes with different stages and complemented actions to each one of these owing actions to be combined in the way more adapted to the problem's approach, in function of the environmental landings, economics and social, intended or wanted. Another aspect of the process is the consolidation in the same of the weight action in the participation of the population foreseen in the stages 2 and 3, informed of the evaluation. This action can even drive to the need of an objective reformulate.

The existence of an evaluation action in the process increase the capacity of decision and it reduces the risk of the arbitrary act when allowing the evaluation of the solutions in face to the alternatives, situation that would not be possible to appear with so much efficiency in face to the well-known methods.

In pointing out the process presented it possesses the characteristic that it could embrace all the expansion projects and urban renewal, independently of its dimension or location.



Table 3: Concept structure.

STAGES	1 – Intervention objectives	Defined of strategic goals	ACTIONS
	2 – Reference situation	Environmental Analyse Economic Analyse Social and urban analyse Commitments and potentialities Definition of criteria's	
	3 – Conception	List of Land proprieties Commitments Strategies and sustainability factors Location of equipments and open spaces Plan of roads Creation of lots Proposal	
	4 – Implementation	Check list of implementation	

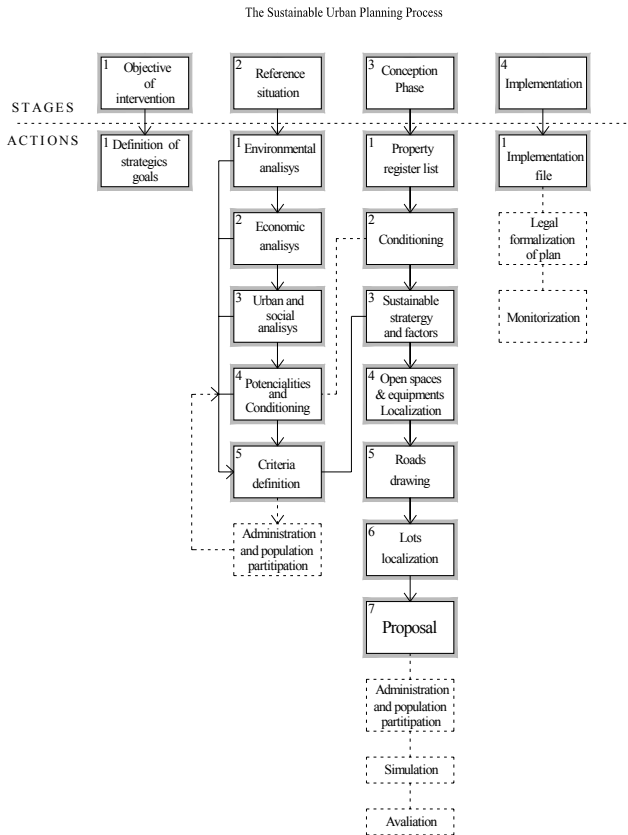


Figure 1: Process structure.

Those stages of development inter-relational behave in itself acutance action and its sequence is developed in each one of the stages of the process. The



structure of the process is synthesized in Fig. 1, which presents actions whose development doesn't only depend on the project team, but also on the activities congregation of everybody interested and involved in the intervention.

3.2 Determinant factors of process

The objective of the developed process is the creation of an operative instrument to support the promotion of the sustainable development, through the urban planning. The elaboration of the proposed process tends to give execution to the objectives and sustainability strategies that are materialized through the urban planning.

In a second point, the process still intends to facilitate an effective marking of the works and a coordination of the teams of the project in its several tasks and specific studies tends in view the obtaining of efficiency gains and to minimize losses.

The inclusion of the three components of sustainability in an equal weight in the process, in a way to facilitate the satisfaction of the conditions to implementation of the human activities, is the other of the aspects of the viability of the process.

The possibility of effective participation and the accompaniment of the developing of the works by the population are in the sense of obtaining, with its participation, more knowledge, preventing the occurrence of possible problems and conflicts of interest, guaranteeing simultaneously a faster acceptance of the new spaces in the urban city. These results are a decisive factor of the new process. Another decisive factor of the process is the implementation stage and its efficiency warranty. The phase of implementation of the plan, foreseen to develop in an alone action it is controlled through records that have the objective of providing gain of efficiency in the three components.

The possibility separation by functional areas of the actions to implement with the plan would facilitate that for each one of the sustainability components, specific steps are given in the correct way and still the information of new sustainability practices with rigidity and warranty of results. Those results could be comparable to face the sustainability indicators used during the development of the elaboration of the plan.

The result of the application of this process of sustainable urban planning would constitute a reference for future expansion actions and urban renewal supported in a base of data of the relationships: action ↔ relationship. That base of develop for public entities and its diffusion and availability to all urban planners would not allow the occurrence of less efficient actions with negative effects.

4 Conclusions

The diversity and environmental sensibility should always create differentiated urban solutions. Therefore the mere application of parameters and urban indexes are not possible to continue to be observed.



The need of a way to implement the actions of urban planning according to a new operative process has to be obligatorily structured in “another way”. In the inevitability of the development of the human activities and the continuous demographic growth and economic, forces all taking new attitudes face the necessary expansion and urban renewal. On the other hand, the process of urban planning has become to rise as a privileged way of leaving in “inheritance”, for the future generations, a way to reach how to use the available common resources on the planet. Therefore, facing the innovation proposal through a new process of sustainable urban planning, it was foreseen that this is one of the possible roads for the integration of the development concept sustained in the mentioned process.

It was verified although, for its structure, that the proposed process can be applied to interventions of quite differentiated dimensions due to the open structure that supports it. In addition this process allows to determine which are the potentialities, weaknesses and opportunities of the intervention place possesses, facilitating the same ones as soon as is benefited, for the resulting orientation of the planning process.

Lastly, it is possible to verify that it is not through the simplification of the planning process that the integration of the concept of the sustainable development is gotten, but on the contraire, by the compatibility and reinforcement of the content of information and selection of data for support of the conception stage, with a view to a large responsibility of all the intervenient on the process which tends to clear what is the cause of its improvement of the quality of life of the populations and its preservation through the coming generations.

References

- [1] Amado, M. (2005), *O Processo do Planeamento Urbano Sustentável*, Edições Caleidóscópio, Lisboa
- [2] Beatley, T. (2000), *Green Urbanism, Learning from European Cities*, Island Press, Washington.
- [3] Becker, E.; Jahn, T. (1999), *Sustainability and the Social Sciences*, Zed Books, New York.
- [4] Blowers, A. (ed) (1993), *Planning for a Sustainable Environment*, a Report by the Town and Country Planning Association, Earthscan Publications, London.
- [5] Cartwright, L. (2000), Selecting Local Sustainable Development Indicators: does consensus exist in their choice and propose?, in *Planning Practice and Research*, 15
- [6] Doak, J. (2000), Consensus-building for environmental sustainability, in *Integrating Environment + Economy*, Routledge, New York.
- [7] Eichler, M. (1999), Sustainability from a Feminist Sociological Perspective: A Framework for Disciplinary Reorientation, in *Sustainability and the Social Sciences*, Zed Books, New York.



- [8] Gouldson, A.; Roberts, P. (2000), *Integrating Environment + Economy*, Routledge, New York.
- [9] Redclift, M. (1999), *Sustainability and Sociology: Northern Preoccupations, in Sustainability and the Social Sciences*, Zed Books, New York.
- [10] Sanoff, H. (2000), *Community Participation Methods in Design and Planning*, John Wiley & Sons, Inc. New York.

