

**A GUIDE TO THE  
APPLICATION OF PUBLIC PARTICIPATION  
IN PLANNING AND POLICY FORMULATION  
TOWARDS SUSTAINABLE TRANSPORT  
DEVELOPMENT**



**UNITED NATIONS**

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**UNITED NATIONS**  
New York, 2003

ST/ESCAP/2308

**ESCAP WORKS TOWARDS REDUCING POVERTY  
AND MANAGING GLOBALIZATION**

This publication is based largely on experiences gained from a pilot project concerning the application of a comprehensive and integrated approach to policy development in an area in Bangkok, Thailand. The outcome of the project is documented in ESCAP publication ST/ESCAP/2171.

The publication was prepared by Mr. A.S.M. Abdul Quium of the Transport and Tourism Division of ESCAP. Mr. John R. Moon of the same Division made valuable contributions in preparing and revising the publication. Comments from the participants in a workshop in Manila, Philippines, at which an earlier version of the publication was made available also helped to finalize the publication. The views expressed are those of the author and do not necessarily reflect the views of the Secretariat of the United Nations.

This publication has been issued without formal editing.

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## **ABSTRACT**

*Public participation increases the likelihood that actions taken or services provided by public agencies more adequately reflect the needs of people and that the benefits of development are more equitably shared. Equitable sharing of resources and benefits is also an issue of sustainable development. As such, public participation has been recognized as one of the core principles of sustainable development.*

*In this publication, the purpose and value of participation to planning and decision-making processes and other related aspects have been explored. The discussion gradually leads to various aspects concerning how a participation process could be organized and its outcomes may be analyzed, synthesized and finally used in the preparation of plans or policy formulation.*

*The publication is based on the experiences gained from a pilot project in Bangkok, Thailand by ESCAP. It focuses on two major areas: the development of an overall planning or policy development process in the context of which participatory approaches could be applied to develop comprehensive and integrated public policies or plans; and analysis and synthesis of the outcomes of a public participation process to develop plans or formulate policies. The publication is designed as a practical Guide to help planners and researchers in applying participatory approaches in planning and policy development for transport systems. However, the process and analytical tools suggested could also be applied in planning and policy development for any other sector.*



# **PART I**

## **PUBLIC PARTICIPATION**





## INTRODUCTION

One of the core principles of good governance is to facilitate public participation in the decision-making process. Public participation increases the likelihood that actions taken or services provided by public agencies more adequately reflect the needs of people and that the benefits of development are more equitably shared. Equitable sharing of resources and benefits is also an issue of sustainable development. As such, public participation has been recognized as one of the core principles of sustainable development. Here, participation means contributing to development, benefiting from development and taking part in decision-making about development, which could be realized through activities facilitated by authorities as well as activities initiated or generated by the people themselves.

Public participation should be understood as a process in which all concerned parties including the affected people are involved in decision-making about development works and delivery of public goods and services. People's involvement could be realized in many ways and by different methods. However, they are to be designed and made compatible with the characteristics of the task to be accomplished, and of the culture being practiced and to be cultivated.

Many people also believe that further to merely contributing to the planning process, people can prepare their own plans in most cases with some qualified help. The planner can limit his or her role to that of a facilitator of the planning process and provider of technical inputs.

Participatory approaches may be practiced at all levels of planning. However, the extent or nature of participation by various *actors* (beneficiaries/citizens, public officials elected by the people, professionals and civil servants, and other stakeholders) may vary. It may be recalled here that the involvement of citizens in governance of society is the subject of history itself and is very important to any democratic society. However, the term participation is open to varied interpretations and the level or intensity of involvement by various groups of actors may also greatly vary.

In this publication, the purpose and value of participation to planning and decision-making processes and other related aspects will be further explored. The discussion will gradually lead to various aspects concerning how a participation process could be organized and its outcomes may be analyzed, synthesized and finally used in the preparation of plans or policy formulation. However, before that the next section will explore why public participation is important to sustainable development.

## I. SUSTAINABLE TRANSPORT DEVELOPMENT AND PARTICIPATORY APPROACHES

Sustainability in the various senses of the term has been defined by the Brundtland Commission.<sup>1</sup> There are three main requirements that any sustainable development must satisfy. First, it must be economically and financially sustainable to ensure that a continuing capability exists to support an improved standard of living. Second, it must be environmentally and ecologically sustainable to ensure an overall improvement in the general quality of life, and not merely an increase in traded goods and services. Third, it must be socially sustainable so that the benefits of development can be equitably shared by all sections of society.

The concept of sustainable transport is derived from the general term “sustainable development” and must also satisfy the above requirements. While it is important to develop transport policies that can support the ultimate goal to attain a better quality of living through fulfillment of the above requirements, the process through which this could be achieved is also equally important.

Considering their merits, participatory approaches have been identified as the means or process through which many of the objectives of sustainable development could be achieved.<sup>2</sup> Consequently, there has been renewed interest in participatory approaches to sustainable development by government agencies, international development agencies and civil society. The literature contains a wealth of information about the experience gained from participatory approaches that have been pursued all over the world in diverse situations and for a variety of purposes including that for transport development. In this publication, although we will focus our discussion on the field of transportation for the convenience of referencing, generally they apply to any area of development or public policy.

There are several reasons for considering participatory approaches as important to sustainable transport development. However, we will focus on three main reasons. First, introduction of wide participation of all stakeholders including the community and all sections of the people is needed to bring qualitative improvement in planning and decision-making. In fact, without participation of all concerned actors it may not be possible to explore all available options and implement “hard” policy choices, for example, demand management measures in a transport development strategy.

Second, participatory approaches to planning can deal with the various issues of a cross-cutting nature. For example, meeting the basic mobility needs of the poor through promotion of informal transport should be an important consideration in transport development. However, this consideration needs to be carefully balanced against operational and environmental factors. Their resolution requires a creative approach to develop an integrated plan for the whole transport system and its articulation within the overall

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<sup>1</sup> World Commission on Environment and Development, 1987. *Our Common Future*, Oxford University Press, London.

<sup>2</sup> For example, one of the principles for sustainable transport adopted by the OECD countries is education and public participation which requires that people and communities need to be fully engaged in the decision-making processes about sustainable transport, and empowered to participate. (See Synthesis Report of the OECD project on Environmentally Sustainable Transport (EST) <<http://www.oecd.org/env/ccst/est/curract/vienna2000/EST-Synthesis-Report-Part1.pdf>>)

development process. Participatory approaches could provide an institutional framework for such an integrated planning that could help to address the cross-cutting issues and deal with the problems of conflicting objectives of development.

Third, the prime element of any transport system is its users. Whether people feel welcome or alien contributes much to the vitality of an area. Genuine participation can lead to a greater vitality. It is also important that transport development takes into consideration the needs of all groups in society particularly the poor and the disadvantaged groups. Personal attainment and welfare of the groups with special needs much depend on their access to transport services. However, if these groups are not involved in the policy development or decision-making process their needs are not appropriately identified and most likely would not be reflected in the development initiatives. Thus an important aspect of social equity may remain ignored. Incorporation of an all-inclusive approach is therefore important to achieve the social dimension of sustainability.

Participatory approaches have been advocated as the means to achieving sustainable development in many areas of development and there is a wealth of readily accessible information on them. Valuable experiences from all over the world have contributed to this wealth of information and enriched the body of knowledge on sustainable development.

However, while undertaking a pilot project in Bangkok, Thailand by ESCAP<sup>3</sup> it was realized that in relative terms much less effort has gone into the development of an overall planning or policy development process in the context of which participatory approaches could be applied to develop comprehensive and integrated public policies or plans. There is another area which also has received much less attention but vital to applying participatory approaches. This concerns analysis and synthesis of the outcomes of a public participation process to develop plans or formulate policies.

This publication makes an effort to address these two relatively less attended areas, which are the subjects of discussion in Parts I and II of this publication. The publication has greatly benefited from many earlier works and in particular the experience gained from the above-mentioned pilot project in Bangkok. This publication is designed as a practical guide to help planners and researchers in applying participatory approaches in planning and policy development for transport systems. However, the process and analytical tools suggested in the publication could also be applied in planning and policy development for any other sector.

## **II. THE NEED AND BENEFITS OF PUBLIC PARTICIPATION**

### **A. The need**

Public participation in a planning or policy formulation process may be needed for:

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<sup>3</sup> A pilot project in Bangkok, Thailand was executed by ESCAP in cooperation with Bangkok Metropolitan Administration. See ESCAP, 2001. *Traffic and Transportation for Sustainable Environment Mobility and Access: Application of comprehensive and integrated approach to policy development in the Rattanakosin area of Bangkok* (ST/ESCAP/2171), United Nations, New York.

- 1) Learning about people's needs, attitudes, aspirations, ability to pay, desires, priority, possible contributions and help, how they could be affected by growth or changing land use and activity patterns, etc;
- 2) Systematically evaluating existing programs, policies, and services provided;
- 3) Considering actions taken, services provided and projects undertaken better reflect the needs and problems of the people;
- 4) Utilizing people's experience and community resources;
- 5) Avoiding bias in preparing plans (especially when value judgment is involved);
- 6) Increasing people's understanding of common problems and their effects on various groups in society and organizations in the community;
- 7) Mobilising citizen support for public decisions (for example, tougher measures that may affect many people and transport demand management);
- 8) Setting development priorities;
- 9) Keeping people better informed and enhancing a greater understanding about public actions;
- 10) Creating a sense of belonging among all stakeholders;
- 11) Resolving social problems between different groups in society;
- 12) Empowering the poor and marginal groups in society;
- 13) Bringing transparency to decision-making and thus reducing scope of corruption.

### **B. Benefits of public participation**

There are a number of benefits of public participation that include:

- 1) Improved governance;
- 2) Increased quality of the functions performed and services provided by public agencies;
- 3) Revitalization of democratic practice in general;
- 4) Maintaining the stability of society. When people are directly involved in the decision-making process, they become more aware of the possible problems and are more willing to live with the consequences than they are when decisions are imposed from outside. They become more aware of problems and tend to be less towards explosive situations or conflicts;
- 5) Guarding the public interest. To make public agencies more responsive to the needs of public and disadvantaged groups in society. Citizens can work as watchdogs of society;
- 6) Increased community cohesion and unity and capacity to reduce alienation of the individual.<sup>4</sup>

## **III. THE PURPOSE AND LEVEL OF PARTICIPATION**

The purpose of public participation may greatly vary. However, there are five broad purposes of participation:

- 1) Providing information to stakeholders;
- 2) Collecting inputs from stakeholders;

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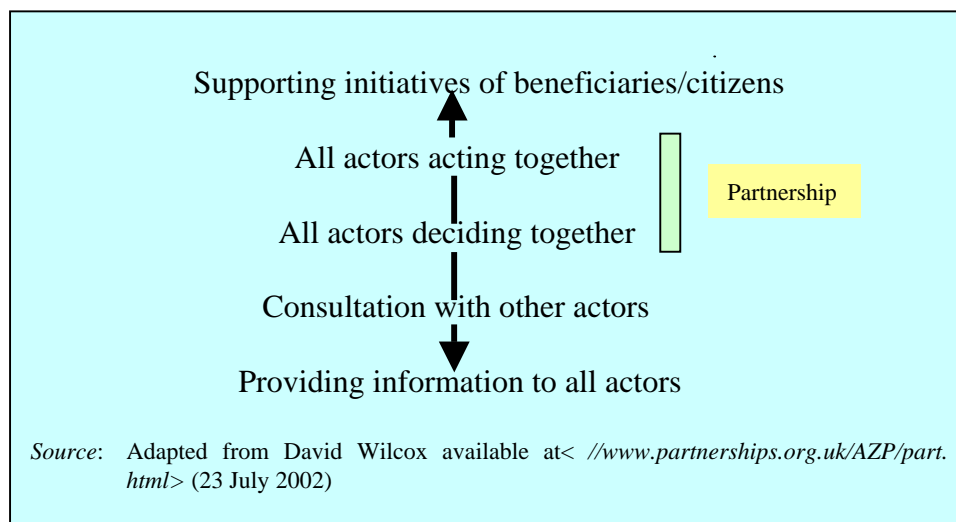
<sup>4</sup> A feeling of political helplessness combined with a general distrust of power, is the personal situation known as alienation. This may be particularly important for the weaker sections and marginal groups in society.

- 3) Negotiation with stakeholders;
- 4) Solving a problem/plan preparation;
- 5) Supporting people's initiatives.

The degree of involvement by actors or stakeholders in a public participation process depends on the purpose of participation. The simple diagram in the box below shows five levels of participation.<sup>5</sup> Starting from the bottom of the diagram, the five levels of participation offer an increasing degree of involvement by actors or stakeholders and serve the five broad purposes as mentioned above.

Providing information by authorities about what is planned to all stakeholders is the lowest level of public participation. Consultation with stakeholders is the next higher level at which one can identify the problems, offer a number of options and listen to the feedback that can be received from them. At the third level, all stakeholders join together in deciding the best way forward. At this level, a partnership between the initiator and stakeholders begin. Acting together involves a further higher level of participation. At this level, further to taking decisions together, stakeholders forge a stronger partnership to carry them through. At the highest level of public participation, authorities assist the citizens to support their own initiatives. It is important to mention here that at the lower levels of participation, the initiator can keep a better control over the process but they lead to less commitment from others. Whereas, at the higher levels a sense of ownership is developed, which leads to commitment from stakeholders.

#### **Box 1. Level of participation**



#### **IV. THE NATURE AND FORM OF PARTICIPATION BY LEVEL OF SPATIAL ORGANIZATION**

Generally the planning authority (elected public officials) determines the nature and form of public involvement to be adopted in consideration of institutional aspects and many other factors. However, in general higher forms of involvement are more appropriate at micro/local

<sup>5</sup> See David Wilcox at < [//www.partnerships.org.uk/AZP/part.htm](http://www.partnerships.org.uk/AZP/part.htm) > (23 July 2002).

levels as they require a face-to-face working environment. In this section the basic types and forms of participation and their suitability at different spatial levels are discussed.

The involvement of stakeholders in a participation process can be of two broad types:

- 1) The basic types involve lower levels of participation through indirect and consultative forms of participation. They can range from simple types such as collection of information through questionnaire surveys, round table discussions, public meetings, etc., to more sophisticated varieties such as regular joint meetings and workshops. These types are more appropriate at higher levels of organization such as the city or other higher spatial levels.
- 2) The more advanced types involve higher levels of participation and apply functional and interactive forms of participation. They involve direct cooperation between the authorities and the public. These types are suitable at lower organizational or spatial levels where a face-to-face working environment is possible, such as at the community level.

As an example, possible types of participation with their broad context, objective, nature, form and method/technique of participation at the city, district (sub areas of a city) and at the community level are illustrated in table 1 and discussed next.

a) *City level*

At the city level, the purpose normally relates to overall planning and policy development and thereby very broad in scope, spatially extensive, and organizationally wholesome. At this level, participation may not be direct but could be mediated through the mass media, the Internet and through articulated advocacy groups. The broad objective of participation is to achieve a common understanding and build general consensus regarding strategic issues at the city level. This form of participation can be called “consultative participation”.

The advocacy groups could be selected from a broad spectrum of the urban society representing, for example, citizens groups, professional bodies, civil society, non-governmental organizations, business associations, ethno-religious groups, voluntary foundations, slum residents groups, senior citizens groups, women’s platforms, etc. The representatives may form people’s committees. The committees, sharing information with authorities, are to identify issues, define problems and deliberate on available broad policy options for their solutions. The power in decision-making would be limited. Nevertheless, suggestions and advice by committees could have bearing on final decisions. The groups could also mobilize popular support with respect to hard policy choices.

b) *District level*

The purpose of participation at the district level could relate to both planning and implementation. The area of coverage is still wide but within the limits of a manageable size by means of indirect representation through focus groups. Focus groups could form a part of both planning and implementation task forces at the district level.

**Table 1. Illustration of context, objective and nature, form and method of participation by spatial level**

<b>Level (spatial)</b>	<b>Context</b>	<b>Objective</b>	<b>Nature of participation</b>	<b>Form of participation</b>	<b>Method/Technique of participation<sup>a</sup></b>
<b>City</b>	Planning and implementation	<ul style="list-style-type: none"> <li>▪ Build common understanding and broad consensus</li> <li>▪ Develop and promote a shared vision for the city</li> <li>▪ Set goals, objectives, priorities of development and broad strategies for implementation</li> <li>▪ Develop a strategic plan for the city</li> <li>▪ Review of strategic plan and its strategies</li> </ul>	Indirect	Consultative participation through mass media, articulated advocacy groups and civil society	<ul style="list-style-type: none"> <li>▪ Interactive website</li> <li>▪ Consultation documents</li> <li>▪ Citizen advisory group workshop</li> <li>▪ Public meeting (Town Hall meeting)</li> <li>▪ Questionnaire survey</li> <li>▪ Referendum</li> </ul>
<b>District (sub area of city)</b>	Planning and implementation	<ul style="list-style-type: none"> <li>▪ Develop short- and medium term plans</li> <li>▪ Prepare short- and medium-term work programmes</li> <li>▪ Promote special needs of the disadvantaged groups</li> </ul>	Indirect (representative participation) and collaborative	Functional participation through focus groups and user groups	<ul style="list-style-type: none"> <li>▪ Focus/User groups meeting</li> <li>▪ Social/Service satisfaction surveys</li> <li>▪ Roundtable discussion</li> </ul>
<b>Sub-district</b>	Community level project preparation and their implementation	<ul style="list-style-type: none"> <li>▪ Promote good relationship with community and create a sense of involvement</li> <li>▪ Identify needs and priority of community</li> <li>▪ Ensure community support in project implementation</li> <li>▪ Involve community in project preparation and implementation, and service delivery</li> <li>▪ Exploit resources and experiences available within community</li> </ul>	Direct and collaborative	Interactive participation (direct community participation through joint working committees and community level committees)	<ul style="list-style-type: none"> <li>▪ Community meeting/workshop/</li> <li>▪ Public-Community Partnership</li> </ul>

<sup>a</sup> Choice of technique depends on purpose and a whole range of other factors. These are discussed in Section VI. G and VI. H.



Participation at the district level would be more direct (than at the city level) and the relationship between authority and the people would be towards developing partnerships. People involved in participation may be recruited from different active groups. They could come from, for example, socially committed groups, civic groups, or informal groups such as people who meet on a regular basis at parks or some social institutions. It is important to note here that civil society organizations can play a crucial role in fostering participation, building trust, articulating local interests and views and exploiting local opportunities.

c) *Community/ Sub-District Level*

The sub-district level would be closest to the citizens. The broad purpose of participation at this level primarily relates to implementation of development activities and delivery of municipal services at the community level. The participation could be of a direct form and interactive in nature through involvement of people within a confined geographical limit in implementation of projects, programmes or management of neighbourhoods. Valuable ideas, which through their experience the locals are in possession of, could contribute to the solution of physical, social and environmental problems at the micro level.

Pursuing local initiatives and supporting constant interaction between officials and local residents could be the focus of participation at this level. The mechanism of participation could be in the form of joint working committees or other suitable means at the street or community level. This form of direct participation can be called “interactive participation”.

## **V. THE ROLE OF PARTICIPANTS BY NATURE OF ACTIVITY**

A planning or policy development exercise is composed of a set of interrelated activities. In a participatory approach to planning or policy development it is essential to design an overall process that clearly defines these interrelated activities and the stages at which participation is to take place. Not all participants can play an equally important role in an activity. It can vary from a marginal to a major role.

The planning process may include activities, namely, situation analysis, identification of problems and their causes, assessing community values, determining goals and objectives, data collection and developing alternative plans. To determine the nature of participants role in these activities, they can be divided in few broad groups. The involvement of different broad groups such as, citizens/beneficiaries, planners/ professionals and public officials in specific activities can be determined taking into consideration of their interest, legal/statutory authority and suitability for the task.

As an illustration, involvement of different participants and the nature of their role in each of these activities can be identified as shown in table 2. The possible roles of different groups as shown in the table, however, do not suggest that all members from each group would participate with the same level of interest. They may have difference in intensity of interest, which will influence their individual levels of participation. Considering the level of interest, members of each group can be classified into several sub-groups. For example, while some members of the public could be active participants devoting tremendous amount of time and energy to participate, others might just make comments. Generally, a combination of different participation methods is required to match participants’ broad levels of interests. This is

discussed further in Section VI H.

**Table 2. Role of participants by activity**

Planning activities	Participants		
	Beneficiary/ Citizen	Planner/ Professional	Public official/ Decision- maker
Situation (sector performance) analysis	+	++	+
Identifying problems and their causes	++	++	+
Assessing community values	++	+	o
Determining goals and objectives	++	+	++
Needs assessment	++	+	o
Data collection	+	++	o
Design criteria and standards	+	++	+
Developing alternative plans	++	++	+
Choosing an alternative	++	+	++
Detailed plan preparation	o	++	+
Plan modification and approval	++	+	++
Project development	+	++	+
Prioritization	++	o	+
Implementation	+	++	++
Monitoring	o	++	+
Reviewing of plan	++	+	++

Source: Adapted from Frank S. So et al (1979). *The Practice of Local Government Planning*, International City Management Association, Washington D.C.

Notes: 1) ++ = major role; + = facilitating or supporting role; o = marginal role.  
2) For simplicity roles of other stakeholders are not shown.

## VI. ORGANIZING A PUBLIC PARTICIPATION PROCESS

### A. Steps in the process

Public participation in a planning process is more effective if it is targeted at those stakeholders (groups or individuals) that have an interest in the issues likely to arise during the course of making a particular decision. Some issues and decisions may be of interest to a limited number of people, but many others could be of interest to thousands. The public (meaning those people who have some interest) is different for each decision. The real challenge is to design a

process appropriate to the particular groups that fits within the overall framework of a planning process. The following steps may be considered (not necessarily in sequence as shown) to organize a participatory process:

- 1) Form a planning team;
- 2) Identify possible issues and list all broad groups of stakeholders;
- 3) Carry out participants analysis;
- 4) Determine the purpose and level of public participation;
- 5) Identify constraints and special circumstances;
- 6) Select a method (or a combination of methods) of participation;
- 7) Decide if sampling would be needed and if so, decide about the sampling procedure and its size;
- 8) Determine the functions and tasks of stakeholders;
- 9) Write the overall plan and timeframe for public participation.

These steps are discussed in the following sections.

### **B. Forming a planning team**

Usually a team effort is needed to carry out a public participation process. The team may include all internal stakeholders (as explained in the following section), senior managers who understand how decisions in an area affect other areas, key external stakeholders and other people whose participation may be needed to establish credibility of the process, and professionals who can provide expert opinion. The team may also include people with expertise in implementing public participation programmes for example, facilitators, media and public relation specialists, and writer.

### **C. Identification of issues and stakeholders**

Hardly any planning starts from scratch. Planning issues, goals, wishes and interests of the people have usually been articulated long before in previous studies, public debates, interest groups concerns, public opinion reflected in the media, lessons drawn from organizational experience and various other means. This history can provide a reasonable basis to begin with a participation process and may be actively incorporated into all new planning activities including identification of possible issues and stakeholders.

There are three broad groups of actors who may take part in a participation process:

- 1) Elected representatives of the people and politicians;
- 2) Public and private sector agencies who may be directly or indirectly involved, and
- 3) The civil society, community, special interest and advocacy groups, likely affected people, and the public at large.

These actors are collectively termed as stakeholders who perceive themselves as having a stake in the decision. The stake could relate to economic and social benefits, use of resources, institutional mandate, positive and negative impacts on society and the environment, or social values. Participatory approaches should involve representation, preferably direct, from all of those groups of stakeholders. It is very important that all stakeholders are identified and their true

representatives are selected for participation.

The following questions can be used as a checklist to identify stakeholders.

- 1) Who are the internal stakeholders?
- 2) Who are the groups that have an interest and may provide the information needed?
- 3) What are the agencies that have an interest and may provide the information needed?
- 4) Who could be the affected people?
- 5) What functions of stakeholders are there and who can perform them?
- 6) What specific tasks are to be performed by stakeholders and who can perform them?

#### **D. The participants analysis**

It is important to understand the relationships between different groups of participants and their interests to know about their possible roles at different stages. Sometimes it is helpful to carry out a participants analysis and develop a relationship map. The participants analysis provides an overview of all persons and interest groups, public and private agencies and institutions who may have an interest in the planning or policy formulation process. It describes their interests and expectations. The following procedure may be followed to carry out the analysis:

- 1) Identify all participants (persons, groups, organizations, etc.);
- 2) Categorize the participants in broad groups such as beneficiaries, affected people, advocacy groups, experts, implementers, decision-makers etc.;
- 3) Identify the characteristics, interests, potentials and implications of involvement for each of those groups;
- 4) Based on analysis identify potential roles for each group.

A separate relationship analysis between different important groups of participants may also be helpful to understand the potential roles that they may have at the planning and implementation stages. There are many different tools for participation analysis. A relationship map is one of those, which graphically shows the nature of relationship between groups as well as the type of influence that one group may have over another group. The map is prepared on a piece of paper that shows the type of relationship between groups by using different types of arrows and symbols. The types of relationship could be of cooperation, dependency, symbiotic, partnership, conflict, competition, etc.

An example of a relationship map is shown in figure 1. It shows typical relationships between bus operators, informal transport operators, bus users, local authority, public transport regulator, financial institution and bus manufacturers that may exist in a hypothetical situation. This type of relationship mapping is helpful to understand the group dynamics between different actors involved in the operation and management of complex social systems or delivery of public services. Clear understanding of group dynamics could be crucial for the success of a participation process as well as to understand the complexity that might be involved in decision-making in a particular situation.

A relationship map can also help to identify existing nature of relationships between groups that need to be changed through some interventions. For example, an existing conflict relationship between informal transport providers and bus transport operators (or between two bus operators) of figure 1 may need to be changed to a mutually supportive or symbiotic relationship through integration of these systems.

Another important purpose of participants analysis is to have an idea about the level of controversy that might exist surrounding the identified issues and identifying groups that may have conflicts of interest. Although it is not always possible to predict controversy at an early stage, the following checklist may help to sense potential controversial issues:

- 1) If the probable impacts of identified issues are wide, affecting a large area or adversely affecting many groups of people;
- 2) If any of the major groups have conflicts of interests;
- 3) If linked to some other major issue over which there is continuing controversy;
- 4) If it is linked to political topics;
- 5) If the existence of certain groups is threatened.

If the answer to any of the above checklist criteria is yes, the identified issue is likely to be a controversial one.

A strategy is required to deal with controversial issues and to resolve conflict between groups. The following steps may be helpful:

- 1) Undertake studies or gather evidence from existing studies or research findings to answer the controversial questions as clearly as possible;
- 2) Draw evidence from experience elsewhere;
- 3) Prepare information products and publications to answer questions about the controversial issues;
- 4) Identify policy decisions that must be made to answer the questions;
- 5) Design a special mediation/negotiation process to resolve conflicts of interest between well-defined stakeholders groups.

### **E. Determining the purpose and level of participation**

A participation process is undertaken to serve certain purpose. The broad purposes and level of participation were explained in Section V. It may vary from simply providing information to stakeholders to supporting people's initiatives. The purpose needs to be decided at the beginning in order to determine the level and methods of participation to be followed in the process. In this stage, the planning team also needs to analyze the exchange of information that must take place to serve the purpose of participation.

### **F. Identification of constraints and special circumstances**

It is important to identify constraints and special circumstances that could affect the selection of participation techniques and timing of participation. The major constraints may include human, financial and technical resources and time required. There may also exist some special circumstances that need to be considered in carrying out a participation process. The

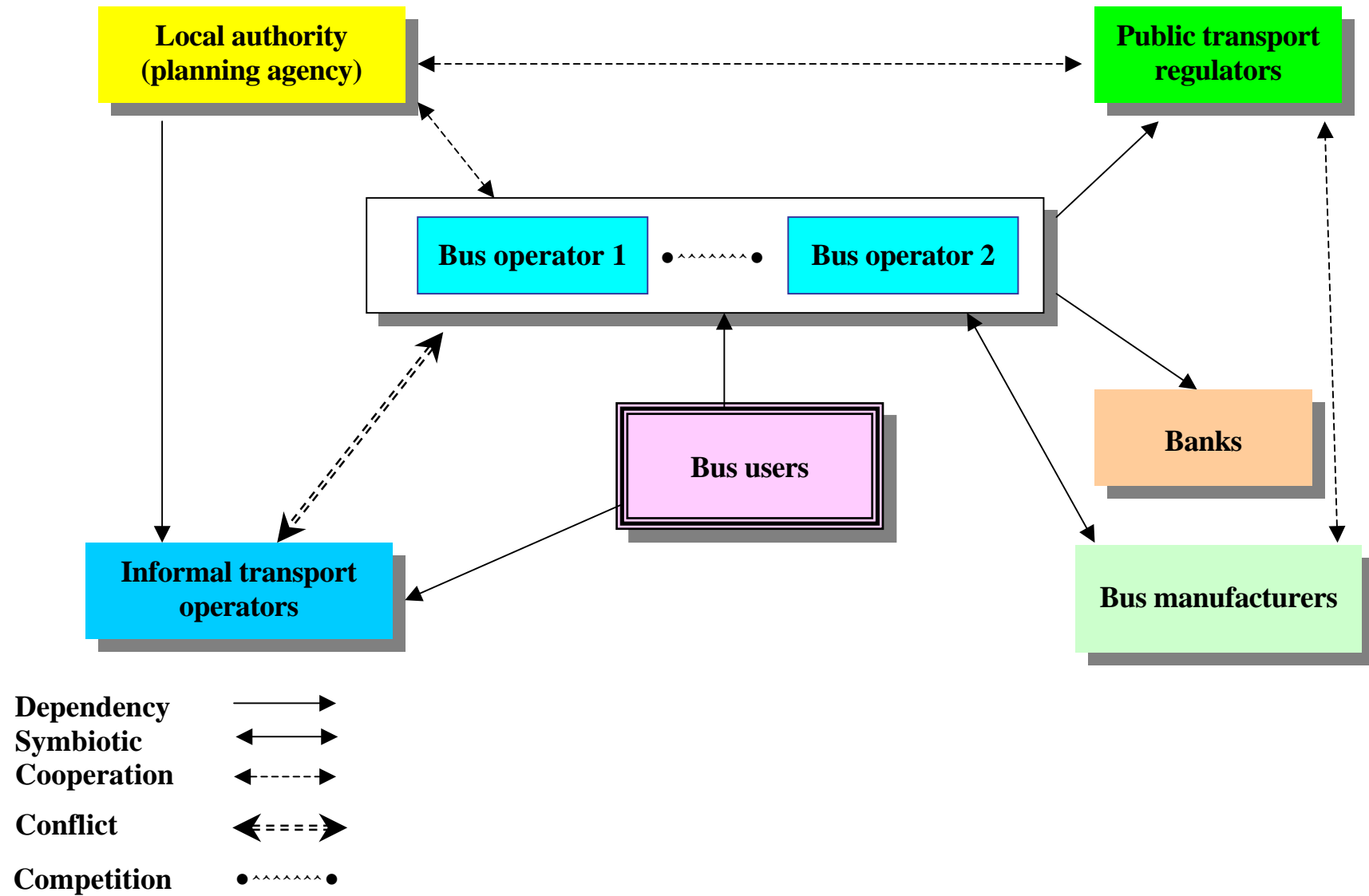


Figure 1. A map showing an example of relationships between different groups

special circumstances, for example, may include political sensitivity, level of public interest, cultural and ethnic sensitivities, etc. The planning team should consider these factors in selecting techniques of participation and the place and timing of holding the participation events.

The timings and venue of meetings should be decided to suit the convenience of the key stakeholders in the process. If wide public participation is expected, it should be arranged in social hours and at a place where most people would feel comfortable.

### **G. Sampling of participants**

For practical reasons it may not always be possible to include a large number of people in a public participation process. In this situation, an appropriate sampling method needs to be employed to ensure adequate participation from all layers of society. Sampling provides a more efficient alternative to gathering information from every individual or entity. However, it is important to mention here that in societies where penetration of the information and communication technology is quite high, ICT-based participation techniques may be used to collect information from, or provide information to a very large number of participants.

The following discussion provides some details on sampling methods and sample size.

#### **Sampling method**

There are two basic methods based on probability and non-probability sampling. These are discussed next.

##### *Probability sampling*

In probability sampling, every individual or unit of analysis has a known chance of being selected as the sample is drawn from a complete list of units known as sampling frame. Since selection is objective, subjective judgment plays no role. There are four probability sampling methods as briefly discussed below.

##### a) *Random sampling*

In random sampling, each participant in a sampling frame is assigned a number and then numbers are drawn at random to select samples. This is the simplest approach but may not be the most efficient method. Widely available random number tables or hand held calculators with random number generation facility could be used for selection of participants.

##### b) *Sequential sampling*

In this method every  $n^{\text{th}}$  person (or element) of a list is chosen. The value of  $n$  is randomly selected. The assumption is that the persons in the sampling frame appear in a random fashion. For example, every 10<sup>th</sup> passenger boarding a bus could be selected since bus boarding can be assumed as a random process.

##### c) *Stratified sampling*

Sampling elements are first grouped according to some criteria (age, sex, profession, etc.)

and then members from each group are randomly selected.

d) *Cluster sampling*

In this method the sampling frame is first divided into some geographical clusters (using administrative boundaries or arbitrarily sized cells defined as clusters). A certain number of clusters are randomly selected. All sampling units (individuals, households, etc.) in each selected cluster are then listed. Finally, samples are randomly selected from these lists.

*Non-probability sampling*

In non-probability sampling, the selection of participants or sample units is based on subjective judgment and as such every unit of analysis does not have the same chance of being included in the sample. Non-probability samples are preferred when no comprehensive sampling frame is available or possible to compile one, or when the cost of probability sampling would be too expensive. In this method of sampling, for example, all the people are selected who are convenient to interview or who appears to be “typical” of the people in the target group of population for which information is being sought.

There are three methods of non-probability sampling, namely:

a) *Quota sampling*

Quota sampling can be applied when groups and size of the groups in a target population is known. In this method, the number of samples from each group is proportional to its size in the population. The selection from within each group is non-probabilistic. The grouping of the target population may be based on any known physical or non-physical characteristic of the target population such as spatial sub units (by area, road etc.), ethnicity and occupation groups.

b) *Snowball sampling*

In this method, each participant is asked to suggest other participants who might be appropriate for the sample. This method is preferred when confidentiality is important.

c) *Convenience sampling*

Samples are selected based on their availability and convenience such as people at a public place or event. This method may be recommended only if all other methods are difficult to employ.

**Sample size**

Sample size should be large enough to get statistically reliable results. The sample size depends on two main factors: level of accuracy (i.e. acceptable error of estimation in percentage terms) and the desired level of confidence (99 per cent, 95 per cent, 90 per cent etc., which signifies how much confident one wants to be about the survey results). The larger the sample size, the smaller will be the margin of error on the results. However, there is a point of diminishing returns. Some practical experience in a similar situation is also helpful in determining the sample size. If there exists some initial idea about the value of a variable in question, sample size can be significantly reduced.



Table 3 provides a guide about sample size needed for 95 per cent confidence level. As may be seen from the table, sample size may vary from less than 100 to a few hundreds. For example, a sample of 384 randomly selected households in a big city would yield survey results with a  $\pm 5$  per cent margin of error at 95 per cent level of confidence.

**Table 3. Sample size needed for 95 per cent confidence level**

<b>Population Size</b>	<b><math>\pm 3</math> per cent Sampling error</b>	<b><math>\pm 5</math> per cent Sampling error</b>	<b><math>\pm 10</math> per cent Sampling error</b>
100	92	80	49
250	203	152	70
500	341	217	81
750	441	254	85
1,000	516	278	88
2,500	748	333	93
5,000	880	357	94
10,000	964	370	95
25,000	1,023	378	96
50,000	1,045	381	96
100,000	1,056	383	96
1,000,000	1,066	384	96
100,000,000	1,067	384	96

Source: Priscilla Salant and Don Dillman, 1994 as given in Jane L. Reisman et al., p. 42.

## **H. Method of participation and their selection**

There are many different methods and techniques of participation. The intention is not to catalogue them but commonly used ones are briefly mentioned in this section as a ready reference to readers. Details about the individual methods can be found in the literature.<sup>6</sup> A discussion on selection of methods follows the brief description on methods.

### **Method of participation**

**Residents informed.** Lowest level of involvement, when residents are simply informed that a plan is to be prepared, and may be asked to support certain aspects of the plan. This could also be a preliminary step for other types of involvement. Various publicity media like posters, billboards, brochures, exhibits, TV programme, etc. can be used to inform the residents.

**Response to proposals.** The involvement of participants is low in this method. Residents are

<sup>6</sup> *The World Bank Participation Source Book* and *Empowering People: A Guide to Participation* by UNDP provide excellent discussion on various issues related to public participation in general as well as details on different methods of participation and their applications in different countries. *Public Involvement for Transportation Decision-making* is another resourceful document on methods prepared by the United States Federal Highway Administration and Federal Transit Administration. These documents are available on the websites of the respective organizations. Many other websites also provide details on some of the methods, for example, <<http://www2.edc.org/NTP/focusgroups.htm>>; <<http://www.ext.usu.edu/wrdc/>>.

asked to comment on proposals prepared by a planning authority, sometimes containing alternatives.

**Public hearings.** In many countries this is the traditional legally required meeting to take formal action on a proposal or draft plan prepared by a public agency or to record public complains about some proposed action by an agency.

**Community forum.** A community forum is based on one or more public meetings sponsored by an official agency. Residents are invited to express their opinions about community problems and needs. A forum may also be used to inform citizens of potential programs and actions and to obtain feedback. With advance planning, an enormous amount of information can be obtained from a forum in a short time and at minimal cost.

**Task force.** An agency sponsored citizen committee with a specific task and charge related to a single problem, subject or project. Members of task forces may be specially selected or invited to participate because of their unique skills or backgrounds; they may volunteer; they may be nominated or elected; or may be formed by a combination of these processes.

**Focus/ user groups meetings.** Focus groups are a tool for collecting qualitative data from group discussions. A moderator follows a predetermined interview guide to direct a discussion among a group. Regular meetings are held between officials, and focus/user groups to discuss proposals as they develop. It requires that stakeholders are organized in some way. Common methods are to have street committees, or one committee with representatives from all streets, sub-areas; committee of users for certain facility, parents committee on education for example, etc. An advantage of this method is that it allows group interaction such that participants are able to build on each other's ideas and can give insights into not just what participants think, but also the reason for such thinking. A major disadvantage is that groups are typically small and may not be representative.

**Citizens juries.** A small group of 15-20 citizens are randomly selected. They are gathered in such a way as to represent a microcosm of their community. They meet over several days to deliberate on a policy question. They are informed about the issue, hear evidence from witnesses and cross-examine them. They then discuss the matter among themselves and reach a decision.

**Referendum.** Popular voting on certain matters of great concern to the public. Rarely done. Generally on national issues. But there are examples of local referendum on some local matters.

**Social survey.** Carried out prior to drawing up plans or proposals. It may include questions on residents' attitudes to and ideas about the area. By far the best and relatively inexpensive way to gather information from a large number of people. Surveys may also be conducted to set priorities, evaluate performance, importance, affordability, etc. If a survey is well designed and implemented, the results can be generalized to a larger population.

**Advisory/consultative forums.** Forums are constituted of citizens, marginal groups in society and other special interest groups known or believed to represent the interest of the likely affected parties and presumed to represent their ideas and attitudes. The purpose is to advise the public agency. Sometimes consultation guides are prepared for discussion with forums and to have their views on the subject matters of the prepared publications.

**Nominal group process.** This is a structured problem solving or idea generating strategy in which individuals' ideas are gathered and combined in a face to face non-threatening situation. The process assures a balanced input from all participants and takes advantage of each person's knowledge and experience. It is useful for generating and clarifying ideas, reaching consensus, appreciating the diversity of participants' needs and revealing their preferences, prioritizing, and making decisions on proposed alternative actions.

**Interactive website.** An interactive website on the Internet may be created by an agency to obtain (as well as provide) helpful information, request opinion and suggestions on some matters, receive complains etc. from stakeholders. This can be done either on a regular basis or on an ad hoc basis to serve some specific purpose. The success of this method, however, much depends on the level of Internet penetration in a society.

**Workshop.** Workshops can be organized with participation of all stakeholders to prepare a plan or formulating guidelines to prepare such a plan. The beneficiaries can themselves identify their problems, priorities and actions needed to solve the problems. Workshops can also be used as tools for transfer of information and knowledge, improve working relationships and support other management functions. The planner or the local authority can play the role of a facilitator and provide technical support as needed. Some appropriate methods to deal with workshops include facilitation, visualization, video and group work. Visualization techniques in workshops have proven very successful.

**Partnership.** This method involves very high level of participation. Residents and other stakeholders and local authority collaborate on plan preparation, with ideas coming from both. Residents might also carry out some surveys, and later be involved in implementation of the plan.

**“People’s Plan”.** Residents take advantage of legislation to prepare their own plans. This is the highest level of public participation but rare.

### **Selection of method**

As already mentioned, a wide range of methods and techniques of participation is available. Each has certain advantages and disadvantages and is better suited to a certain purpose and conditions than others. Some techniques are better suited to large groups while others are more targeted. Some are more suited to obtain opinions of minority or disadvantaged groups while others may have a tendency to encourage responses from highly educated people. Institutional capacity and its organizational framework, type of stakeholders, etc. could also be important considerations in selecting a method. It is therefore not possible to prescribe any particular technique for particular purposes. The appropriateness of a particular technique for a specific purpose has to be judged considering the circumstances for which it has to be applied.<sup>7</sup> The selection of a particular method depends mainly on:

- 1) Purpose of participation (refer to Section V);
- 2) Level of organization (spatial level);
- 3) Nature and form of participation (already discussed; this is also related to purpose of participation);

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<sup>7</sup> Abelson et al (2001) provide an excellent summary of different methods together with their strengths, weaknesses, recommendations for use as well as their source references.

- 4) Number of stakeholders and their type;
- 5) Human and financial resources required to pursue the process;
- 6) Availability of support in the form of human resources that may be harnessed from the community;
- 7) Timescale.

Table 4 provides an indication of the suitability of different techniques for the five broad purposes discussed in Section V. It should also be noted here that a single technique may be too narrow to serve the purpose. Often, a combination of different techniques is required that are appropriate for different needs as well as to ensure participation by all types of stakeholders and from all groups in society. It is important to note that stakeholders' interest and as such their level of participation could be different. Considering the level of interest in participation, they can be broadly categorized in five groups according to their functional roles as suggested in a publication by the United States Department of Energy.<sup>8</sup> These are:

- 1) Co-decision maker (for example, a regulator and other agencies that are directly involved who must agree to decisions taken in the process);
- 2) Active participant (various interest groups and people who actively participate, promote their causes and make recommendations);
- 3) Technical reviewer (they are also active participants but limit their role mainly to look at the manner in which the technical studies are conducted and apprise the adequacy of studies);
- 4) Commenter (groups or individuals who merely comment but do not participate in all activities and are unwilling to commit to specific activities);
- 5) Observer (groups and individuals who remain informed by getting information about the process from the public domain, but unless very much concerned they may not express themselves).

A combination of different techniques may be followed in a public participation process in order to ensure that stakeholders can participate at their own level of interest. Often, an apparently simple straight-forward technique, like holding a series of public workshops, may require the integration of a number of techniques. For example, holding a workshop may require:

- 1) Briefings to elected officials ;
- 2) Sending a newsletter to potential participants;
- 3) Media coverage about the workshops and Newspaper inserts about the issues ;
- 4) Peer review panels to scrutinize and finalize the workshop outcomes;
- 5) News release to the general public about the final outcome.

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<sup>8</sup> USDOE (undated). "How to Design a Public Participation Program", Office of Intergovernmental and Public Accountability (EM-22); United States Department of Energy, available at <<http://www.em.doe.gov/ftplink/em22/doeguide.pdf>> (9 April 2002).

**Table 4. Examples of techniques of participation suitable for different purposes**

Purpose	Technique	
	Small group	Large group
Providing information	Community forum, Consultation documents, Public documents (a draft plan, for example), Briefings	Public meetings (at different levels), Media coverage, Exhibitions, Newsletters, Brochures, Open house, Information repositories, Newspaper inserts, Websites
Collecting inputs	Interviews, Focus/user groups meeting, Advisory/consultative forum, Task force, Nominal group process	Social survey, Public hearing, Referendum, Surveys through the Internet and other electronic media
Negotiation	Nominal group process, Mediation, Public community partnerships, Consensus building techniques	Interactive website, Workshops
Problem solving/plan preparation	Design charrettes, citizens juries, Panels, People's plan, Task force	Workshops with interactive working groups
Supporting people's initiatives	Joint working committee	Project committees

Source: Based on information from various sources that include <<http://www.local-regions.detr.gov.uk/epplg/13.htm>> (8/3/02); and <<http://action.web.ca/home/pdforum/readingroom.shtml>> (15 April 2002).

## **I. Functions and tasks of stakeholders**

It was indicated in the previous section that the level of interest of different groups of stakeholders vary. Not all groups may take interest in every activity of a participatory process.

In order to ensure meaningful participation of all stakeholders they need to be involved in those specific activities in which they have interest and can contribute to their deliberations.

Once the broad purpose of participation is defined and the techniques to be followed are decided, specific activities such as those outlined in Section VI need to be identified. These activities, for example, may vary from data collection to project development and their implementation. The identified stakeholders can be grouped according to their functional role namely, co-decision maker, active participant, technical reviewer, commenter or observer as explained above. Each group or subgroup of stakeholders (i.e. beneficiary, citizen, professional, public official, decision maker etc.) can be involved in individual activities or tasks in line with their respective functional roles in the overall process.

## **J. Writing an overall plan**

Once the tasks in all the above steps are finalized, the next step would be to outline a schedule to carry out the public participation activities and write down the overall plan of public participation. Defining the schedules for various activities is very important from the

point of view of managing the overall process, mobilizing resources and securing commitments from other stakeholders. One strategy that is often recommended in preparing schedules is to start at the end point of the process, then work backwards step by step. This is often the case to meet certain deadline by which the output of the process has to be made available.

After preparing the schedules, one can write the overall plan for public participation. The advantages of writing the plan include that it forces clarity of thought in the whole process and that the plan can be shared with other stakeholders. The plan should contain information on purpose and objectives of public participation, list of broad groups of stakeholders, activities to be undertaken, methods and techniques of participation to be followed, schedule and location of activities, organization of activities and resource requirements, and other relevant information of interest to stakeholders.

## **VII. PUBLIC PARTICIPATION WITHIN A PLANNING AND POLICY DEVELOPMENT PROCESS**

There could be many different approaches to participatory planning and policy development for any sector - transportation, urban development, rural infrastructure or some other sector. Furthermore, as methods of participation and the overall planning process in which they are employed are very much contextual, the designing of a participatory planning approach may greatly vary from one situation to another. All these make it unwise to prescribe any particular method or process for any particular type of planning.

However, there are steps, which are generally common to any process involving direct and interactive participation of stakeholders. These are discussed next.

### **A. Basic steps in the process**

A direct and interactive involvement of the main “actors” in a plan preparation and policy development process forms the essence of participatory approaches. These main actors include politicians (including elected representatives), civil servants/professionals, and the public at large including the civil society and various interest groups. They are collectively termed as stakeholders. While the actual method(s) of participation may vary from one process to another, the involvement of stakeholders in a process, as depicted in figure 2 (which is generic in nature and was developed in the light of ESCAP’s experiences gained from a pilot project in Bangkok<sup>9</sup>), may be achieved through the following basic steps:

- 1) Deciding the purpose of participation and identification of representative stakeholders who are likely to have a view on problems and issues (related to transportation or any other sector) in the planning/project area;
- 2) Establishing communication with the identified stakeholders and stating the importance that the authority places on stakeholder’s views;
- 3) Designing a participation method (or methods) suitable for the purpose and carrying out the process by core project team members;

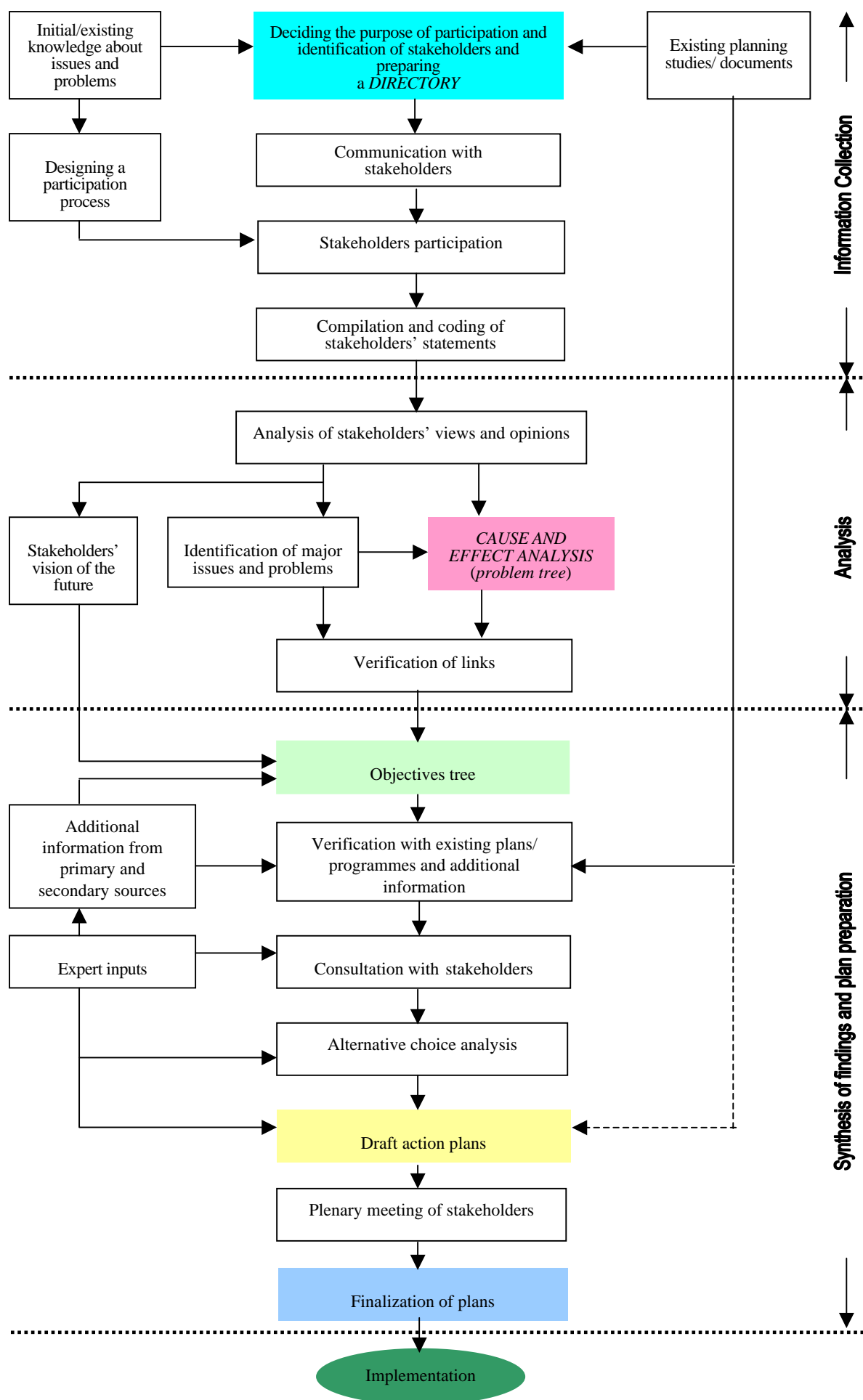
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<sup>9</sup> ESCAP, 2001. Op. Cit.

- 4) Documentation, in a structured manner, of all statements made, views expressed, suggestions provided, etc., by the stakeholders. If a large volume of data (statements) is generated, systematic coding would be required for data processing. The documentation may be publicly available. If needed, while the identity of stakeholders may not be revealed, individuals should be able to read (and possibly verify) the statements which they made, the views they expressed and the solutions they proposed;
- 5) Processing of participation outcomes, identification of major problem areas and developing cause and effect analyses in the form of trees for each of the problem areas. In this phase, the problems, their root causes and effects are identified, and their interrelationships mapped out in a series of large diagrams. Also in this phase deficiencies in sector outputs which are identified as the major causes, are linked to identified shortcomings of existing policy and legal environment, institutional capacity and resource inputs. The cause and effect relationships shown by the links of a tree are verified from results of empirical studies, past experience, expert opinion, etc. In a separate exercise, stakeholders' image of the future is also developed;
- 6) Developing an objectives tree from the cause and effect analyses and stakeholders' image of the future. The Objective tree identifies actions to be taken to address the existing deficiencies and shows a means-to-ends relationships;
- 7) Finalization of the objectives tree after verification with current plans and programmes, additional information, and expert opinions.
- 8) Consultation with the original stakeholders for refinements of the initial outcomes;
- 9) Alternative choice analysis to judge the relative effectiveness of alternative strategies to address the problem. This analysis may also be performed to prioritise alternative actions;
- 10) Developing detailed action plans based on the outcomes of the previous stages.

### **B. Participation of stakeholders**

The involvement of stakeholders (especially the public at large), either directly or indirectly, can be at several stages of the process. It may begin with an initial stage when their views are asked concerning identification of problems and their root causes, their vision of the future and the ways in which they could directly contribute to that vision. Subsequently, they may also be involved in considering the findings of the analyses and synthesis of findings, and finally in considering the draft plans or policies developed.



**Figure 2. An overall planning and policy development process**



Depending on the purpose of participation and other factors, the method of participation can be different at different stages of the overall process. For example, the initial method could be a social survey (either through questionnaire or interviewing) followed by workshops to consider the various intermediate outputs, and finally a plenary meeting to consider and deliberate on the formulation of draft plans and policies. Even a combination of methods may also be used at any stage of the process.

In case of questionnaire surveys, participants can be asked to explain their thoughts and opinions through a few open-ended questions that do not provide response choices from a list. Open-ended questions are preferable when it is known that responses will be highly individualized or little is known about the likely responses. The basic format of open-ended questions are discussed in the next section. These types of questions may inspire a wide variety of responses and be very helpful to find out all possible reasons for a situation (presumably of undesirable nature) that is being investigated. The response data can provide rich description of the problems and links to their root causes as well as the desirable conditions that should be achieved in the future. The response data could also suggest what could be the solutions to the existing problems and how the respondent could contribute towards achieving that desired state.

### **C. The basic format of an open-ended questionnaire**

A questionnaire with a set of open-ended questions may include questions on the following five aspects:

- 1) Identification of and respondent's opinion on principal problems (of an existing state, situation, or system);
- 2) Root causes of the identified problems;
- 3) Vision or desirable future state;
- 4) Measures to address the problems and;
- 5) Possible role/contribution of the respondent or his/her organization in addressing the problems.

As may be seen, the forms of these questions are generic in nature and can be applied to almost any field of planning or public policy formulation processes that are based on participatory approaches. The actual questions, however, need to be contextual but may be phrased along these suggested lines. These types of questions may also be used to guide structured discussion at other methods of participation such as community forum.

### **D. Analytical tool**

In the process of an open-ended questionnaire survey or direct interaction with a participant, an individual is not expected to map out the entire links to root causes of an identified problem. However, he or she could help identify at least some of the basic causes. With responses from all participants synthesized together, the analyst would be able to trace down the root causes of the manifested problem at the top as well as show all links through other problems and constraints at the intermediate levels. These links unfold the logical sequence of cause and effects (albeit in a linear fashion) between the root causes at the bottom and the manifested problem at the top, which can be portrayed by some kind of structured diagrams such as an *event tree* or a *problem tree*.

The problem tree (it has also many other names) is basically a logic tree that depicts the various factors, which lead to or contribute to the occurrence of a top event. The tree can be developed either through direct interaction with a small group of participants following a visualization technique or from the responses received through a questionnaire survey.

The top event of a problem tree is an undesirable event or situation that need to be avoided. It is linked to *cause events*, which represent the factors, events or conditions as identified by the participants that are immediately leading or contributing to the occurrence of the top event. Each of the cause events may be further analyzed to identify the causes for its occurrence and so on. A problem tree identifies various causes and their linkages that lead to the occurrence of the top or other intermediate events. However, some of the causes are more important than the others. Empirical evidence may be required to establish their validity as well as relative importance. Computer programs are also available to develop these trees. Further discussion on this analytical tool is presented in Part II of this publication.

### **VIII. THE ROLE OF PROFESSIONALS – ARE THEY REDUNDANT?**

In a participatory approach the role of professionals is significantly different than in a typical non-participatory planning process. In a typical process, a plan is prepared that contains basically a list of “ideal” actions to attain some “optimum” conditions or to address some existing problems, which are prepared to guide the deliberations of specialist professionals. At the beginning of this publication it was mentioned that in a participatory approach professionals have a facilitating or supporting role. While that may be true in terms of their role, it does not, however, mean that they would require a lower level of professional competence or different types of professional skills.

The professionals would require to acquire the same types of skills as they would have required to prepare plans following a typical non-participatory approach plus some more to utilize the inputs from public participation to form the very basis of plans to be prepared as well as the skills of maintaining public relations. However, they may be required to apply their traditional professional skills in a different context and sequence. For example, a transport planner may still be conducting typical studies such as an O-D Survey, traffic speed studies, bus passengers’ waiting time survey etc., and analyzing the collected data. These studies, however, should no longer be done from his or her professional points of view, as commonly done in a typical phase of data collection and analysis at the outset of a non-participatory approach. Rather, they need to be carried out at a later stage, if required at all, to supplement participants’ views or to verify certain conditions and solutions they proposed. As application of professional expertise in a participatory approach has to be tailored to meet the needs of the participants, professionals have a more challenging role to play than that in a non-participatory approach.



## **PART II**

### **ANALYSIS AND SYNTHESIS OF PUBLIC PARTICIPATION OUTCOMES**



## INTRODUCTION

In the traditional planning approach, professionals carry out almost all activities starting from problem identification to plan formulation by themselves with very little or no consideration of the views of beneficiaries and other stakeholders. Consultations with other stakeholders are occasionally incorporated in the process. However, in the event of consultation with others, professionals tend to be strongly defensive about their own views and in most cases those views are subsequently upheld with little cognizance of other stakeholders' views. Professionals analyze (huge volumes of) data (mostly quantitative or numeric) to identify problems from their professional perspective. After data analysis, they undertake another round of exercise to find a "solution" to those problems usually through some kind of modeling.

A flaw in this type of approach is that analysis of some numeric values in itself may not be sufficient to identify problems or desired actions to address them. Professionals normally apply their own value judgment in interpreting the results to identify problems, which may not necessarily be the ones perceived by the real beneficiaries. Furthermore, even if a problem is rightly identified, quantitative data may not capture or reveal all the complexities that may exist surrounding a problem.

In a participatory approach on the other hand, regardless of the method of actual participation, a large volume of qualitative data in plain text format as well as numeric or quantitative data can be generated which tell about people's views, desires, priorities, and can also provide much deeper insights into the complexities involved. These data from public participation form the basis of problem identification and subsequent plan preparation or policy formulation to address them. The tools and techniques of analyzing quantitative data are highly developed and are widely known to professionals. The body of literature is very rich in these areas and a wide variety of application softwares are also readily available. Compared with this, in relative terms much less effort has gone into the development of tools and techniques for analysis of qualitative data, synthesis of findings and using those in plan preparation and policy formulation. As indicated earlier, Part II of this publication makes an effort in these areas.

There are tools for the processing and analysis of qualitative data that may be generated from a public participation process. However, not all of them are suitable for analyzing data in a manner that permits their direct utilization in planning, policy formulation or for some other decision-making purposes. In this publication, two suitable analytic tools namely, the *problem tree* and the *objectives tree* are outlined, which can be appropriately used for these purposes. These tools are:

- 1) Complementary to each other;
- 2) Based on systematic structured formats, the logic of which is easily understood;
- 3) Clearly shows the logic of decision-making;
- 4) Suitable for handling public participation data in text format;
- 5) Widely used by many national and international agencies;

- 6) Can be used for both planning and project development purposes.<sup>10</sup>

Before discussing these tools and their applications, a brief outline of an overall process of analysis and synthesis is presented below to show where, for what purpose and at what stage these tools could be applied.

## **I. AN OVERALL PROCESS OF ANALYSIS AND SYNTHESIS OF FINDINGS**

An overall process of analysis and synthesis of findings, as depicted in Figure 3, consists of the following six basic steps:

- 1) Situation analysis;
- 2) Identification of major problem areas and opportunities that exist;
- 3) Cause and effect analysis to identify problems or deficiencies in sector outputs and their root causes;
- 4) Identification of objectives and alternative interventions to address the problem conditions;
- 5) Assessing effectiveness of alternative interventions;
- 6) Preparation of detailed plans and project development.

These steps are explained in the following sections.

### **A. Situation analysis**

The purpose of situation analysis is to make an assessment of the situation in which planning and policy formulation are to be carried out. A GTZ (1997) publication on ZOPP (Objectives-oriented project planning) provides details on different aspects of this analysis. It has three main areas of concern:

- 1) The participants analysis (already discussed in Part I);
- 2) An initial assessment of problems, and
- 3) The planning and institutional environment.

A situation analysis may be undertaken at sectoral, spatial or project level. The spatial level may cover multiple sectors within the purview of a public agency. The analysis involves an initial assessment of sector performance (probably against some performance indicators or criteria) to identify the possible critical areas where the existing situation or sector performance are not up to the expected level or suffers from problems that need to be addressed. The purpose of situation analysis is not to specifically identify all areas of concern or determine the seriousness of problems but to have some initial ideas about them so that an effective participatory approach may be designed to involve all concerned participants. Without initial knowledge, it is not possible to plan an effective public participation process as well as identify prospective participants.

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<sup>10</sup> Many agencies of the United Nations and other international organizations use Logical Framework or LogFrame as a tool to facilitate project planning and management. The LogFrame can be used as a planning tool to develop plan and formulate policies and projects from the results of analyses of the existing situation. The problem tree and the objectives tree can be used for systematic analysis of an existing problem situation and to find its solutions. The analytical framework of these tools can be structured in the same way as that of LogFrame. David Bray (2002) provides a good outline on LogFrame.

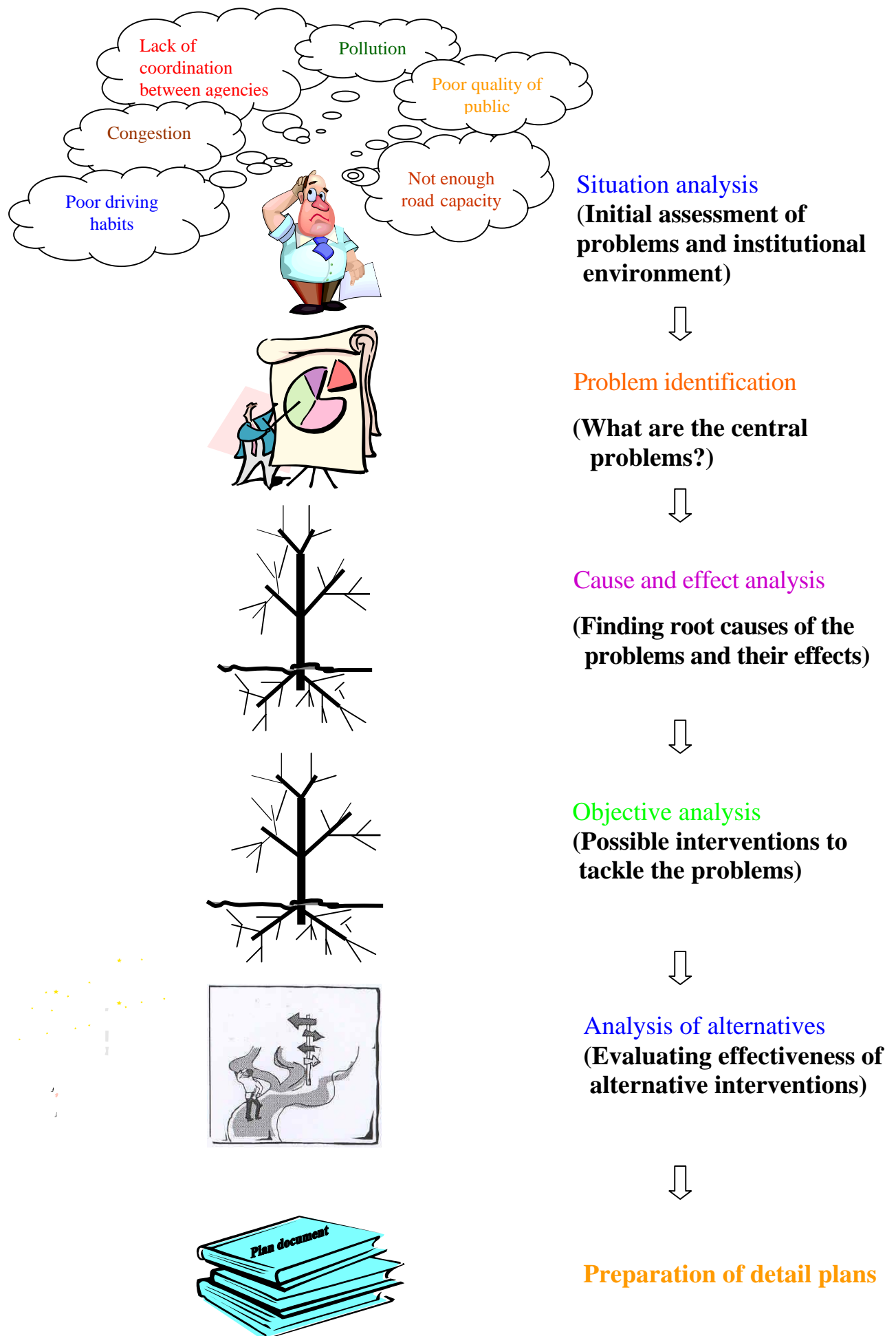


Figure 3. An overall process of analysis and synthesis of findings



The situation analysis also involves an assessment of the planning environment, institutional framework and various constraints, which could have influence on both the planning process as well as the outcome of the process. The analyses can be based on information available from secondary sources, discussion with decision makers and other sector performance studies that may be available.

### **B. Identification of major problem areas**

Situation analysis leads to identification of possible problem areas, which need to be verified from participants' responses. It is possible that at this stage quite a large number of problems are identified, many of which may have strong relationships with each other while some on the list may in fact be the cause (or effect) of other problems on that list. For example, in the transport sector both congestion and pollution may be identified as problem conditions in a particular city. But analysis may reveal that congestion is the major cause of pollution. Pollution could largely be a symptom that would disappear (or substantially reduced) once the congestion problem is tackled. However, in another situation an analysis may reveal that vehicular congestion is not the primary reason but poor maintenance of vehicles, low vehicular emissions standards, etc. are the main reasons and as such direct interventions in these areas would be required. Nevertheless, whether an initially identified problem area has substantial merits to start with or not becomes clearer at the following stage of analysis.

### **C. Cause and effect analysis**

#### **The conceptual background**

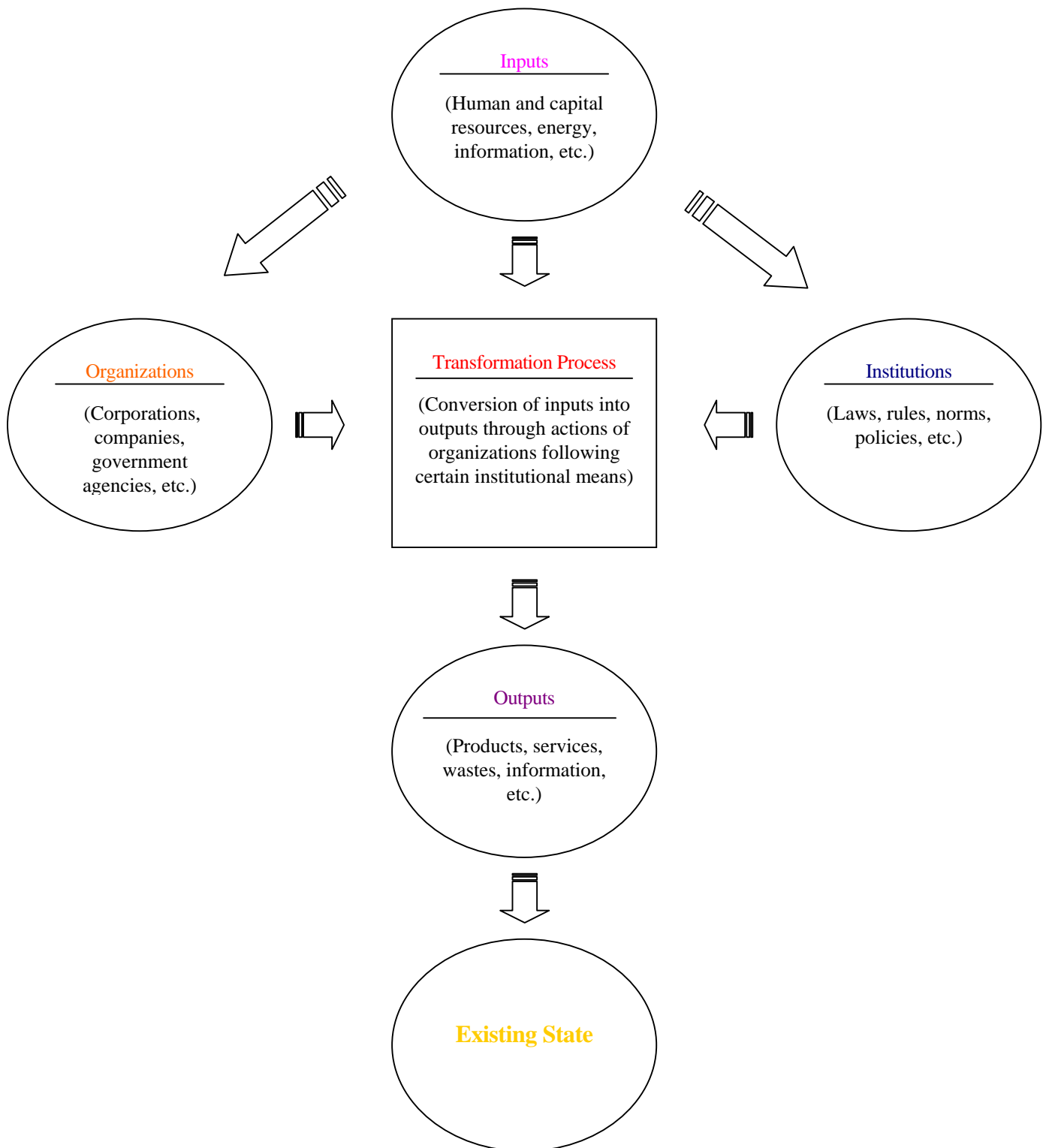
We are familiar with different types of systems - transport, health, education, manufacturing, for example. A system is composed of many elements (people; different activity centres like office, shop, etc.; government; institutions; adapted space; transport and communication media and so on and so forth) that interact according to certain rules of conduct or institutional means (laws, norms, agreements, regulatory framework etc.), taking inputs (such as food, energy, raw materials, information, labour force) from its environment, and delivering certain outputs (waste, finished products, information, services etc.) back to the environment.<sup>11</sup>

A system consumes some inputs to produce certain level of outputs. Outputs are the result of transformation of inputs by organizations and institutions which interact according to certain rules of conduct. To produce certain levels of outputs, the inputs must be of the right type, the right quantity and be made available at the right time. Likewise, it is also important that the organizations processing those inputs must have the capacity to do so and the rules of conduct and institutions for their interactions need to be conducive. This functional notion of system as a relationship between a set of inputs to a process and its outputs is shown in figure 4.

An apparent (or symptomatic) problem condition of a system is usually the manifestation of other much deep rooted problems. The problem condition actually refer to certain deficiencies in the outputs of a system. These deficiencies in outputs can arise due to inadequacies in input levels, lack of capacity of organizations, or limitations of the rules of conduct and institutions. In order to find solutions to an identified problem, the problem needs

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<sup>11</sup> Readers are referred to Chadwick (1981) and Meier (1989) to know more about systems.



**Figure 4. Transformation of inputs into outputs from a systems view**



to be linked to some deficiencies in the system or sectoral output, which in turn have to be linked to intermediate levels of outputs and ultimately to possible deficiencies in inputs, organizational capacity or their rules of conduct.

### **The problem tree – a graphic tool for cause and effect analysis**

The cause and effect analysis (also known by many other names such as problem and cause analysis, cause-and-effect diagram) reveals the links between system inputs and outputs through various intermediate levels and identifies possible deficiencies in inputs, organizational capacity or their rules of conduct as the root problems that need to be tackled in order to address the apparent problem condition. There are graphic as well as other tools for conducting the cause and effect analysis. One of the popular graphic tools – the problem tree is explained here.<sup>12</sup>

The problem tree is a graphic tool that can be effectively used to reveal the cause and effect relationships between problem conditions and their root causes systematically in a diagrammatic tree form. It can be used to show the cause and effect relationships between problem conditions in a defined area of any system. The tree identifies linkages between the problem conditions and factors that influence system or sector performance in a hierarchical fashion.<sup>13</sup> The identified problem is placed at the center of the diagram and its causes and impacts are arranged vertically around it according to their cause and effect relationships.

The tree also shows linkages between system inputs, institutional capacity and policy framework, outputs and impacts. Inputs are the financial, human, managerial and technical resources that are devoted to a system to produce certain outputs. Outputs are the tangible goods and services delivered by public and private organizations or systems. The ability of public and private organizations to deliver certain outputs depends also on their capacity as well as the prevailing policy framework, and legal and regulatory regime. Impacts are the causal effects of produced outputs (i.e. goods and services). They may be measured at different levels (spatial, temporal, sectoral, etc.) and can indicate the state of national economy, human development or environment. The impacts may also be seen as system contributions (positive or negative) to people's quality of life and national economy.

The problem tree is developed as follows:

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<sup>12</sup> Ishikawa diagram or Fishbone diagram is another helpful tool that is based on similar logic. Interested readers are referred to the web site <<http://mot.vuse.vanderbilt.edu/mt322/Ishikawa.htm>> to know more about this tool.

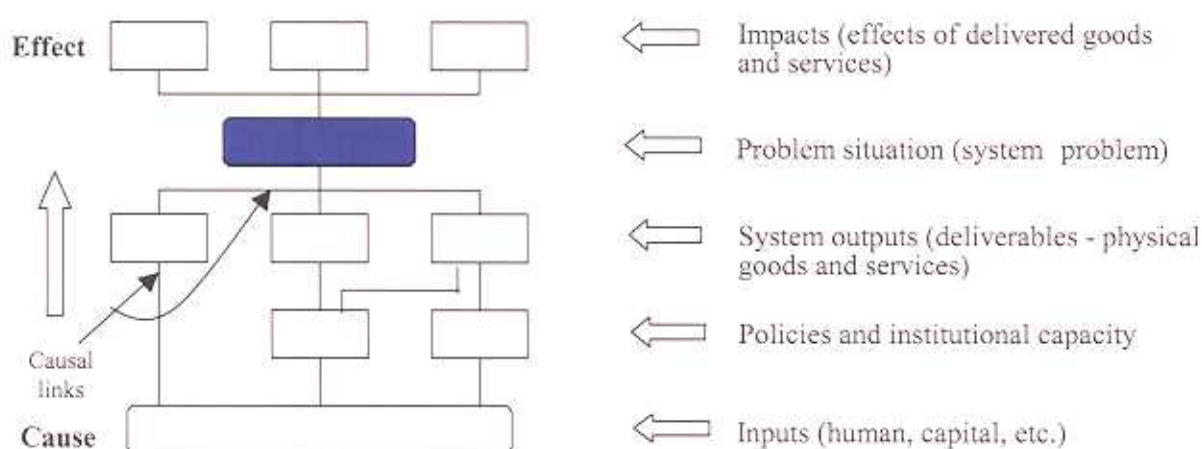
<sup>13</sup> It may be mentioned here that a problem tree is developed following the same logic of the *Fault Tree*, which is used for risk, reliability and availability analysis of engineering systems such as in high-technology industries like aerospace and nuclear power generation. The Fault Tree is basically a logic tree that depicts the various factors, which lead to or contribute to the occurrence of a top event. The top event is an undesirable event or situation that needs to be avoided. It is linked by a "gate" to cause events, which represent the factors, events or conditions immediately leading or contributing to the occurrence of the top event. Each of the cause events may be further developed by becoming the output event of another gate, which identifies the conditions for its occurrence. A fault tree identifies various factors causing the occurrence of the top event. However, some of the factors are more important than the others. Computer programs are used to calculate the relative importance of the individual factors by assigning probabilities of each potential event to occur and thereby to assess the risk associated with a potential top event. These types of analyses greatly help in improving the design and planning of maintenance of complex engineering systems. The *Fault Tree Handbook* produced by the United States Nuclear Regulatory Commission (1981) is a major sourcebook which provides the details about this tool.



- 1) Identify a central problem and define precisely the situation to be analyzed;
- 2) Define some immediate major problem conditions (i.e. deficiencies in system/sector outputs) and consequent effects related to the defined central problem;
- 3) Organize the problem conditions and effects (in the form of a tree) according to their cause and effect relationships;
- 4) Add further problem conditions (and effects), up or down the tree according to their cause and effect relationships;
- 5) Check the tree diagram for completeness and plausible logical order of problem conditions.

It is important that problem situations are worded as negative or undesired conditions.

As provided in Saldanha and Whittle (1998), a problem tree showing the hierarchy and cause and effect relationships between inputs, organizational capacity and policy framework, outputs, central problem, and impacts can be shown in a schematic form as in figure 5. This is basically a reconfigured figure 4 in reverse order with the addition of effects or impacts at the top.



**Figure 5. A schematic problem tree**

Figure 6 illustrates a simplified problem tree adapted from Saldanha and Whittle which follows the structure provided in figure 5. Traffic congestion is the central problem of the tree. It reveals the causes and effects of this problem. In the figure, immediate causes of the central problem or deficiencies in system outputs are linked to their respective root causes in policy deficiency or institutional weaknesses and inadequacy of inputs. The tree also identifies effects of the central problem at different levels: immediate and long-term or higher level.

A problem tree shows the hierarchy of cause and effect relationships from system inputs to outputs and then to their impacts. The links in a tree point to the causal hypotheses about how an effect at one level causes further effects at a higher level. The links, however, do not show the relative contribution or influence of each output to sector performance, which may

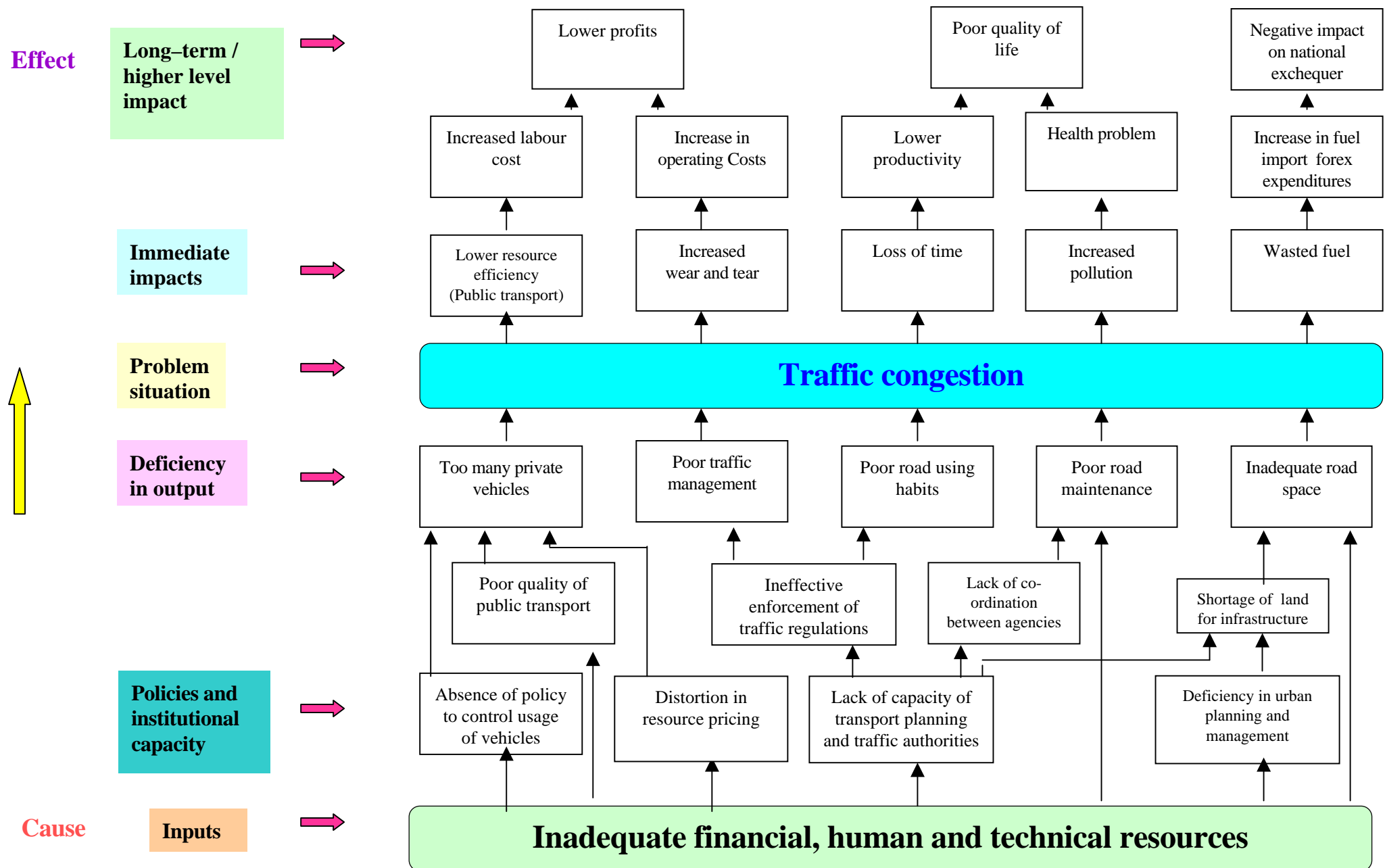


Figure 6. Problem tree: traffic congestion

significantly differ. If the indicated causal relationships (hypotheses) are proved right and strong, links clearly identify the areas for improving sector performance.

Once the causal links and their significance of influence are verified by suitable empirical studies, stakeholder consultation, past experience, expert knowledge, expert systems or by any other means, planners can clearly understand the cause and effect chain and know the premise on which planning and investment decisions need to be taken. The links would also clearly show the point and type of intervention (enhanced capacity, changes in policy and regulatory regimes or human and financial investments, etc.) that may be made at each level to manipulate the system or sector performance in question.

### **Constructing a problem tree**

In constructing a problem tree it is important to decide a starting point. A start can be made either at some identified system performance problem or the desire to improve a particular performance situation by exploiting an existing or emerging opportunity. For example, decreasing quality of public transport services, increasing level of congestion, insufficient capacity of infrastructure, delays in transshipment at border crossings, high costs of transport logistics etc., could all be identified as sector or system performance problems and thus each of them may be a starting point. Likewise, how an existing unused railway capacity can be exploited to enhance performance may also be a starting point. The pertinent point is that the identified problem condition must be directly linked to some immediate deficiencies in system outputs i.e. deliverable physical goods and services that could be linked in turn to other intermediate level output deficiencies and ultimately to deficiencies in policy conditions and inputs. If a problem situation cannot be directly linked to some system outputs, it is probably an impact of some other system problem and thus may not be appropriate to consider as a central problem to start with.

Once a starting point is decided, the actual process of tree construction is quite simple but could be lengthy. For a small group of participants, visualization techniques can be used to develop a problem tree. A facilitator can guide the process. Short statements about problem conditions (and their causes) can be written on cards (one problem on one card) and then cards could be gradually arranged and rearranged around the central problem following the structure shown in figure 5. One advantage of using cards is that the position of a card can be easily rearranged (horizontally or vertically) to show linkages with problem conditions on other cards as they are discovered in the process.

For a large group of participant, a direct interactive process as outlined above may not be convenient or practical. In this situation all participant can identify problems and their causes through a predetermined process (for example, social survey or focus group meetings). Later, all individual statements can be categorized by their area of focus (congestion, pollution, accident etc.), type (problem or solution) and by other criteria, possibly by using some database or spread sheet software. Box 2 provides an example of such statements made by the participants of the aforementioned ESCAP study in Bangkok, Thailand. These statements were rebooted to problems of pedestrian traffic in the study area. Once the problem conditions related to a particular central problem are all identified, they can be written on separate cards in the form of short sentences and proceeded further as before.

## Box 2. Stakeholders' references (some examples)

040303	Footpaths should be improved to be more beautiful and convenient.
040303	Improve pavement to promote walking instead of using cars and there should be activities in communities for public participation.
050102	Make this area a "walking area". No cars will be allowed except buses. Move the central market out. This will help solve the traffic and environmental problems.
070310	Houses and buildings should not be built near the street in order to have more space for people to walk and to grow trees.
070509	Establish car free zones to allow easy flow of people and have many kinds of activities together.
100101	Prepare a useful and clear city plan for this area. Promote entering this area by foot and improve pavement and provide a lot of tourist facilities such as toilets and souvenir shops.
120103	Construct more walkways.
020503	Go by foot if it's not too far.
021001	Keep pavement always clean.
060208	Walking streets have the atmosphere of the old city with a walkway along the river, coffee shop, shops and places for relaxing which are peaceful.
E100109	It would be nice if arrangements could be made to allow tourists and pedestrians to enjoy walking in this area, and create bicycle routes and parks. I know this would not be feasible for the whole of Bangkok. But for Rattanakosin, considering its tourist attractions, it is worth to try.
022205	Environmental condition should be improved e.g. planting more trees that will give more shade to the city and make the air cleaner.
150109	Trees should be planted along the roads especially along Rajadamnern Avenue.
070510	Increase public parks alongside of the Chao Phraya River. Increase green areas. Conserve old houses and buildings
040303	There should be basic infrastructure for pedestrians e.g. phone booths, trash bins, and streetlights.
022402	There should be public drink fountains and toilets in crowded areas.
020601	Provide enough garbage bins at the right spots for tourists' convenience.

*Source:* ESCAP, 2001. Op. Cit.

*Note:* The number at the beginning of each statement is an identification code for the respondent.

## Limitations of the tool

The vertical nature of the problem tree has some major limitations in application of this tool. The tree shows hierarchy of problems in a vertical fashion with no horizontal linkages, which could be far from the reality. This limitation becomes more apparent when systems at higher levels are involved. For example, when problems of city-wide transportation of a large city are considered many sub-systems with complicated cause and effect interrelationships between themselves and other non-transport systems are involved. It could be too simplistic and perhaps unrealistic to define all of those interrelationships through a simple tree model as provided in figure 5. Identification of the linkages itself could prove difficult owing to intricate cause and effects interrelationships among a large number of subsystems. When a large number of cause and effects with many of them having cyclical interrelationships are discovered, it becomes difficult to identify policy changes and resource inputs that may be required to address them. The problem tree would then look like an open-ended diagram, which could still be helpful to understanding the linkages between problems but the outcome may not be directly suitable for planning or project development purposes. However, when problems at the sub-systems level (say, bus transport, pedestrian circulation in an area or parking), or transport problems of a smaller part of the city are considered they may be more suitable for analysis by applying the graphical framework given in figure 5.



## D. Identification of objectives and alternative interventions

### The objective tree – a graphic tool for synthesis of findings

Once the problem trees are finalized, the next stage in the process of analysis is to develop objective trees. An objective tree is a tool to identify possible improvements in system outputs and the corresponding interventions needed to achieve the desired situation. The objective tree is derived directly from a problem tree. It identifies:

- 1) Possible improvements in system outputs needed to enhance its performance;
- 2) Required interventions (policy and institutional) and their levels;
- 3) Inputs necessary;
- 4) Consequent impacts of the achieved desired situation.

An objective tree is created simply by converting a problem tree. The conversion is done by reformulating the negative or undesired conditions of a problem tree into positive conditions which are desirable. In doing so, the hierarchy of existing problems is transformed into a hierarchy of objectives, which describe future conditions that are desirable and achievable to improve system performance. The objective tree also shows a means to ends relationships between the objectives in a hierarchical order.

### Constructing an objective tree

The steps to construct an objective tree are as follows:

- 1) Reformulate the negative problem conditions of a problem tree into positive objectives that could be achieved;
- 2) Check the logic and plausibility of the means to ends relationships identified by the tree;
- 3) Adjust the structure or revise statements, if necessary;
- 4) Delete objectives which are not desirable on social, ethical or other grounds;
- 5) Consider adding new objectives if it is helpful to achieve a stated objective at a higher level.

An objective tree should have a similar (but may not be the same) structure to the problem tree from which it is derived. An example of a problem tree in a schematic form is shown in figure 7.

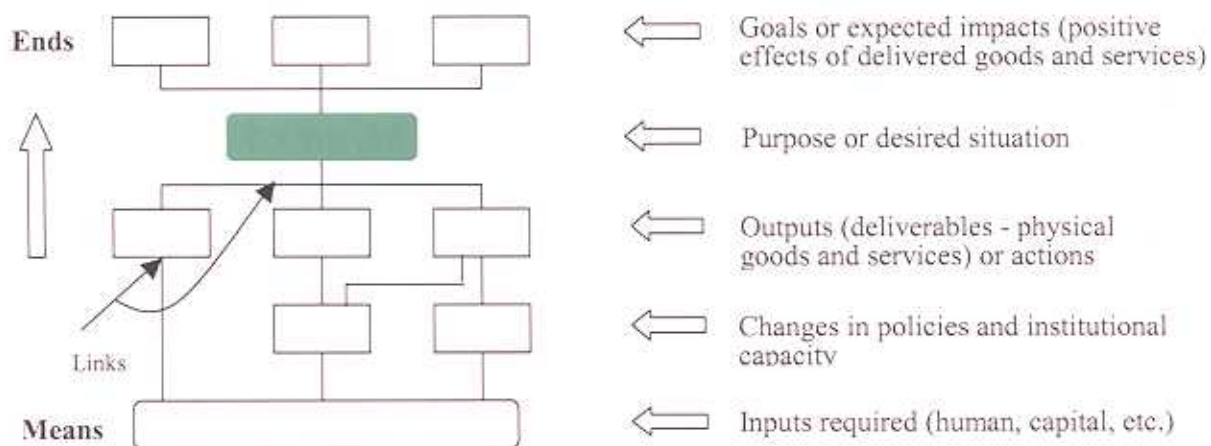


Figure 7. A schematic objective tree

Source: Adapted from Saldanha and Whittle (1998).



Figure 8 is an objective tree derived from the problem tree in figure 7. This tree identifies the improvements in sector outputs needed to realize the desired situation and the required policy interventions and inputs for achieving those improvements. The expected positive effects of the desired situation are also shown.

### **E. Assessing effectiveness of alternative interventions**

An objective tree provides a systematic basis for draft plan preparation as well as project design to implement the plan. A tree may reveal that a number of possible interventions or actions could be taken to improve an existing situation. However, due to limited resources or other valid reasons, not all of the actions may be taken at the same time. Their influence to improve the situation may also greatly vary for various reasons, they may not be equally acceptable. Therefore, choices may need to be made. Making a choice, however, does not necessarily mean that alternative options are mutually exclusive. It could be a plain case of prioritization owing to resource constraints.

The following are the steps involved in an alternative choice evaluation process:

- 1) Identify the choice options;
- 2) Select a set of criteria against which their performance needs to be evaluated;
- 3) Determine the relative weights of the selected criteria;
- 4) Make an assessment of performance for each of the option against the selected criteria;
- 5) Score each option based on its assessment of performance on a selected scale;
- 6) Multiply the score of each option by its relative weight as determined in Step 3 to get its weighted score;
- 7) Add the weighted scores for each option to get its aggregate score;
- 8) Rank the options based on their aggregate scores.

These steps are explained below.

The first step in the evaluation process involves identification of alternative interventions or actions. This is quite straightforward as they may come directly from an objective tree.

Usually an evaluation of alternative actions/options is based on multiple criteria. A set of criteria is selected in consultation with the top decision-makers and other key stakeholders. The selected criteria could include financial and economic returns, social and political acceptability, ability to produce quick results, difficulties in implementation, availability of in-house expertise, time frame for implementation, availability of resources, compatibility with other activities in the sector or a related sector, etc.

After selecting the criteria, they need to be weighted in terms of their relative importance or value to decision-makers and stakeholders. The decision makers and stakeholders may be asked to rate the relative importance of the selected criteria. The technique of indexing following a scale of measurement (1 to 10, 0 to 5 etc.), or the constant-sum pair comparison method (Ferguson 1971) may be used for this purpose. More sophisticated tools such as analytic hierarchy method can also be considered to determine the

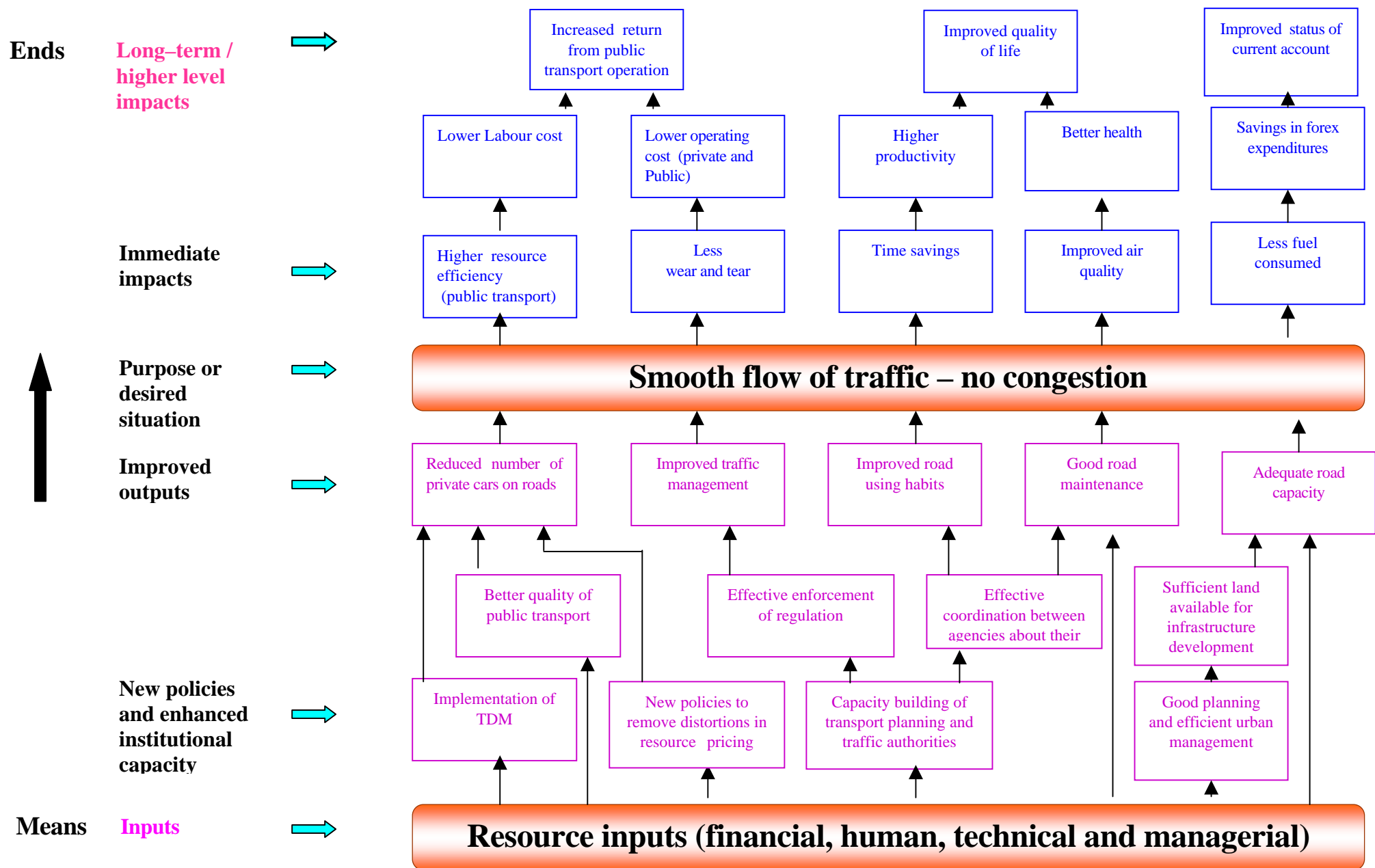


Figure 8. Objective tree: smooth flow of traffic – no congestion

relative importance of the selected criteria.

The next step in the process is to determine scores for all actions/options based on their assessed performance against each of the selected criteria. It needs to be mentioned here that the multi-criteria alternative choice evaluation technique by itself does not make any evaluation of individual options against any of the selected criteria. It is just an aggregation methodology for combining separate evaluation results. Those evaluations have to be undertaken separately before undertaking the multi-criteria alternative choice evaluation. For example, where applicable cost-benefit analysis, environmental impact analysis or such evaluations have to be undertaken anyway.

The assessment of each alternative action based on their evaluation outcomes against any of the selected criteria could be made subjectively considering past experience, expert opinion or some quantitative estimates of benefits from the action. Score of each option is based on its assessment of performance on a chosen scale of say, 1 to 10 meaning very poor to excellent. For example, if economic evaluation of an intervention shows an internal rate of return or EIRR at 24 per cent, which may be considered as a high rate return and accordingly a score of 8 out of 10 may be given by experts.

The score against each criterion is then multiplied by the weight of the criterion to get weighted score of the intervention against that particular criterion. Addition of weighted scores for an intervention gives its aggregate score. This process is repeated to get the aggregate scores for all interventions. The aggregate scores clearly show the relative merits of each of the alternative actions against the selected set of criteria.

Finally, the interventions or alternative actions can be ranked based on their weighted aggregate scores.

## **II. PREPARATION OF DETAILED PLANS AND PROJECT DEVELOPMENT**

After making choices for alternative improvements to enhance sector performance, preparation of detailed plans and project development are relatively straightforward. Detailed plans can be formulated from an objective tree and available information which was collected in the process of constructing the problem and objective trees. Plans can be formulated through elaboration of positive objective conditions of an objective tree in a plain text format, perhaps with some complementary graphics (for example, a location map, graphs, diagrams or photographs) where needed. A typical plan, in simple terms, is nothing but a set of decisions arrived through a systematic decision-making process to achieve certain desired objectives. It may have the following components:

- 1) Title of the plan (which should indicate its subject and purpose);
- 2) Background and current situation;
- 3) Major issues and problems that need to be addressed;
- 4) Proposed actions or interventions;
- 5) Relationship to previous plans and other plans under implementation;
- 6) Expected impacts and results;
- 7) Beneficiary groups;
- 8) Activities to be undertaken;

- 9) Authority, groups, alliances responsible for implementation;
- 10) External factors, constraints, prerequisites, and risks and assumptions;
- 11) Monitoring indicators and evaluation;
- 12) Relationship of the plan to other actions;
- 13) Required further studies or investigations;
- 14) Resource inputs required.

The substantive contents of most of these components can be directly taken or derived from the six basic steps explained in Section II. For example, outcomes of the situation analysis will provide the contents of background and current situation and the problem tree will provide the contents of major issues and problems that need to be addressed. However, some further elaborations and complementary information to substantiate the text of the contents of the above plan components may also be required. Examples of contents of the above components (except resource inputs) may be found in the ESCAP study on a pilot project in Bangkok, which was mentioned earlier. It may be mentioned here that resource input requirements could be some rough estimates. Details and more accurate estimates are necessary at the project development stage.

### **III. CONCLUSION**

There is a definite need as well as demand for public participation in planning and policy development processes. Public participation can help to make these processes all-inclusive by taking into consideration the views and needs of different groups in society, it can also assist in achieving sustainable development. Considering their benefits to society, participatory approaches to planning and policy formulation should be practiced at all levels and in all sectors. Although there are arguments against public participation and participatory approaches, these are primarily problems of appropriate institutional arrangement for their practice, proper assignment of roles for different stakeholders, and adoption of effective participatory techniques.

When participatory approaches are considered for the first time in a governmental organization, an important step in the process is to obtain the support of its civil service to bring changes in organizational culture in order to institutionalize the new practice. "New" approaches and processes invariably meet with resistance, especially when they appear to challenge the traditional roles of policy advisors, technical advisors, professionals and other administrators. Consequently, there is a need to build the confidence of the civil service that the processes are designed to strengthen their ability to deliver services to their clients. Part of this confidence-building step is the training of civil servants in the use of the new approaches and methods. Such training can act as a means of demonstrating how effective the participatory approaches can be and in clearly demonstrating that the professional skills of civil servants are not being undermined but are utilized in a different way than was done previously.

However, it is important to note that capacity building of professionals alone would not be sufficient to practice participatory approaches. The practice of participatory approaches can be expected to affect the existing organizational culture and practice across the board. In order to meet the likely resistance in introducing participatory approaches, the required changes in existing organizational culture and practice need to be formalized before

the new approaches to planning and policy development can be successfully implemented.

These changes in organizational culture and practice may not be expected to happen by themselves nor could they be expected to be welcome by everybody, particularly in a situation when the values of democracy are yet to be widely shared. Strong political will would be needed to overcome these constraints in introducing the institutional changes. If development is seen as part of social change as a whole, the intended outcomes of a planning or policy formulation process should not remain confined within the limits of any organization as in a traditional development process, where the public generally do not have any direct role – either in planning or in plan implementation. It must be recognized that people themselves constitute tremendous resources in the development process in many ways – through their physical, intellectual and information inputs as well as political and social support. These are, however, potential resources that are not readily available unless a mechanism to harness them are in place. Participatory approaches can be viewed as a mechanism to harness these potential resources of the people by the people themselves to meet their own needs and aspirations.

## REFERENCES

- Abelson J, Forest P-G, Smith P and Gauvin F-P, 2001. A review of public participation and consultation methods in *Deliberations about deliberation: Issues in the design of public consultation processes*, McMaster University Centre for Health Economics and Policy Analysis Research Working Paper 01-04; <<http://action.web.ca/home/pdfforum/readingroom.shtml>> (15 April 2002).
- Bray, David, 2002. "Tools and Techniques: Logical Framework", *SMART Urban Transport*, vol. 1 No. 2, pp. 23-25.
- Chadwick, George, 1981. *A Systems View of Planning* (Oxford, Pergamon Press).
- ESCAP 2001. *Traffic and Transportation for Sustainable Environment Mobility and Access: Application of comprehensive and integrated approach to policy development in the Rattanakosin area of Bangkok*, (ST/ESCAP/2171), United Nations, New York.
- Ferguson, G.A. 1971. *Statistical Analysis in Psychology and Education*, McGraw Hill, New York.
- GTZ, 1997. *ZOPP: Objectives-oriented Project Planning*, GTZ GmbH Unit 04, Eschborn, Germany.
- Meier, R.L. 1988. *Ecological Planning and Design*, CEDR-WP-02-88, Center for Environmental Design Research, University of California, Berkeley.
- Ministry of Interior and Deutsche Gesellschaft für Technische Zusammenarbeit, 1999. *Public Participation: Approaches in Urban Development Planning and Management*, Decentralisation of Physical and Urban Development Planning Project, Bangkok.
- Rietbergen-McCracken, J. and D. Narayan 1998. *Participation and Social Assessment—Tools and Techniques*, World Bank, Washington, D.C.
- Saldanha, Cedric D. and J.F. Whittle 1998. *Using the Logical framework for Sector Analysis and Project Design: A User's Guide*, Asian Development Bank, Manila.
- So, Frank S. et al (eds.) 1979. *The Practice of Local Government Planning*, International City Management Association, Washington DC.
- USNRC 1981. *Fault Tree Handbook*, NUREG-0492, U.S. Nuclear Regulatory Commission, Washington DC.
- UNDP 1997. *Empowering People: A Guide to Participation* (Oxford, INTRAC).
- USDOE (undated). *How to Design a Public Participation Program*, Office of Intergovernmental and Public Accountability (EM-22); U.S. Department of Energy, available at <<http://www.em.doe.gov/ftplink/em22/doeguide.pdf>> (9 April 2002).

USDOT 1999. *Public Involvement for Transportation Decision-making*, prepared for the U.S. Federal Highway Administration and Federal Transit Administration, Washington DC.

Wilcox, David 1994. *The Guide to Effective Participation*, available at <<http://www.partnerships.org.uk/guide/index.htm>> (22/07/02).

World Bank 1998. *The World Bank Participation Source Book*, The World Bank, Washington DC.