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Land Use Planning- necessity for sustainable development

KEYWORDS: Land, need for planning, sustainable planning, approach to development

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ABSTRACT The process by which lands are evaluated and assessed to become a basis for decisions involving land disposition and utilization. This involves studies on the environmental effects of land use and its impact on the community. Land is a finite resource. Land availability is only about 20% of the earth's surface. Land is crucial for all developmental activities, for natural resources, ecosystem services and for agriculture. Growing population, growing needs and demands for economic development, clean water, food and other products from natural resources, as well as degradation of land and negative environmental impacts are posing increasing pressures to the land resources in many countries of the world. In a developing country like India, land is not only an important factor of Production, but also the basic means of subsistence (if not prosperity) for majority of the people. Agriculture contributes less than 30 percent to India's Gross Domestic Product, but absorbs nearly 64 percent of the country's working population. About three-fourth of the total population draw their livelihood from agriculture. But there is evidence to indicate that the land sector cannot bear the burden of growing population, not withstanding the untapped potentials for agricultural productivity growth in many regions. Therefore, there is a felt need for both horizontal and vertical diversification of the agricultural economy. This is particularly so because all lands and locations are not equally suitable for profitable, alternative farming and hence, there is need for cluster approach to development.

I. INTRODUCTION

There is bound to be conflict over land use. The demands for arable land, grazing, forestry, wildlife, tourism and urban development are greater than the land resources available. In the developing countries, these demands become more pressing every year. The population dependent on the land for food, fuel and employment will double within the next 25 to 50 years. Even where land is still plentiful, many people may have inadequate access to land or to the benefits from its use. In the face of scarcity, the degradation of farmland, forest or water resources may be clear for all to see but individual land users lack the incentive or resources to stop it. Land-use planning is the systematic assessment of land and water potential, alternatives for land use and economic and social conditions in order to select and adopt the best land-use options. Its purpose is to select and put into practice those land uses that will best meet the needs of the people while safeguarding resources for the future. The driving force in planning is the need for change, the need for improved management or the need for a quite different pattern of land use dictated by changing circumstances.

Land must change to meet new demands yet change brings new conflicts between competing uses of the land and between the interests of individual land users and the common good. Land taken for towns and industry is no longer available for farming; likewise, the development of new farmland competes with forestry, water supplies and wildlife.

Planning to make the best use of land is not a new idea. Over the years, farmers have made plans season after season, deciding what to grow and where to grow it. Their decisions have been made according to their own needs, their knowledge of the land and the technology, labour and capital available. As the size of the area, the number of people involved and the complexity of the problems increase, so does the need for information and rigorous methods of analysis and planning.

II. LANDUSE PLANNING PROCESS

Land-use planning can be expressed in the following questions:

- What is the present situation?
- Is change desirable? If so:
- What needs to be changed?

Land-use problems and opportunities are identified by discussions with the people involved and by the study of their needs and the resources of the area.

- How can the changes be made?

Planners seek a range of ways to make use of the opportunities and solve the problems.

- Which is the best option?

Decision-makers choose the best option, based on forecasts of the results of implementing each alternative.

- How far is the plan succeeding?

Once a land-use plan is put into effect, planners monitor progress made towards its goals and change the plan if necessary.

One way of doing this is to set a threshold standard of living to which those of target groups should be raised. Living standards may include levels of income, nutrition, food security and housing.

Sustainability. Sustainable land use is that which meets the needs of the present while, at the same time, conserving resources for future generations. This requires a combination of production and conservation: the production of the goods needed by people now, combined with the conservation of the natural resources on which that production depends so as to ensure continued production in the future.

III. PLANNING AT DIFFERENT LEVELS

Land-use planning can be applied at three broad levels: national, district and local. These are not necessarily sequential but correspond to the levels of government at which decisions about land use are taken..

The greater the interaction between the three levels of

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planning, the better. The flow of information should be in both directions (Fig. 1). At each successive level of planning, the degree of detail needed increases, and so too should the direct participation of the local people.

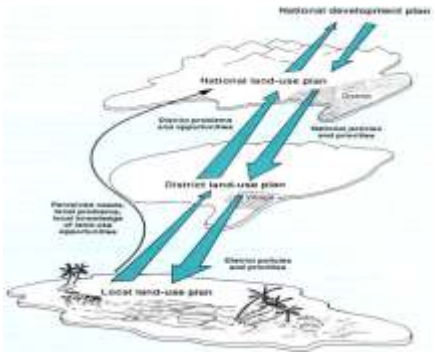

Fig.1. Flow of information Planning at different levels

National level

At the national level, planning is concerned with national goals and the allocation of resources. In many cases, national land-use planning does not involve the actual allocation of land for different uses, but the establishment of priorities for district-level projects. A national land-use plan may cover:
land-use policy: balancing the competing demands for land among different sectors of the economy food production, export crops, tourism, wildlife conservation, housing and public amenities, roads, industry;

national development plans and budget: project identification and the allocation of resources for development;
coordination of sectoral agencies involved in land use;
legislation on such subjects as land tenure, forest clearance and water rights.

District level

District level refers not necessarily to administrative districts but also to land areas that fall between national and local levels. Development projects are often at this level, where planning first comes to grips with the diversity of the land and its suitability to meet project goals. When planning is initiated nationally, national priorities have to be translated into local plans. Conflicts between national and local interests will have to be resolved. The kinds of issues tackled at this stage include:
the siting of developments such as new settlements, forest plantations and irrigation schemes;
the need for improved infrastructure such as water supply, roads and marketing facilities;
the development of management guidelines for improved kinds of land use on each type of land.

Local level

The local planning unit may be the village, a group of villages or a small water catchment. At this level, it is easiest to fit the plan to the people, making use of local people's knowledge and contributions. Where planning is initiated at the district level, the programme of work to implement changes in land use or management has to be carried out locally. Alternatively, this may be the first level of planning, with its priorities drawn up by the local people. Local-level planning is about getting things done on particular areas of land - what shall be done where and when, and who will be responsible.

IV. STEPS IN LAND-USE PLANNING

Every land-use planning project is different. Objectives and local circumstances are extremely varied, so each plan will require a different treatment. However, a sequence of ten steps has been found useful as a guide. Each step represents a specific activity, or set of activities, and their outputs provide information for subsequent steps.
Following is an outline of the steps (Figs 3).

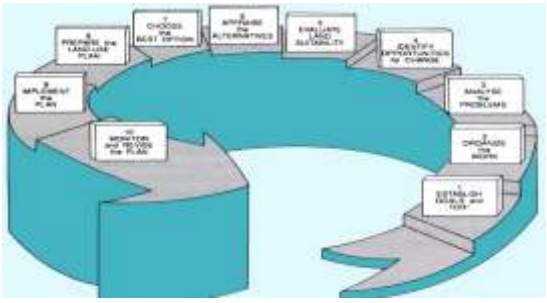

Fig. 3. Land-use Planning procedure steps

Step 1. Establish goals and terms of reference. Ascertain the present situation; find out the needs of the people and of the government; decide on the land area to be covered; agree on the broad goals and specific objectives of the plan; settle the terms of reference for the plan.

Step 2. Organize the work. Decide what needs to be done; identify the activities needed and select the planning team; draw up a schedule of activities and outputs; ensure that everyone who may be affected by the plan, or will contribute to it, is consulted.

Step 3. Analyse the problems. Study the existing land-use situation, including in the field; talk to the land users and find out their needs and views; identify the problems and analyse their causes; identify constraints to change.

Step 4. Identify opportunities for charge. Identify and draft a design for a range of land-use types that might achieve the goals of the plan; present these options for public discussion.

Step 5. Evaluate land suitability. For each promising land-use type, establish the land requirements and match these with the properties of the land to establish physical land suitability.

Step 6. Appraise the alternatives: environmental, economic and social analysis. For each physically suitable combination of land use and land, assess the environmental, economic and social impacts, for the land users and for the community as a whole. List the consequences, favourable and unfavourable, of alternative courses of action.

Step 7. Choose the best option. Hold public and executive discussions of the viable options and their consequences. Based on these discussions and the above appraisal, decide which changes in land use should be made or worked towards.

Step 8. Prepare the land-use plan. Make allocations or recommendations of the selected land uses for the chosen areas of land; make plans for appropriate land management; plan how the selected improvements are to be brought about and how the plan is to be put into practice; draw up policy guidelines, prepare a budget and draft any necessary legislation; involve decision-makers, sectoral agencies and land users.

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Step 9. Implement the plan. Either directly within the planning process or, more likely, as a separate development project, put the plan into action; the planning team should work in conjunction with the implementing agencies.

Step 10. Monitor and revise the plan. Monitor the progress of the plan towards its goals; modify or revise the plan in the light of experience.

These steps, and the detailed procedures described under each, should not be followed rigidly. The circumstances of different land-use planning projects are highly varied and the guidelines presented here should be adapted to make the best of the local situation. What is important is to understand the purpose of each step or detailed procedure so that a decision can be made on whether it needs to be followed through, modified or omitted in the specific situation.

The above outline of steps and the descriptions that follow refer to the preparation of a specific land-use plan in response to a perceived need. It is not always possible to work through the procedures step by step in this way. Two other approaches are possible: emergency planning and incremental planning.The various activities involved in the land-use planning procedure are as shown in fig-4

Executive summary. A summary of the goals, proposed changes in land use and methods for implementation of the plan, giving a clear overview of the essentials.

Terms of reference. Area, problems and goals (Step 1).

Land-use problems. Existing land-use systems and their problems (environmental, economic, social), constraints, environmental conservation standards (Step 3).

Land-use types and management. Improved systems of land use recommended for the area; how these should be managed on each land unit, for example drainage, crop varieties, tree species, fertilizer (Step 4).

Land suitability. Maps, tables and explanatory text showing the physical land suitability for each land-use type on each land unit (Step 5).

Appraisal of alternatives. Analysis of the environmental, economic and social consequences of alternative options for changes in land use (Step 6).

Recommended changes in land use. A statement on which changes in land use have been selected, together with reasons for these decisions (Step 7).

The land-use plan. Maps and text showing the selected changes in land use, and where they are to be implemented or recommended (Step 8).
Implementation of the plan. How the planned improvements are to be put into practice; requirements for staffing, training, extension, infrastructure, supplies, research; timing and budget (Step 8).

Procedures for monitoring and revision. How the degree of success of the plan is to be assessed; procedures for ongoing revision (Step 10).

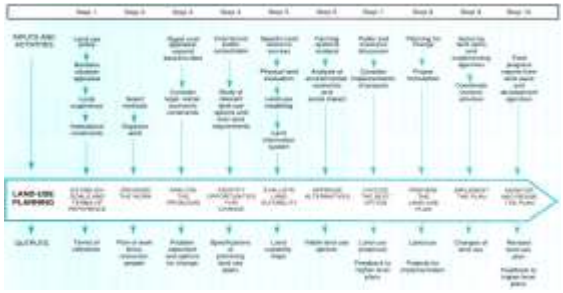

Fig. 4. Land use planning activities

V. CONCLUSION

Urbanization is the defining global phenomenon of this century. For the first time in history, more than half the world's population lives in urban areas. Between 2000 and 2030, in developing countries, the urban population is expected to double, and entire built-up areas are projected to triple if current trends continue. This rapid demographic and spatial transformation may prove to be difficult for cities in developing countries, especially small- and medium-sized cities, where capacity is typically inadequate to cope with major urban challenges. These challenges include climate change, resource scarcity, slum growth and increased poverty, and safety and security concerns.

Urban land use planning, if led by well-informed policies based on sustainable development principles and supported by well-planned and well-managed initiatives, including investments, can help address these challenges

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