

Collage Of Agricultural Sciences

Department Of natural resource management

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Course: Land **use planning**

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Land use planning

1. Concepts and Definitions of Basic Terminologies in Land Use Planning

- ✓ Definition of Land, Land Use and land use planning?
- ✓ Land resource and people
- ✓ Function of Land and Land Ownership (the Basic Relationship)
- ✓ Central Idea of Integrated Participatory Land Use Planning
- ✓ When is land use planning useful?
- ✓ Planning at different levels

Definitions

Land

- The part of the earth that is not covered by water
- An area of the earth's surface, including all elements of
- ✓ the physical and
- ✓ biological environment that influence land use.
- It refers not only to soil, but also
- ✓ landforms,
- ✓ climate,
- ✓ hydrology,
- ✓ vegetation and fauna,
- ✓ together with land improvements such as terraces and drainage works.

Land use

- The management of land to meet specified socio-economic objectives.
- Land use is described by the purposes for which the land is used, and the types and sequences of development, conservation and environmental management activities carried out upon the land.

- it refers to the purpose to which land is committed, including
- the production of goods (such as crops, timber and manufactures) and

Land resources

- Land resources are the resources like
  - climate,
  - water,
  - soils,
  - forests,
  - pastures and
  - wildlife, on which agriculture, forestry and other forms of rural land use depend.
- Understanding the quality and quantity of the land resources by type is so essential and prerequisite in undertaking local level participatory Land use planning.
- Local level participatory land use planning (LLPLUP) is basic for obtaining optimum level of production and introducing appropriate land management practices for better or improved livelihoods.

- land resources are understood as conditions and elements of the land that can be exploited, developed or managed without causing negative impact that risks the fragile environmental relationships.
- The conditions and elements of the land which are crucial for living are

- ✓ climate,
- ✓ soils,
- ✓ vegetation/flora,
- ✓ fauna,
- ✓ water,
- ✓ minerals, etc.

- The land features constituted elements that partially or entirely fulfill the needs and demands of human beings and other living things.
- The important sequential categories of land resources from apex to the bottom are:

- ✓ The Atmosphere ,
- ✓ The Biosphere ,
- ✓ The Lithosphere; and
- ✓ The hydrosphere

- The **Atmosphere** constituted the climatic elements such as air, temperature, clouds, humidity, etc.
- **Biosphere** contains mainly human beings, the flora, the fauna and manmade features.
- **Lithosphere** is represented by soils, moisture, heat, water, geology, minerals, etc.
- The **Hydrosphere** for the most part represents the ground and surface waters which are composed of various minerals and gases.

Land Use Planning:

The limited supply of land and the increasing demand for land use for alternative uses calls seriously for land use planning

Among the pressures on the use of land by man the need for housing, the importance of fertile land to grow food, land for industry, land for recreation such as parks, sports fields and nature and game reserves, and various other land uses.

In order to balance the different needs and priorities, land use planning must be undertaken at all levels

The key to good land use planning is communication between the different land users to achieve a balance of land use and zoning that will satisfy as many people as possible

- 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.

- All kinds of rural land use are involved: agriculture, pastoralism, forestry, wildlife conservation and tourism.
- Planning also provides guidance in cases of conflict between rural land use and urban or industrial expansion, by indicating which areas of land are most valuable under rural use.

The main **objective** of Land Use Planning is:

- LUP creates the conditions for a sustainable land use which is socially desirable, environmentally sound and economically appropriate.
- LUP initiates common decision making on managing private, communal and public land. Such preconditions are best met by a decentralized approach.
- to define the suitability of an area and the demands to utilize the land
- to improve the economic benefits of the land use
- to allocate land to different kinds of land use
- to coordinate the work of sectoral agencies related to land use

Land Resource and People

Scarcity and Choice

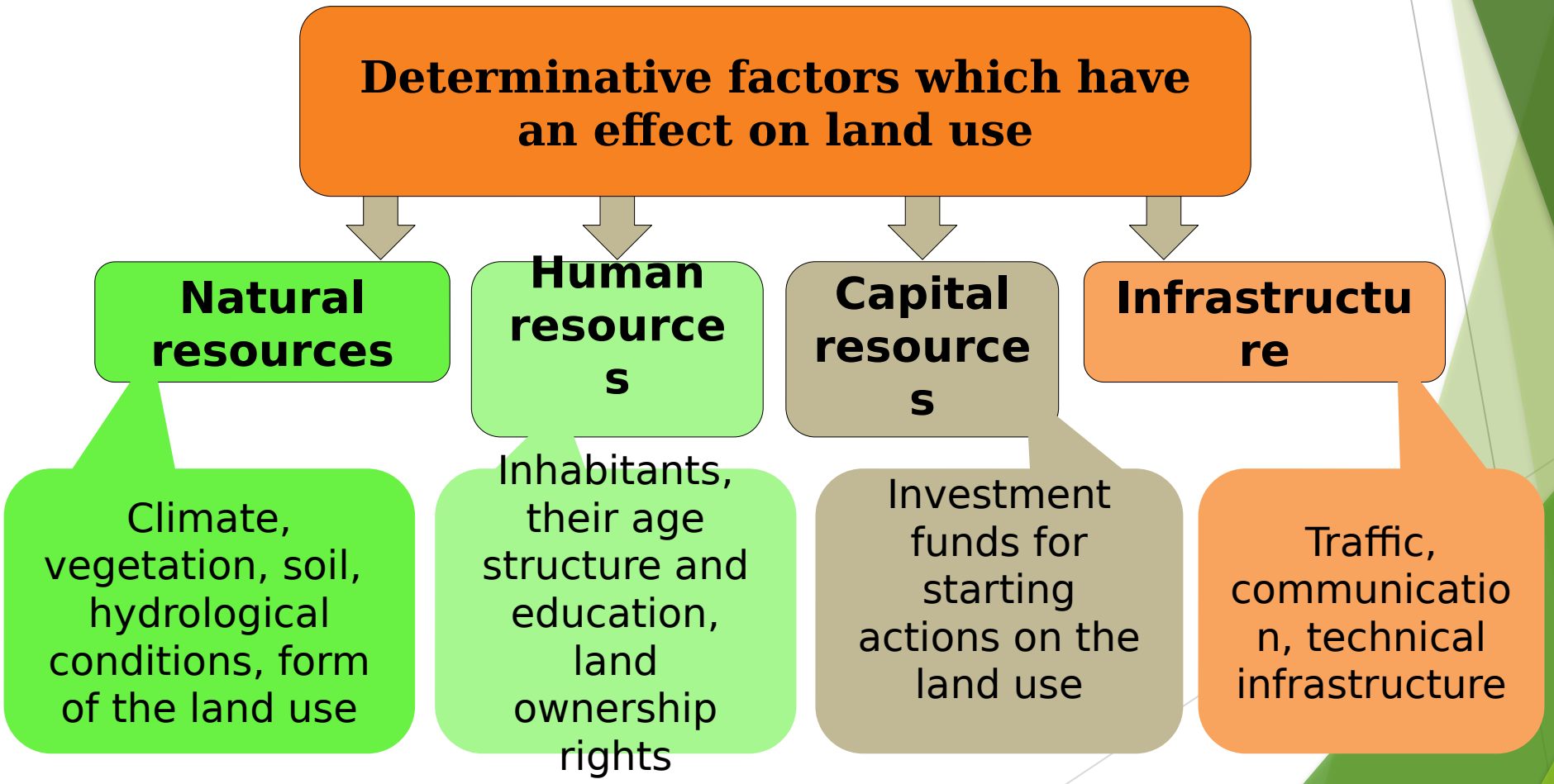
- We have talked about the fundamental economic question of scarcity -- unlimited wants and limited resources -- and how people make choices in the face of scarcity.
- **Four factors of production**

  a. Labor -- time and effort that people devote to producing goods and services

  b. Capital -- physical goods used in the production of other goods and services (machinery, plants, computers) and the skills and knowledge of people

  c. Land -- natural resources used in producing goods and services (water, air, land, minerals,

The factors of production are important because they determine how much a society or an individual can produce. The factors determine the limits of production.



Function of Land and Land Ownership (the Basic Relationship)

- Land has different **functions** that can change over time. Different people may prefer different functions and consider the role of land differently.
- The basic functions of land can be summarized as follows (FAO/UNEP 1999 complemented):

✓ Land is a storehouse of minerals and raw materials for human use;

✓ Land is an object of agricultural and industrial use on which food, fibre, fuel and other biotic materials can be produced and fabrics and commercial centres be constructed (production factor);

✓ Land provides space for settlements, social and technical infrastructure and recreation;

- Land is a buffer or filter for chemical pollutants and a source and a sink for greenhouse gases;
- Land provides surface and ground water;
- Land provides habitats for plants, animals and micro-organisms;
- Land is a basis for livelihood and security (a place to stay);
- Land is homeland for families/households/clans and a base of social identity;
- Land is a storage of evidence from the historical or pre-historical record (fossils, evidence of past climate, archaeological remains, etc.);
- Land is object of investment and speculation;
- Land is an object to be taxed;
- Land is a basis of power and dependency.

Land use goes hand in hand with **land ownership**.

Different functions and uses of land can imply different owners and/or users.

A change in land use can, therefore, result in the displacement of current users.

This is the case when a huge area is zoned as commercial farm land.

Previously used and often owned by the local population, the land is now leased to strangers (national or foreign investors).

Ownership refers to belonging or relating to the person specified.

Ownership in the context of land use planning refers to the fact that except from the level of individual farms, territorial planning is always a sovereign task of the state.

It has to follow rules and regulations of the state on its different administrative levels.

Existing forms of ownership (property regimes):

- **State property:** The property rights are held by some authority in the public sector but can partly be transferred to individuals (e.g. by leaseholds);
- **Private property:** The property rights are held by an individual or legal body but can partly be restricted by the state;

Communal property:

The property rights are held by the community.

Members can use the commons independently based on strict rules and procedures.

Non-members are excluded;

Open Access:

Property rights are not assigned. Access is unregulated.

Today, open access does not exist anymore.

But there is a lot of state land that is treated as open access due to the absence of rules or their lacking application.

When is land use planning useful?

- in the increasing scarcity of land,
- the competition for that land by growing number of users and
- the risk that this situation might lead to conflicts.
- It is equally associated with the growing concern for a protection of the environment and a more sustainable use of space.

Two conditions must be met if planning is to be useful:

- The need for changes in land use, or action to prevent some unwanted change, must be accepted by the people involved;
- There must be the political will and ability to put the plan into effect.

There are **two** instances in which land use planning should not be applied.

- One is for areas declared to be of national interest and significance, which ought to have very restrictive measures defined by national authorities not associated with the land use and development process.
- The other is for those areas belonging to, and actively controlled by, aboriginal peoples, who should be the rulers of the activities on their territories and of how their land is used.

However, environmental impacts that take place within

Land-use planning aims to make the best use of limited resources by:

- assessing present and future needs and systematically evaluating the land's ability to supply them;
- identifying and resolving conflicts between competing uses, between the needs of individuals and those of the community, and between the needs of the present generation and those of future generations;
- seeking sustainable options and choosing those that best meet identified needs; planning to bring about desired changes;
- learning from experience.
- There can be no blueprint for change. The whole process of planning is continuous.

- Goals define what is meant by the "best" use of the land.
- They should be specified at the outset of a particular planning project.
- Goal is something hope to achieve
- Goals may be grouped under the three headings of efficiency, equity and acceptability and sustainability.

Efficiency. Land use must be economically viable, so one goal of development planning is to make efficient and productive use of the land. Its way of waste less time and money/ save money and time.

- For any particular land use, certain areas are better suited than others.
- Efficiency is achieved by matching different land uses with the areas that will yield the greatest benefits at the least cost.
- Government objectives are more complex: they may include improving the foreign exchange situation by producing for export or for import substitution.

- ***Equity and acceptability.*** Land use must also be socially acceptable.
- Goals include food security, employment and security of income in rural areas.
- Land improvements and redistribution of land may be undertaken to reduce inequality or, alternatively, to attack absolute poverty.
- 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.
- A community that destroys its land forfeits its future.
- Land use has to be planned for the community as a

Participatory land use planning

Participative land-use planning follows a holistic, integrated, and interactive approach in order to create an enabling environment for the sustainable management of land resources.

The participation of the representatives of all stakeholder groups is a crucial element for a successful planning exercise and the later implementation of the plan.

An evaluation of planning methods used in the past shows that top-down approaches with the focus on technical and/or political aspects related to land did not

Key factors of participative and integrated land-use planning are:

- Participative land-use planning follows a multidisciplinary approach, which is based on a set of methods from different thematic areas.
- It integrates various methodical and strategic elements such as

✓ people's participation,

✓ land potential assessment,

✓ the evaluation of the legal and institutional framework and, finally,

- It respects the complex ecological and socioeconomic variables, which determine the land-use system, and
- considers legal and institutional aspects, which facilitate and ensure the implementation of the plan.
- The participative procedure of land-use planning is objective and problem oriented and focuses on the demands of the actors.

- As a consequence, the approach provides a platform for negotiation.
- It is a process in which land-user representatives, along with political decision makers and—if needed—international specialists, discuss on land-use options with mutual benefits.
- The approach facilitates the exchange of information at all levels. Using this procedure, governments and local people will be able to work together more efficiently, and provide each other with appropriate information and advice

- The integrated approach of land-use planning focuses on different interacting levels of decision making (see the following Figure).
- The procedures may differ substantially when applied at the village, district, national, and international level.
- The following sections will demonstrate that each level requires appropriate tools and methods to successfully establish this process.

ACTION LEVEL	POLICIES	DECISION-MAKERS INSTITUTIONS
INTERNATIONAL	Conventions (e.g.AGENDA 21, CCD,CBD)	International Taskforces (e.g. FAO of UN)
⇕	⇕	⇕
NATIONAL	Land Use Policy	National Taskforce (National Planning Committees, Sector Ministries)
⇕	⇕	⇕
MESO (Regional) (e.g. District, Region, Regional State)	District Land Use Plan/Policy Regional Development Plan	District Committees (Regional Planning Boards, Sector Authorities)
⇕	⇕	⇕
COMMUNITY	Village Land Use Plan Community Development Plan	Formal and Informal Land Resources Management Groups (Interest Groups)

Planning at different levels

- Land-use planning can be applied at three broad levels: national, district and local.
- decision are taken at each level, where the methods of planning and kinds of plan also differ.
- However, at each level there is need for a land-use strategy, policies that indicate planning priorities, projects that tackle these priorities and operational planning to get the work done.
- The greater the interaction between the three levels of planning, the better.
- the flow of information should be in both vertical and horizontal directions.

National level

- At the national level, planning is concerned with national goals and the allocation of resources.
- 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

- National goals are complex while policy decisions, legislation and fiscal measures affect many people and wide areas.
- Decision-makers cannot possibly be specialists in all facets of land use, so the planners‘ responsibility is to present the relevant information in terms that the decision-makers can both comprehend and act on.
- Land use planning at higher planning levels focuses mainly on strategic aspects.
- General laws and regulations on implementation are passed, development objectives are set and budgets

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.

Starting at the local level: bottom-up planning

- "Bottom-up" planning is initiated at the local level and involves active participation by the local community.
- The experience and local knowledge of the land users and local technical staff are mobilized to identify development priorities and to draw up and implement plans.

The advantages are:

- local targets, local management and local benefits.
- People will be more willing to participate in its implementation and monitoring;
- more popular awareness of land-use problems and opportunities;
- plans can pay close attention to local constraints, whether these are related to natural resources or socio-economic problems;
- better information is fed upwards for higher levels of planning

The disadvantages are that:

- local interests are not always the same as regional or national interests;
- Difficulties occur in integrating local plans within a wider framework;
- limited technical knowledge at the local level
- local efforts may collapse because of a lack of higher-level support or even obstruction.

- People in land use planning ?

People in planning

- Land-use planning involves getting many different people to work together towards common goals.
- Three groups of people are directly involved:
- ***Land users.*** These are the people living in the planning area whose livelihood depends wholly or partly on the land. They include not only farmers, herders, foresters and others who use the land
- The involvement of all land users in planning is essential

- ***Decision-makers.*** are those responsible for putting plans into effect. At national and district levels, they will usually be government ministers; at the local level, they will be members of the council or other authorities.
- The planning team provides information and expert advice.
- The decision-makers guide the planning team on key issues and goals while also deciding whether to implement plans and, if so, which of the options presented should be chosen.
- Although the leader of the planning team is in charge of day-to-day planning activities, the decision-maker should be involved at regular intervals.
- Decision-makers also have a key role in

- ***The planning team.*** An essential feature of land-use planning is the treatment of land and land use as a whole.
- This involves crossing boundaries between disciplines (natural resource, engineering, agricultural and social sciences), so teamwork is essential. Ideally, a team needs a wide range of special expertise; for example a soil surveyor, a land evaluation specialist, an agronomist, a forester, a range and livestock specialist, an engineer, an economist and a sociologist.
- Such a range may only be available at the national level. At the local level, a more typical planning team may consist of a land-use planner and one or two assistants.
- Each must tackle a wide range of jobs and will

2. INTEGRATING LAND USE PLANNING INTO PLANNING SYSTEMS

- Planning Systems, Land Use Planning and Individual Objectives
- Planning Systems in the Social and Political Context
- Land Use Planning at Different Planning Levels and the Vertical and Horizontal Linkages

Planning Systems, Land Use Planning and Individual Objectives

- **Plan** is something that you intend(think) to do or active
- Plans for using land resources are made everywhere.
- Farmers and livestock owners decide which products they want to have in what areas whether to increase or reduce the size of their herds and whether to fence off pasture land or to keep (pasture)meadows for growing fodder only.
- In addition, there are countless other individual plans by various people, groups and organizations at different levels regarding land use in rural areas.

- Competing interests in the use of land resources lead to social conflicts.
- Also, public interests such as the protection of land resources, are given too little attention in favor of the short-term interests of individuals in making profit.

- Such instances of intervention occur according to the instructions from the authority, mostly within a clearly defined framework and restricted to a specific planning level and plan content.
- As a result, only partial solutions are achieved.
- However, if different planning tasks (land use planning, traffic planning, regional planning) and planning levels (village, district, regional, national) are integrated into an overall planning system, it is more likely that the sustainability of agreements reached within a restricted framework (e.g. in village land use planning) can be guaranteed.

The following are elements of a planning system:

1. Different types of planning

- In principle, a differentiation is made between sectoral and technical planning (e.g. transportation planning or the planning of water resources) and planning which overlaps sectors or is partially integrative.
- The nature of the planning process differs depending on its specific task.

2. Overall Goals of Planning

- These cover the central idea of planning, such as participation, conservation of land resources or balancing of regional disparities.
- In a democratic system the overall goals of planning correspond to the fundamental principles and values in a society.

4. Regulating the relationship between the various types of planning

- The nature of relationships between the various types of planning is stipulated. This results in a vertical linkages being made between the planning levels and a horizontal linkages between the various technical and partially integrative processes.

5. Rules

- The set of rules for the participation of those people affected by planning and their representation at higher levels of planning are manifested. Mechanisms for settling conflicts of interests are agreed on.

- Nowadays there are planning system approaches in most countries of the world.
- In an ideal situation*, all planning* processes in a region or country are harmonized with each other and complement each other mutually.
- Competencies and responsibilities are clearly defined and the interests of all groups of the population are taken into consideration equally when negotiation takes place on the plans.

Planning Systems in the Social and Political Context

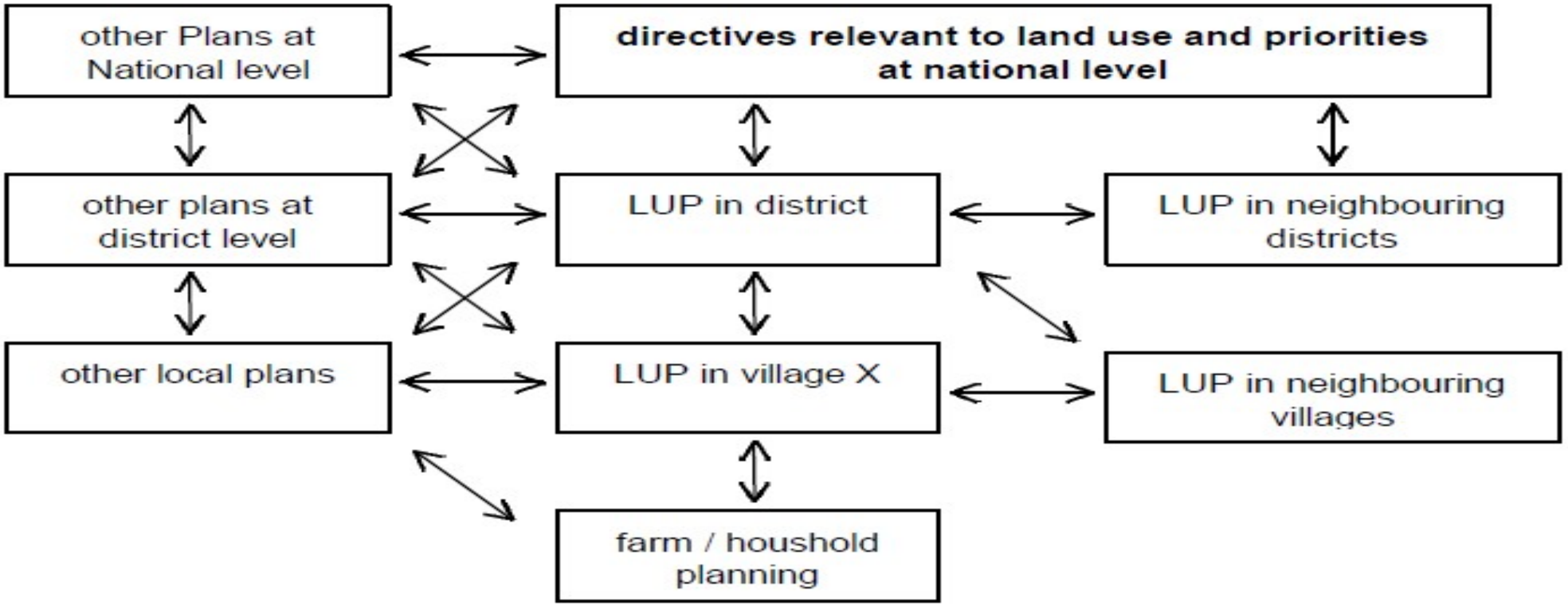
- Planning systems are an expression of social and political conditions in respect of space and time.
- They are expressed by means of legal regulations (planning laws), social conventions and rules
- In addition to codified agreements (laws, administrative regulations), there are others which have been agreed verbally in form of traditional rules of conduct.
- Those are significant at local level. In relation with the legal norms of a planning system, a special terminology is used which may have different meanings.
- This also applies to the term "land use planning", which is used in some countries to cover planning for urban regions too. This is in contrast to the concept presented here.

- Planning systems differ from country to country. A rough differentiation is made between three types: central, decentralized and heterogeneous planning systems.
- Centralized planning systems are characterized by clear and top-down oriented directive structures.
- In this process, the task of the lower administrative levels is to implement the directives of the central authorities.
- All decisions are made at the highest level, which at the same time also approves the decisions at all levels.
- Problems arise as a result of a lack of flexibility in adapting to the local peculiarities.

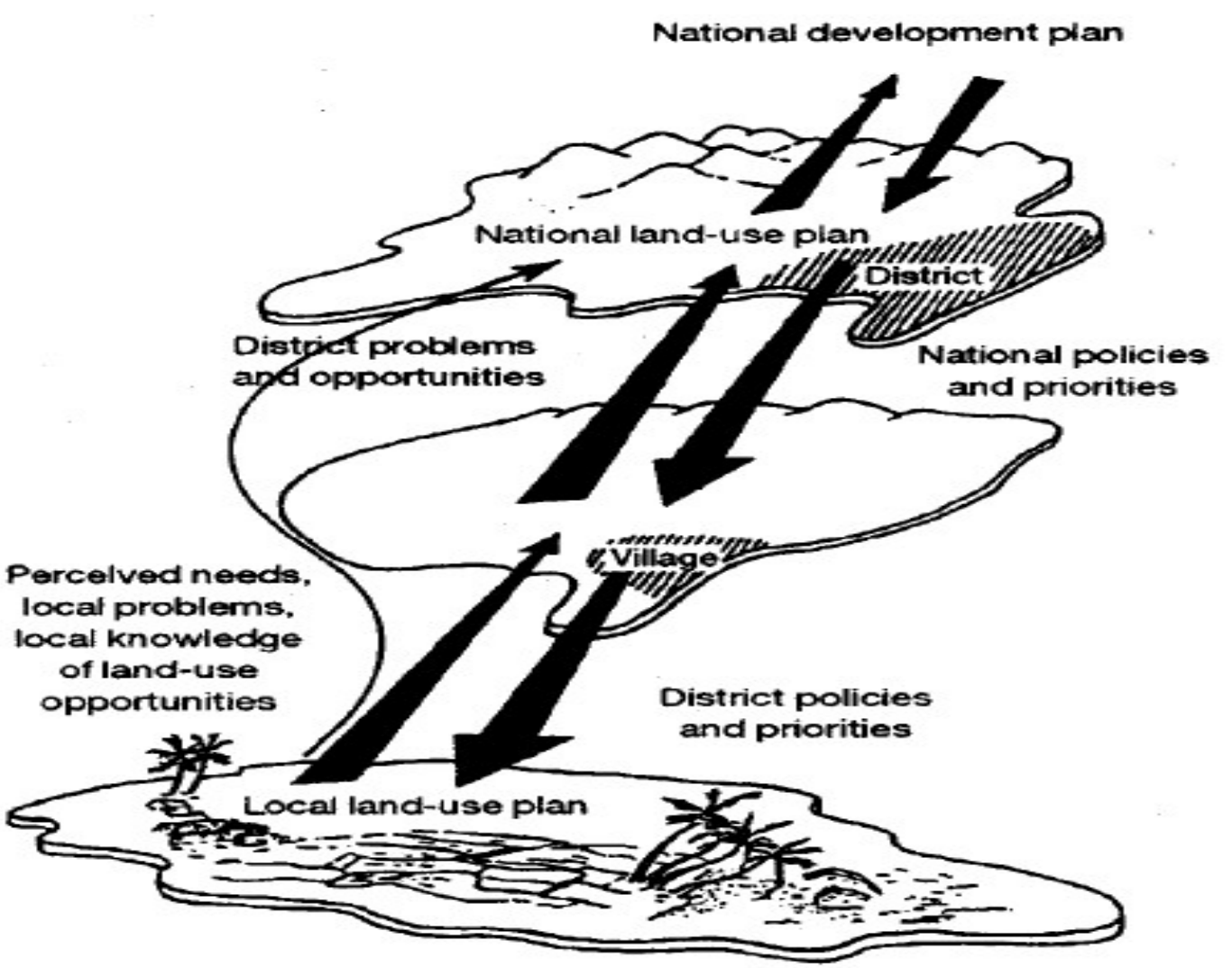
Land Use Planning at Different Planning Levels and the Vertical and Horizontal Linkages

- Land use planning is a partially integrating and sector overlapping process.
- The planning objects are the land resources.
- Therefore, LUP is not suitable for solving all local problems, nor can it replace the overall planning for an area.
- The basic technical strategy in LUP is to plan land use according to the suitability and the various needs in the area to be considered.
- As long as the objectives of land use planning are sufficiently taken into consideration, there is no need to carry out LUP separately.

- Links between land use plans in different areas as well as between land use plans and other area-related plans are necessary both horizontally (from village to village, district to district, etc.) and vertically (between village and district, region and nation) (figure below).



- Vertical and horizontal links between plans are more effective if various contact points between the different planning agencies (authorities, population, etc.) exist.
- The flow of information should run in two directions. This is especially necessary as far as exchange between the planning levels is concerned.
- Thinking in hierarchical structures frequently hampers the free exchange of information.
- Figure (next slide) illustrates the way in which the flow of information should run between village, district and nation levels.
- The concept on which this model is based is called the “counter flow principle“.
- The following picture illustrates the inter-linkages between the different levels of planning (local level, regional or district level and national level).



Source: FAO 1993, p.6