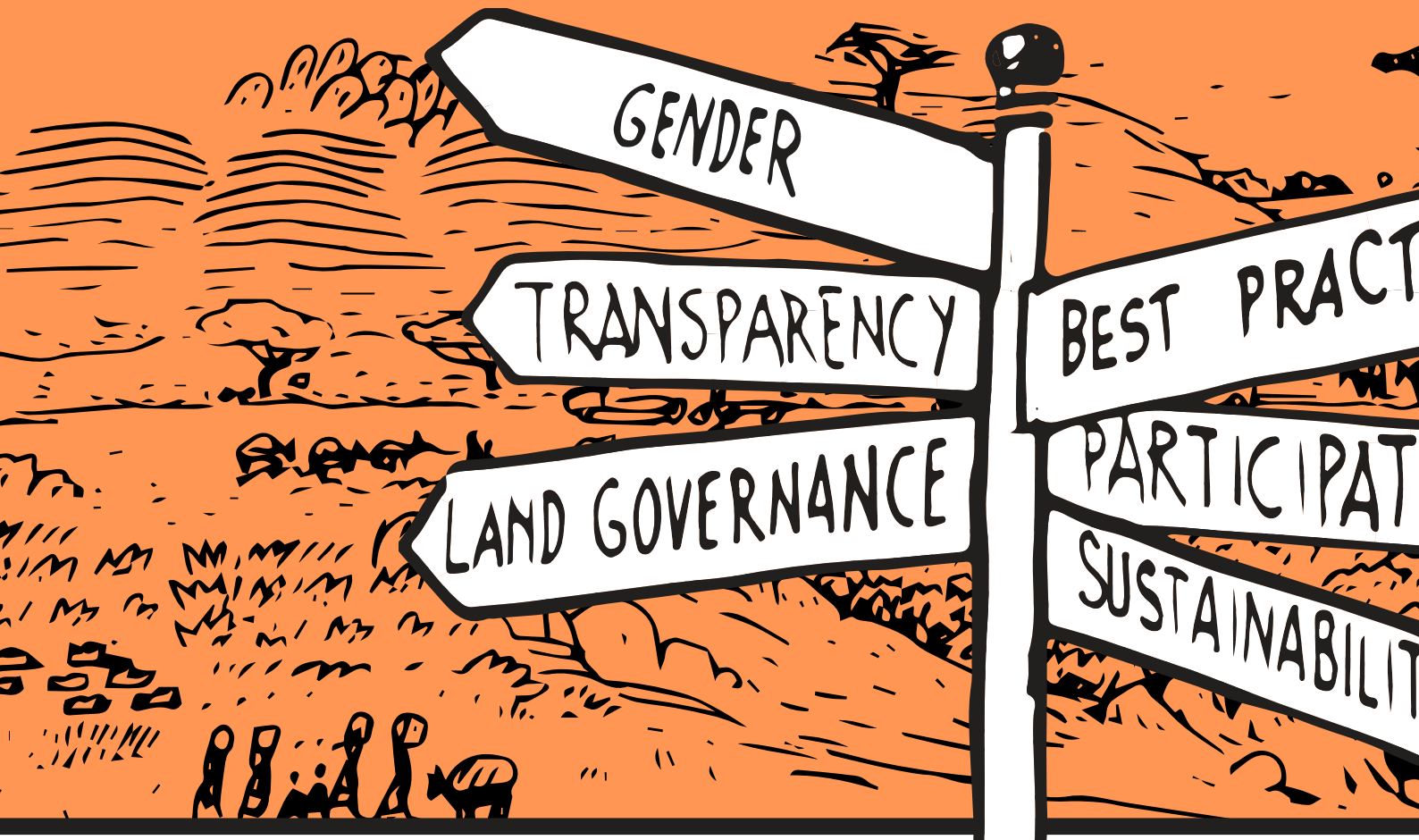
WORKING DOCUMENT

VOLUME I: MANUAL

WOREDA PARTICIPATORY LAND USE PLANNING (WPLUP) IN PASTORAL AND AGRO-PASTORAL AREAS



STRUCTURE OF THE MANUAL

This *Volume I* of the woreda land use planning (WPLUP) manual is the first of a two-volume set, providing the main stages and steps in the WPLUP process. It is to be accompanied by *Volume II* Toolkit which provides the set of Worksheets referenced in each step of the WPLUP process described in this volume.

It is recommended to follow the whole WPLUP process through from beginning to end. However, this may not be possible due to limited time and resources and the reader will need to prioritise the tools and processes that provide the most important sets of information for each individual WPLUP and its objectives.

This Manual is a working document and will continue to be refined and improved as WPLUP is implemented. The Rural Land Administration and Use Directorate welcomes your input and feedback as a contribution to this.

Unless otherwise noted, this work may not be utilised for commercial purposes.
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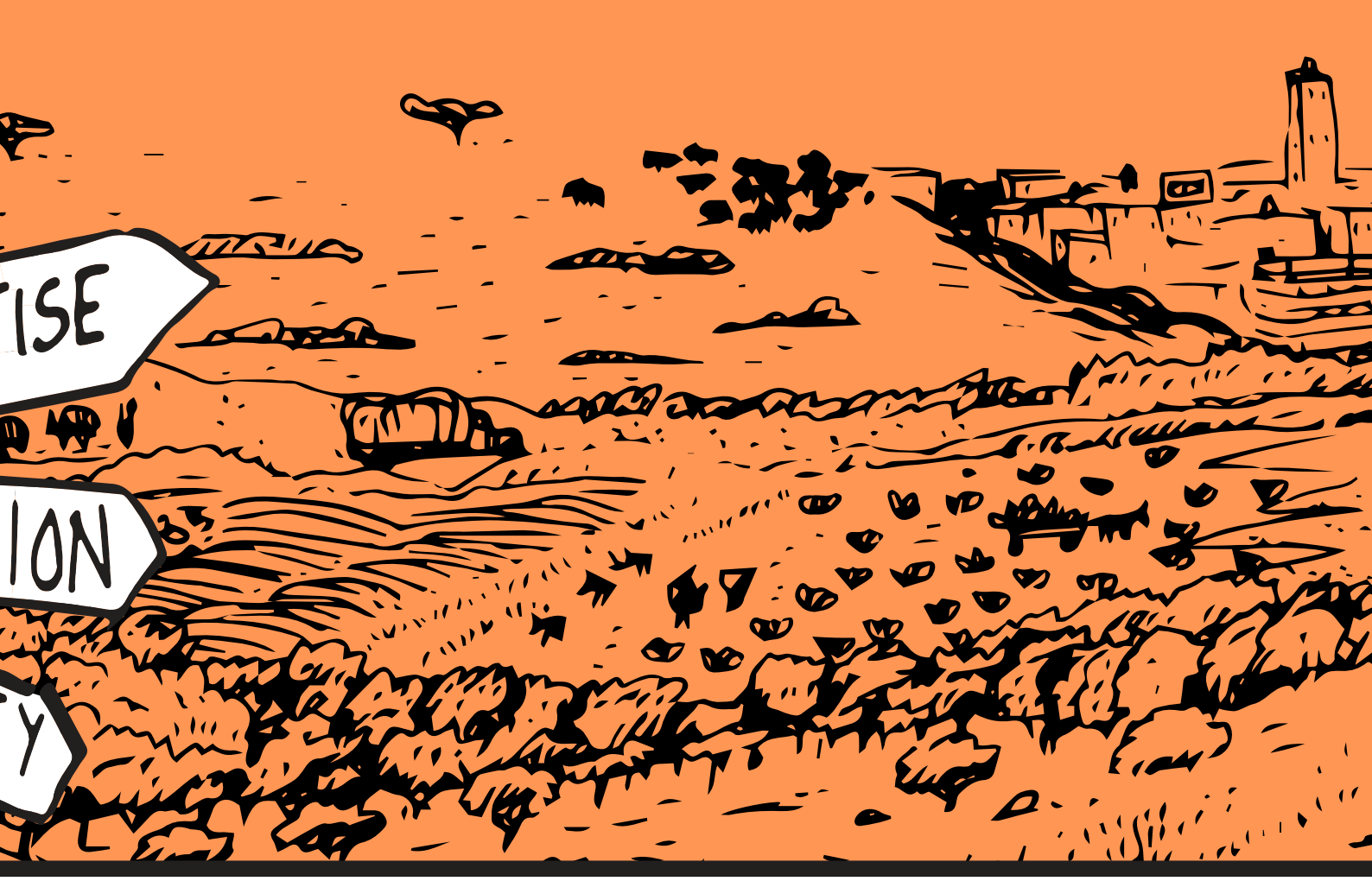

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VOLUME I: MANUAL

Rural Land Administration and Use Directorate
Ministry of Agriculture, Addis Ababa, Ethiopia

November 2018

ACRONYMS

A/LU	Agriculture and land use
AfSIS	Africa Soil Information System
ATA	Agricultural Transformation Agency
C/F	Coordination and facilitation
CAP	Community action plan
CIFOR	Centre for International Forestry Research
CRP	Collaborative research program
CSA	Central Statistics Agency
CV	Coefficient of variation
DCP	Data collection point
DRM	Disaster risk management
EIAR	Ethiopian Institute for Agricultural Research
EthioSIS	Ethiopian Soil Information System
FDRE	Federal Democratic Republic of Ethiopia
GCS	Geographic coordinate system
GIS	Geographic information system
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GPS	Global positioning system
ILC	International Land Coalition
IFPRI	International Food Policy Research Institute
ILRI	International Livestock Research Institute
JWPLUP	Joint woreda participatory land use plan
L&W	Land and water
LCC	Land capability classification
LDSF	Land Degradation Surveillance Framework
LGP	Length of growing period
LUA	Land use alternatives
LUP	Land use planning
M&E	Monitoring and evaluation
MoA	Ministry of Agriculture
MoUDG	Ministry of Urban Development and Housing
MoWIE	Ministry of Water, Irrigation and Electricity
NDVI	Normalised Difference Vegetation Index
NGO	Non-governmental organisation
NLUPC	National Land Use Planning Commission
NTFP	Non-timber forest product
PCDP	Pastoralist Community Development Project
PCQ	Point-centred quarter
PET	Potential evapotranspiration
PIM	Policies, Institutions, Markets
PLUP	Participatory land use plan
PRA	Participatory rural appraisal
PRIME	Pastoralist Area Resilience Improvement and Market Expansion
PSNP	Productive Safety-Net Program
PRM	Participatory rangeland management
RDC	Rural development center
RLAUD	Rural Land Administration and Use Directorate
RR	Rangeland resources
SDC	Swiss Development Cooperation
SRG	Soil reference groups
SWOT	Strengths, weaknesses, opportunities, threats
TLU	Tropical livestock unit
UTC	Universal traverse mercator
WPLUP	Woreda participatory land use plan
WRA	Woreda resource-sharing agreement

FOREWARD

Pastoralism and agro-pastoralism in Ethiopia is practiced as a livelihood system and way of life by 12-15 million people who inhabit the vast lowland areas, accounting for about 60% of the country's landmass. According to the Livestock Sector Analysis (Shapiro et al, 2017) of the then Ministry of Livestock and Fisheries, an estimated 40% of the national livestock population of Ethiopia are raised in these pastoral lowland areas being over 15 million cattle, 12 million sheep, 20 million goats, and 4.5 million camels. It is estimated that to fulfill the growing demand for meat in the country there is need for a substantial increase in livestock production, particularly in small ruminants (sheep and goats).

The majority of this livestock is produced through an extensive production system that tracks and uses resources across a rangeland area, where water sources and vegetation are heavily influenced by an often unpredictable and variable climate. In addition, rangelands are often used by multiple users – primary and secondary, and at different times of the year – requiring flexible access and use arrangements. Increasingly pastoral and agro-pastoral areas also provide for other land uses including rain-fed or irrigated agriculture, conservation areas including national parks, dryland forests including collection of non-timber forest products, and urban or infrastructure development.

As a result, land use planning in pastoral and agro-pastoral areas can be highly complex and therefore challenging. It often requires planning across administrative boundaries in order to ensure that shared and collectively-managed resources such as grazing areas remain intact and productive. It requires a multi-stakeholder and multi-sectoral approach undertaken with those that are most knowledgeable about land use and resources in pastoral areas – the pastoralists themselves.

In order to facilitate this land use planning, the federal Rural Land Administration and Use Directorate in consultation and collaboration with regional land administration and use experts has developed this Manual to guide land use planning at the local level in pastoral areas. It is advised that this local level planning is undertaken at the woreda level in order to better facilitate current pastoral land use patterns, and to ensure that the process is participatory. The woreda participatory land use planning process described here has been piloted and reviewed and is now ready for implementation. I encourage all woreda and regional government land experts to embrace and apply the approach across the country's pastoral and agro-pastoral areas.

Tigistu Gebremeskel

Director, Rural Land Administration and Use Directorate

Ministry of Agriculture

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The development of this Manual has been a joint venture involving many different individuals and organisations to whom we are very grateful. First and foremost, the Rural Land Administration and Use Directorate would like to sincerely thank the Rangelands Initiative of the International Land Coalition (ILC) and the Swiss Development Cooperation (SDC) for their technical and financial support provided to the process from its very beginnings. Further we fully appreciate the technical and financial support of GIZ, which provided support for the piloting of the Manual in Chifra woreda, Afar region; and of ILRI (International Livestock Research Institute) and the Livestock Collaborative Research Program (CRP) and the Policy, Institutions and Markets (PIM) CRP and Flagship 5 on natural resource management and governance for their support in finalizing the manual and its publication.

My special appreciation also goes to Fiona Flintan, who is a Senior Scientist specializing in rangelands governance at ILRI and coordinator of the ILC Rangelands Initiative, who led the process from its inception to its final shape and gave pertinent support on all technical matters related to pastoral areas during the entire period, for which we are very grateful.

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SECTION 1.0 Basic concepts

Land and land resources

Land and land resources refer to a delineable area of the earth's terrestrial surface, encompassing all attributes of the biosphere immediately above or below this surface, including those of the near-surface climate, the soil and terrain forms, the surface hydrology (including shallow lakes, rivers, marshes and swamps), the near-surface sedimentary layers and associated groundwater and geohydrological reserve, the plant and animal populations, the human settlement pattern and physical results of past and present human activity (terracing, water storage or drainage structures, roads, buildings, etc.) (*FAO-UNEP, 1997*).

Land use and land cover

Land use is characterised by the arrangements, activities and inputs by people to produce, change or maintain a certain land cover type. (Di Gregorio and Jansen, 1998). Land use defined in this way establishes a direct link between land cover and the actions of people in their environment. Land use can also be explained by the efforts placed on natural resources to derive benefits out of them including energy, knowledge, inputs and technical know-how. The type, quality and quantity of natural resources greatly influences land use. The size and scope of the unit for planning should reflect how the land is currently being used, bearing in mind potential use too. For example, the size and scope of unit for planning an area dominated by crop farming is likely to be different to one dominated by pastoralism – the latter is likely to be larger and more complex.

Land cover is the observed (bio)physical cover on the earth's surface (Di Gregorio and Jansen, 1998). Land cover is what immediately appears on the surface of the earth while land use can be defined as a function of land resources, inputs, human labor and social demands.

What immediately appears on the surface of the earth

Pastoral areas and rangelands

Pastoral areas are where pastoralism (extensive livestock production) is the dominant land use production system in arid and semi-arid lands, where rainfall is low and variable resulting in uneven and patchy distribution of vegetation and other resources. Pastoralism as a production system has environmental and economic comparative advantages over other land use systems in these areas, being able to cope with the variability and unpredictability of climate, vegetation etc. that exists. It is a form of land use that has low productivity per unit area, causing little attention being given to its improvement. Around 60% of the Ethiopia can be classified as pastoral and agro-pastoral areas (*see Figure 1.1*).

Areas where pastoralism is the dominant land use production system

Rangelands are areas where vegetation grows naturally

Rangelands are the areas of grasslands, shrublands, woodlands, wetlands and deserts where vegetation grows naturally, highly influenced by rainfall, grazing and fire (controlled and used as a management tool). Rangelands are a key component of pastoral areas and have developed through the interaction of people, livestock and/or wildlife, and the environment and climate. Though pastoralism is usually the priority use of rangelands, rangelands also supply a variety of products and services that support other land uses including minerals, construction materials, medicines, fuels, gums and resins, conserve soil and water, tourism and often have high amounts of biodiversity.

Due to the low, variable and unpredictable rainfall prevailing in these areas, rangelands tend to be made up of patchily distributed resources of high and low production potential spread across a large landscape – the balanced use of these high and low production potential areas is maintained and optimised through the pastoral land use system including periodic movement between them. Rangeland use demands planning beyond or across village boundaries and mechanisms that allow for the movement of people and livestock. The resources found in rangelands tend to have multiple and overlapping uses that may not be clearly defined due to their complex and dynamic nature. Resources are strongly interconnected to each other (e.g. water and grasslands) and plans for their use need to reflect this connectivity – planning should be carried out in an integrated manner.

The unpredictability of rainfall makes planning particularly difficult and a degree of flexibility should be factored into plans to allow for reactive or adaptive planning. Rangeland users may perceive long-term planning a challenge and perhaps unnecessary. It is important to work with them through participatory approaches.

A livelihood system practiced by people dwelling in arid and semi-arid environments

Pastoralism is a livelihood system and way of life practiced by people dwelling in arid and semi-arid environments, using mainly traditional knowledge to optimise the interaction between humans, the environment and livestock. There are four key elements of pastoralism: mobility, keeping or possessing large herds of livestock, herd diversification and splitting, and focussed mutual assistance systems that are important for spreading risk.

Pastoralism is also characterised by rangeland management through rotational grazing, and controlled burning, which controls the abundance and dominance of woody plants composition and promotes the growth of herbaceous more-palatable plants.

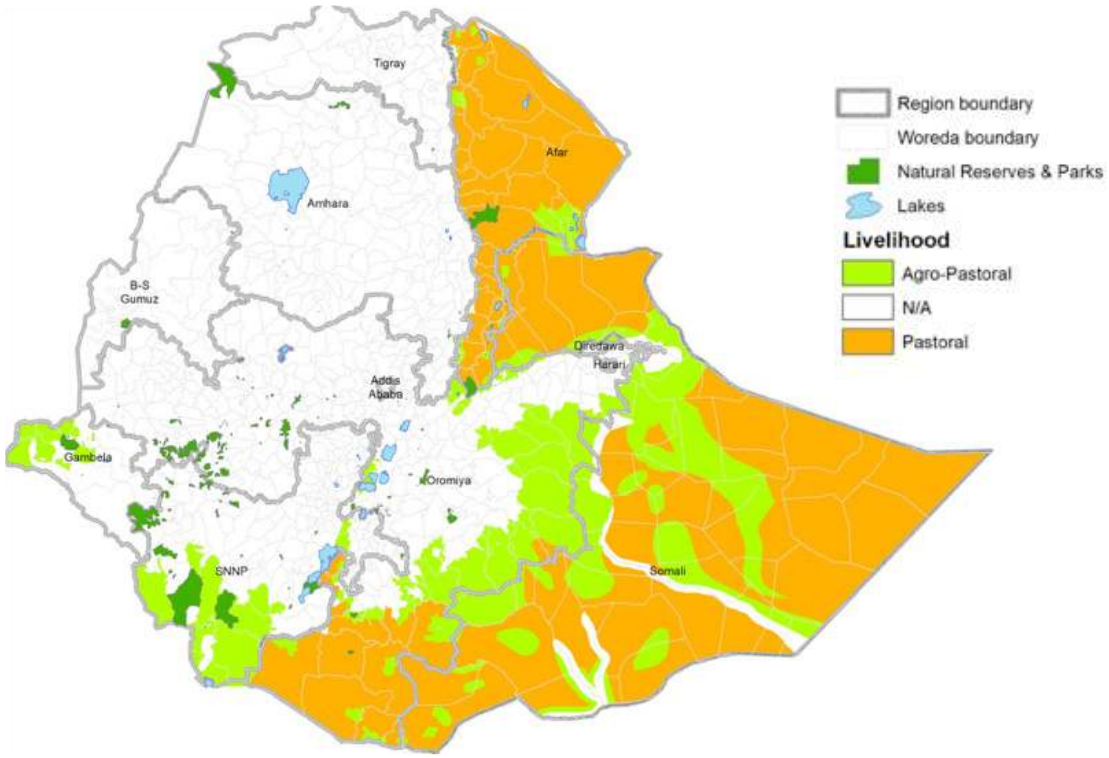

Figure 1.1 Pastoral and agro-pastoral areas of Ethiopia **Source**: FEWS NET 2009, Central Statistical Authority (CSA) 2007

How pastoralists and agro-pastoralists plan

Pastoralists carry out land use planning in an informal way

It Is often thought that pastoralists and agro-pastoralists do not plan the use of their rangelands. However, though they might not plan far into the future, short-term planning is an important activity to maintain sustainable use. Pastoralists carry out land use planning in an informal way, deciding together how best to use which part of their land in different seasons. This is undertaken in an integrated manner, recognising the interconnection between different rangeland components including water, vegetation, and minerals.

Major traditional land use decisions including seasonal movements to different grazing areas are based on local knowledge of land, resources, climate, social norms and values, availability of water or recent/expected rainfall, current land uses, the availability of palatable grasses and wild foods, potential of land for crop cultivation, security (including incidences of conflicts), and land governance.

An increasing encroachment of crop farms into traditionally managed rangelands as well the individualization of resources are an increasing concern raising pressures and potentially conflicts over land use. Where permanent settlement or large-scale agricultural investments are occurring, it is important to ensure that planning is carried out to ensure that this happens without disturbing grazing patterns and access to water for livestock. Additionally, livestock routes or corridors may need to be established, formalized, managed and protected so that livestock can move without disturbing other land uses.

Pastoralists evaluate and classify their land

Pastoralists evaluate and classify their land taking into account ecological, socio-economic and cultural functions. For example, the Mursi pastoralists of South Omo zone of Southern Nations, Nationalities and Peoples National Regional State (SNNPR), evaluate and classify their land into three categories: grazing land (*missa iwony*), cultivated land (*baa gunyang*) and sacred land or ritual places (*baa barrara*). When discussing land use and land use management, the Mursi stress that all these three categories of land are vital for a healthy and productive pastoral system: as the local saying goes, '*If you use only two cooking stones and not three, you will never cook anything*' (Tefera et al 2016).

Commonly agricultural plots are used by individuals or households, whereas grazing is used collectively. In nearly all rangelands pastoralists manage grazing through a system of movement between dry and wet season pastures. That is, it is the availability of both water and grazing that controls land use patterns. Livestock may also be moved to break parasite cycles, harboured in grasses. Usually pastoralists stick to the same well-established patterns of land use every year and it is only in times of severe drought that they need to change. Livestock can live with wildlife if well managed.

Land use planning is an ongoing and developing process

Land use planning is an ongoing and developing process for pastoralists as environmental conditions and other factors are constantly changing. Pastoralists can improve pastures through traditional grazing practices and encouraging the growth of palatable species. Currently, pastoralists and agro-pastoralists face new kinds of challenges that are impacting on land use. For example, many pastoral areas have seen a significant increase in land lost to invasive plant species such as *Prosopis juliflora* or *Partenium hysterophorus*, and due to these challenges coordinated, well-planned, extensive management and rehabilitation of these lands is required.

Land evaluation

The process of collecting and interpreting basic data

Land evaluation is the process of collecting and interpreting basic data on soil, vegetation, climate, topography, hydrology, socioeconomic and other aspects of land in order to identify and make a comparison between land-use alternatives (FAO undated). It is a tool in the planning process and should be flexible in order to meet changing conditions (environmental, social, economic and political). The result will assist planners to make sure that resources are used for development purposes effectively.

Land use planning

Systematic assessment of land and water potential

Land-use planning is the systematic assessment of land and water potential, together with the alternatives for land use and economic and social conditions in order to select and adopt the best land-use options, 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 (FAO 1993).

Pastoralists in Ethiopia planning, *©Kelley Lynch/PRIME-CARE*

Land for human settlement

In pastoral areas settlements have often been temporary due to the need to move with livestock

Human settlement patterns are influenced by environmental, economic, social, factors and land use. In areas suitable for crop farming settlement tends to occur as consolidated permanent villages or hamlets, with inhabitants working the land around these. However, in pastoral areas settlements have often been temporary due to the need to move with livestock as seasons change and livestock resources reduce or become available. Increasingly today, in the absence of services designed for mobile livelihood and pastoral populations, many pastoral households or at least one part of the pastoral household tends to be settled in a village or hamlet, whilst the other part of the household moves with the livestock. This enables the household to both access services provided in the village/hamlet and maintain the pastoral livestock production system.

Under high levels of population growth, it is important for increases in settlement areas and the establishment of new ones to be incorporated into land use planning decisions. This will need to take into account current and future land uses, and the needs of the local population and other stakeholders including the provision of services and environmental factors. The environmental and social suitability of sites for settlement needs to be fully analyzed before decisions are made. Therefore, land use planning should include urban development offices.

SECTION 2.0
Introduction to the manual

The need for woreda participatory land use planning in pastoral and agro-pastoral areas

With increasing pressures on land and increasing populations and different types of stakeholders there is a need for a comprehensive land use planning system at all levels throughout Ethiopia. Land use planning is particularly important at the local level where day-to-day land use decisions are made. Land use plans are an important component of development plans. As much as possible, land use plans should seek to improve local land use and the needs of local land users, taking into account the interests of other stakeholders.

WPLUP for pastoral and agro-pastoral areas helps to reconcile competing and conflicting land uses in some areas and optimising the use of others

A woreda participatory land use plan (WPLUP) for pastoral and agro-pastoral areas is an important input into woreda development planning processes helping to reconcile competing and conflicting land uses in some areas and optimising the use of others. It is also the starting point for better coordination of land-claiming sectors including land use actions that are important for the development of the whole woreda such as dealing with invading plant species or increasing livestock productivity.

Woreda participatory land use plans will:

1. **Guide local level land use planning at a scale more appropriate for pastoral planning units – the woreda**

   In highland areas, local level participatory land use planning tends to focus on a watershed or sub-watershed, because land use, vegetative cover, soils, and water interact throughout the watershed, so that management approaches must consistently address them together. Often a sub-watershed or the kebele, is taken as the planning unit as communities traditionally plan activities and make decisions about land use at this level.

   The same principle of integrated land use planning and management applies in pastoral areas, but in pastoral areas the appropriate unit for local level land use planning is found to be larger than a kebele. This is because pastoralism as a land use system requires resources found over a much larger area, which may vary across the seasons. Dry season grazing areas (where permanent water sources are usually found) need to be rested during the wet season when surface water availability allows grazing elsewhere. This alternative use of both dry and wet season grazing areas optimizes the production potential of rangelands in both the short- and long-term, as well as keeping the rangeland and the livestock healthy. Rarely are all the resources required for a fully functioning and productive pastoral land use system found in a kebele, and it is more likely (though not always) that they are found within a woreda.

As such, though in highlands and agricultural areas participatory land use planning may be effective at a sub-watershed or kebele level, in pastoral areas a woreda is considered to be more appropriate as a planning unit.

2

2. **Improve the participation of local land users within land use planning processes**

When well done participatory land use planning (PLUP) allows local land users to play a central role in decision-making processes concerned with land use and land resources. PLUP brings stakeholders together to develop a common vision and agree land use in the future. In particular, PLUP provides an opportunity for otherwise marginalised groups to take part including women, youth, disabled, elderly pastoralists, fishers and hunter-gatherers.

BOX 2.1 WHY COMMUNITY PARTICIPATION?

- Community development needs to be demand-driven by community members themselves.
- This will lead to stronger community 'ownership' over the plan and stronger commitment to invest in and implement it.
- It helps to resolve conflicts as through the planning process different stakeholders including communities should agree on how land will be used and managed to its optimum potential.

PLUP provides information and direction to the different stakeholders (government, communities and others) for making decisions about how to optimise benefits from different land uses and thus provides for sustainable productivity and production of the land and resources, development of infrastructure and services, protection of the environment and biodiversity, and establishment of good land governance and administration systems. PLUP helps integrate the indigenous knowledge of land users with scientific knowledge.

We technicians should recognize and accept that land users have accumulated knowledge for evaluating and classifying their land resources by type and identifying, analyzing and prioritizing their problems and potentials to open an avenue for technical decisions and mutual agreement on options of suitable land uses. Land users being the main actors and the ones facing the impact of changes in land use planning and resource management and conservation have to play the leading role in identifying problems, solutions and alternative potential uses.

Rural Land Administration and Use Directorate, Ethiopia

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3. **Facilitate the multiple use of pastoral areas and reconcile differences between multiple users**

Commonly, multiple users may simultaneously access pastoral areas for different uses. One particular area might be used by different users for i) grazing, ii) water access, iii) gums and resins, iv) saltlick, v) agriculture, and vi) conservation. It is likely that different users will be involved in each type of use supported by a set or layer of rules, regulations and institutions that control access, use and management. Often these layers of rules, regulations and institutions are overlapping in their jurisdiction (politically and geographically). In order to facilitate and enable these complexities there is a need for land use planning to be developed based on a clear understanding of the different and overlapping uses and who is involved, when, why and how.

It is also important to ensure that different uses are coordinated, linked, and integrated with each other. Changes in one part of the rangeland will have an impact on other parts as well as on the rangeland system as a whole. This understanding needs to be incorporated into land use planning processes and decision-making.

Land can be zoned to reflect priority use, but secondary and tertiary uses will still be important and should also be agreed and facilitated. Negotiations may be needed between the different land users to reach agreement on the layers of use, and of ownership, access or management arrangements. It is important that all user groups are involved in the planning process as much as possible so that they have a say in decisions made. If all user groups are not involved and do not have a say in the decision-making processes then this will likely lead to land use conflicts later.

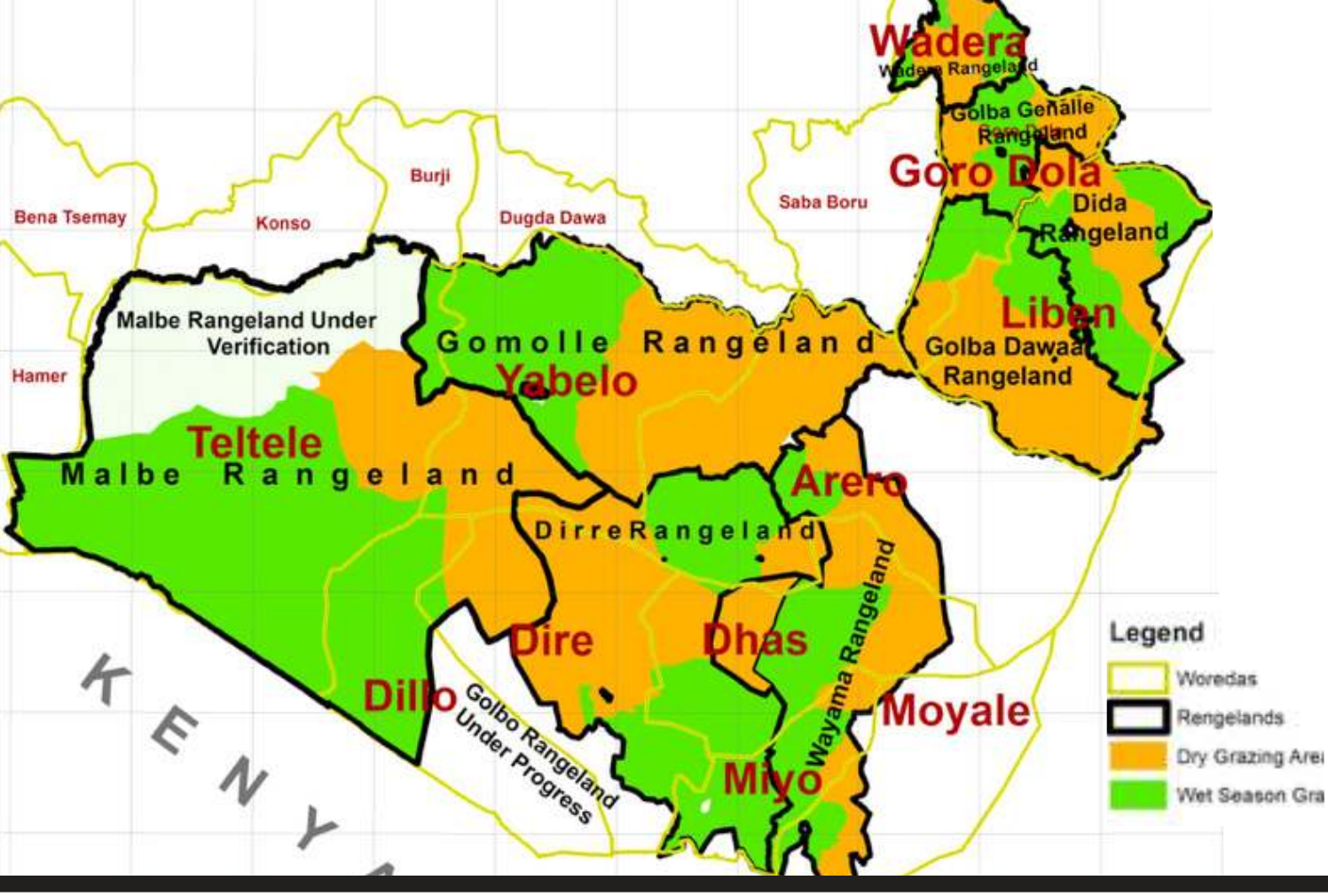


Figure 2.1 Traditional gazing areas in Borana overlapping kebele and woreda boundaries *©PRIME project/CARE Ethiopia (2014)*

4. **Facilitate sharing of pastoral resources between and across different woredas and establishment of woreda joint land use agreements**

In some cases, a pastoral land use system may extend and cross boundaries further than a woreda, and here it would be appropriate for woredas to ensure that their land use plans are complimentary and link-up with neighboring ones. It is recommended that where resources (such as water and/or grazing) are shared between different woreda pastoral communities, that these woreda not only produce individual WPLUPs but also a woreda joint land use agreement (JLUA) for the shared resource(s). This will define how the shared resource is used, accessed and managed (based on a management plan to be implemented by the group of users). This Agreement would ensure that the use, access and management of the area covered by the shared resource is not changed without the consent of all woredas involved.

5. **Guide multi-sectoral integrated government planning, land use and development at woreda level**

If done well, a woreda PLUP will involve all land-claiming sectors within the woreda. It ensures that land use needs for different sectoral development are fulfilled as much as possible without damaging the productivity of the land and the environment. All government sectors are provided with the opportunity to contribute to the plan and take responsibility for its implementation. This should minimize contradicting, overlapping or duplication of activities by different sectors. A well-developed Plan will support cooperation over land and resource use, and the coordination of government offices in the woreda.

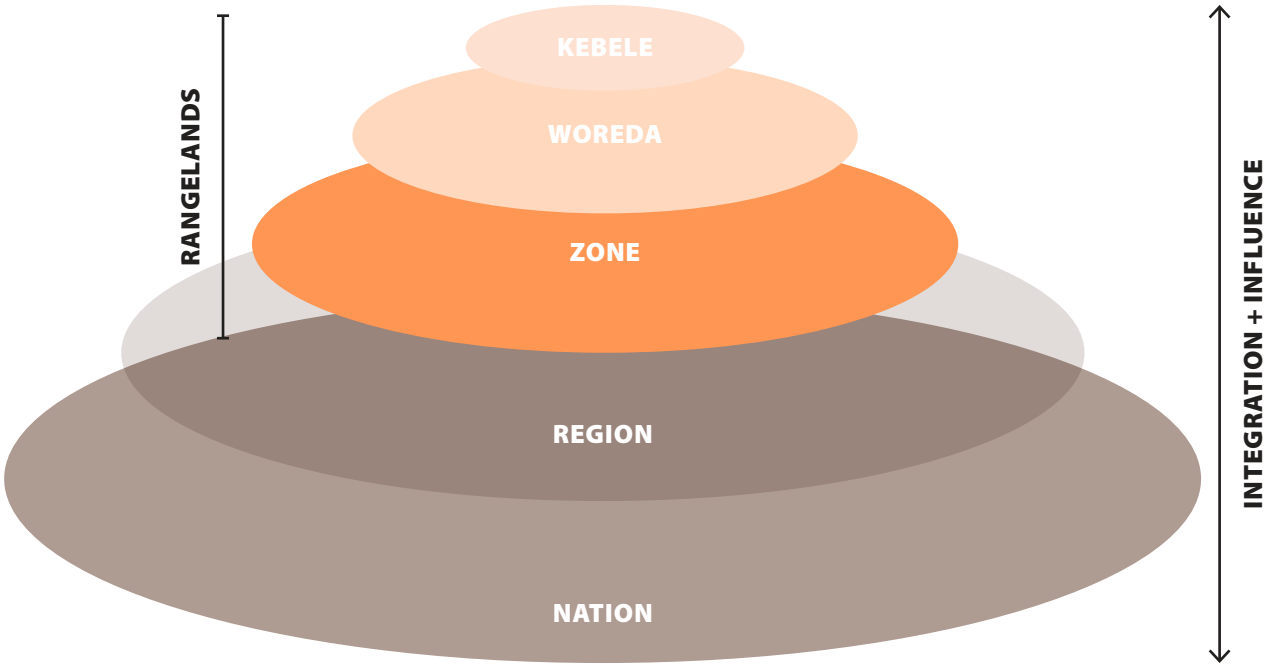


Figure 2.2 Levels of land use planning

It is anticipated that the woreda PLUP will also guide and contribute to decisions made about interventions supported in government-led development and humanitarian-focused programs, such as the Productive Safety-Net Program (PSNP), River Basin Development and villagization. The woreda PLUP will be a key document and source of information influencing these interventions. NGOs and development agencies will also use the woreda PLUP as a starting point for their own supported interventions – this will reduce the likelihood of duplication and make development efforts more efficient and effective.

6. **Guide planning and management at lower and higher levels of administration and use**

A WPLUP for pastoral areas can a) guide more localised community land use and management planning processes; and b) feed into higher levels of land use planning including at zonal, regional and national levels. At the local level, communities will carry out their own action and resource planning according to their social structures and institutions. The WPLUP will guide this. In addition, a WPLUP provides valuable information for planning at higher levels of administration including zonal (where applicable), regional and national. The woreda PLUP process should feed into higher level land use planning and also be influenced by it. This will help to ensure coordination and multi-sectoral integrated development at all levels.

Objectives of WPLUP in pastoral and agro-pastoral areas

The main objective of the WPLUP process is to produce an implementable and affordable woreda land use plan through a participatory process.

More specific objectives include:

- To *select and adopt land use options in the woreda*, which will best meet the needs of local populations and local or national development priorities, while safeguarding resources for the future.
- To *influence higher and lower levels of land use planning and development*, as part of a comprehensive land use planning framework.
- To *provide an opportunity for all land users in the woreda to contribute to decision-making* processes related to land and resources and their development.
- To *guide cross-sectoral and multiple stakeholder* planning and land use;
- To *help prevent and resolve conflict* over land use and between land users.
- To *improve the security of access to land and resources*, facilitate sustainable use, and improve management.

Principles of WPLUP in pastoral and agro-pastoral areas

Drawing from the Local Level Participatory Land Use Planning Manual for settled agricultural areas published by the then Ministry of Agriculture and Natural Resources of the Federal Democratic Republic of Ethiopia (FDRE), the key principles for land use planning are:

- **efficiency**
  available land resources are used in such a way
  that they produce maximum benefits,
- **equitability**
  provide benefits to all socio-economic categories of land users
  including women and youth, and
- **sustainability**
  do not result in the degradation of the resource base
  and are viable in the local socio-economic context.

Land use planning should improve rather than constrain local decision-making.

The key factors necessary for developing a workable PLUP are:

1. **Integration**
   - Combining elements of both the bottom-up and top-down approach.
   - Taking into account the complex biophysical and socio-economic variables which determine the land use system.
   - Considering legal and institutional aspects which facilitate the implementation of the plan.
   - Working across sectors as part of development processes.
2. **Interaction**
   - Ensuring a negotiation process, in which land users interact among themselves and with specialists.
   - Allowing different levels (national, sub-national and local level) to interact in the planning process.

3. **Participation**

   The highest level of participation possible should be attained.
   Levels of participation include:
   - **Passive participation:** people are told what is going to happen or what has already happened.
   - **Participation by information giving:** people participate by answering the questions of external agents.
   - **Participation by consultation:** people participate by being consulted, and external agents listen to views.
   - **Participation for material incentives:** people participate by providing resources in return for material incentives.
   - **Functional participation:** people participate by forming groups to meet predetermined objectives related to a project but are still dependent on external initiators.
   - **Interactive participation:** people participate in joint analysis, which leads to action plans and formation of new local institutions or strengthening existing ones.
   - **Self-mobilization:** people participate by taking initiatives to change systems independent of external influences.

   Source: "A Trainers Guide for Participatory Learning and Action", *IIED (1995)*

Content of a WPLUP

A woreda Participatory Land Use Plan (WPLUP) includes:

1. Maps showing:
    - Different land use cover and zones showing major or priority land use types e.g. grazing, agriculture, settlement, conservation, forests,
    - Information on land use types, land tenure, public-use lands, socio-economics such as population distribution, areas of cultural importance etc.
    - Infrastructure (current and planned) e.g. water points and/or dams, health and veterinary posts or centers, schools, religious centers, roads, human settlement or resettlement areas, livestock marketing centers, transport links, roads and bridges, etc
    - Livestock routes, mobility patterns,
    - Protected areas including wildlife corridors (if existing),
    - Areas under agricultural commercial investment or other investment ventures (current and planned);
2. Background socio-economic and biophysical data including land capability analysis and classification;
3. Key problems and challenges in the area;
4. Potential solutions and opportunities in the area;
5. Land use options best land uses;
6. Agreed land use and development plan map;
7. Implementation strategy – roles and responsibilities for administering, controlling access, managing and governing land, and a timeline for the plan including activities;
8. A monitoring and evaluation framework for implementation of the plan.

How to use this Manual

This Manual for woreda participatory land use planning (WPLUP) in pastoral and agro-pastoral areas serves as a complimentary document to the then MoANR (Ministry of Agriculture and Natural Resources) Manual on PLUP that was recently developed for rainfed agriculture areas. The key processes and steps followed in the two Manuals are similar, however there are some details in their application that differ due to biophysical, socio-economic, land use and production differences. This *Manual for WPLUP in Pastoral and Agro-pastoral Areas* specifically considers the different requirements of land use planning in pastoral and agro-pastoral areas where extensive pastoral production is the dominant land use system.

The Manual is structured in such a way that it can be used easily 'in the field.' It comprises three Sections – *Preparation, Making the plan,* and *Preparing to implement the plan* reflecting the different Phases of the process. Within each Section or Phase there is clear step-by-step guidance on how to undertake activities necessary for producing a comprehensive plan. These Phases and Steps are summarised in *Figure 2.3*.

Each Step described in the Manual commences with some background information on why the Step is important, its key features, and its anticipated outcomes. Related issues to bear in mind are also provided. Each step is then divided into Key Action Points – these are the Actions that need to be taken to complete each Step. For each Action Point a practical Worksheet is provided in the second half of the *Manual – VOLUME II Toolkit*. These Worksheets provide practical and detailed directions that need to be followed by the planning team to complete each Action Point. Boxes provide examples and scenarios for the WPLUP Team to consider.

PLEASE NOTE

Though it is recommended to work through all the Action Points in the Manual to produce a full and comprehensive WPLUP, in some cases this may not be possible due to lack of resources, capacities etc. Any gaps should be noted. Volume II, the Toolkit offers different tools and in some cases ways of doing things for each Action Point – the planners will need to decide which tools are more appropriate in a given context and at a particular time.

It is recommended that the WPLUP Team work through the Manual, following each Phase, Steps and Action Points one at a time and in the sequence set out. It is anticipated that not all the WPLUP Team members will need to be involved in every Action Point and in *Step 2* the Team should divide tasks between members accordingly.

SECTION 3.0 Phase 1: Preparation

At the end of Phase 1 you will have completed the following:

- Introduced and raised awareness on the WPLUP process amongst land users.
- Confirmed the need for a WPLUP amongst woreda staff.
- Confirmed who are the key stakeholders that need to be involved in the WPLUP.
- Established the WPLUP Team and sub-Teams and developed a workplan and more detailed budget.
- Identification and mapping of major rangeland management units(s) with any woreda boundaries it crosses.
- Prepared and/or purchased equipment required for WPLUP.

STEP 1
Facilitate initial discussions and agreement for WPLUP

WPLUP is likely to be an intensive process and can take several weeks if not months, to complete. Complications and delays may result from existing multiple groups of stakeholders[1] who need to be included, competitions and conflicts of interest over land use or lack of readily available data required for informed decision-making. As a first step in the land use planning process it is necessary to reach agreements amongst woreda staff that PLUP is an appropriate and positive process in which time and resources should be invested.

ACTION POINTS

1. Hold an internal **woreda administration or government meeting** to confirm that a WPLUP will be undertaken and who are the main stakeholders that would need to be involved in the WPLUP process. See *Worksheet 1-1* in the accompanying *Toolkit – Volume II* – for this Activity.

1 Stakeholders include primary, secondary and occasional users of land as well as decision makers. They could be made up of farmers, herders, pastoralists, agro-pastoralists, firewood collectors, commercial companies, dam builders, local government departments, national government, cooperatives, unions, non-timber forest product collectors, conservation organizations, NGOs, etc. By considering all the different groups of land users, the different social groups should be included by default including men, women, young, old – but this should be checked. It can be more socially acceptable to include usually marginalized groups because they are land users rather than because they are of a particularly marginalized group e.g. women, youth, elderly and disabled pastoralists.

STEP 2

Carry out a stakeholder analysis

For a WPLUP to be accepted and implemented all major stakeholders need to be involved. A **stakeholder** is anyone or any institution or organization who has interests in, or is affected by, an issue or activity or transaction (in this case related to land use). There may be more than one stakeholder or stakeholder group claiming an interest in the land use of a particular area of land. In rangelands there are likely to be multiple layers of stakeholders. Simply, three types of stakeholders can be identified in pastoral and agro-pastoral areas as follows:

- **Direct stakeholders** including pastoral and agro-pastoral groups who use the land to graze their livestock or other livelihood activities including agriculturalists, charcoal or fuelwood collectors, gums and resin collectors, commercial companies and investors, etc. These are primary users of the land, also responsible for its governance and management. Local government is also a direct stakeholder.
- **Indirect stakeholders** are affected by the actions of the above land users. These include secondary users of the land such as pastoralists who visit the area in order to access shared grazing and water from neighbouring woreda; or those who rely on the outputs produced by the direct stakeholders such as livestock traders and service providers.
- **Interest groups** who do not rely on the land or the livelihoods of local land users but rather have an interest in the outcomes of land use on either the wider social, political, economic and ecological environment or on a specific topic such as women's empowerment, conservation of wildlife, invasive species distribution or livestock traceability and disease controls. These interest groups can include NGOs, conservation organisations, research organisations, investors considering investments, land rights groups etc.

Once the main stakeholders have been identified an analysis of the different stakeholders and their role in land use planning, land use and related decision-making should be carried out.

ACTION POINTS

1. Hold a **meeting with main stakeholders** in the woreda to confirm their interests, positions and needs and what they are doing and planning in relation to land use. Use *Worksheet 1-2* in the accompanying worksheet folder *Volume II* for this Activity.
2. With representatives from key stakeholders carry out **awareness raising and discussions** on the WPLUP development process with different stakeholder groups to ensure a common understanding of the process to be followed. Use *Worksheet 1-3* in the accompanying worksheet folder *Volume II* for this Activity.

STEP 3
Establish the WPLUP Team

In order to produce a Woreda PLUP, a Woreda Participatory Land Use Planning Team will need to be established. This should include the following:

- Woreda Land Administration and Use expert.
- Woreda specialist(s) of crop, livestock, and natural resources; soil and water conservation; rural roads; and water development.
- Kebele leader (or delegated representative) from each kebele found in the woreda.
- Kebele land administration and use expert from each kebele found in the woreda.
- At least one customary leader from each pastoral group found in the woreda.
- Women's representative from each pastoral group found in the woreda.
- Youth's representative from each pastoral group found in the woreda.
- Representatives from other key stakeholder groups in the woreda e.g. particular cooperatives/unions, investors, national park managers, NGOs with long-term presence in the area.

The team should not be too big so that it becomes difficult to manage, but it should be big enough so that all key persons/stakeholder groups are represented. Later in the process the team will be split into sub-teams to work on particular tasks together.

Those leading the process will need to establish a skilled facilitation team. Good facilitation skills are not easy and training may be required (see below).

Adequate finances should be available for the planning process. Logistics will also need to be arranged including identifying a suitable and convenient place and time for the required meetings, transport, and refreshments.

The next task of the WPLUP Team is to develop a work plan that sets out when and how to start the planning process and accomplish the proposed activities.

ACTION POINTS

1. Establish the **woreda PLUP Team** with members as listed above. More information on this process is provided in *Worksheet 1-4*.
2. Establish a skilled **Coordination/Facilitation sub-Team**. How best to do this is provided in *Worksheet 1-5*. Training may be required.
3. Produce a **detailed budget** and ensure adequate finances are available. Establish that adequate finances for the PLUP are in place, and that vehicles and meeting rooms are available. The details of these will need to be identified later. A suggested budget for these requirements is provided in *Worksheet 1-6*.

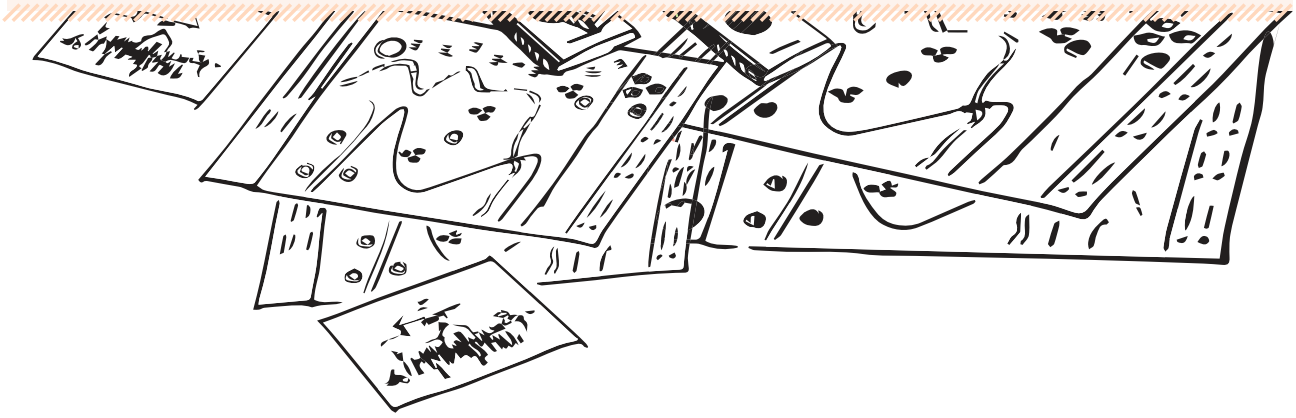
4. Develop a **workplan** for the planned activities for producing a WPLUP as indicated in this Manual. This should set out when and how these are completed. A Template Sheet for the Workplan is provided in *Worksheet 1-7*. Different members of the WPLUP will have roles and responsibilities for different parts of the process. All members of the WPLUP should be involved in the meetings to decide on different land uses when it comes to final decisions about the Plan.

STEP 4
Identify and map the rangeland management unit

The next step is one of the most important steps in the planning process for pastoral areas.

The unit for the land use planning process is a woreda as this makes sense from an administrative point of view. However, a woreda might not completely match with land use patterns – and this is particularly the case in pastoral areas. Therefore, before commencing the planning process it is necessary to understand what relations and interconnections there are between i) the land and resource use within the woreda of focus, and ii) the land and resource use within neighbouring woreda. A single woreda is unlikely to have all the resources necessary for a well-functioning pastoral production system and it is common for pastoral communities to share resources and therefore, move across woreda boundaries on an every-day basis. In addition, there may be extended seasonal mobility for resources sharing during times of drought. An understanding of these elements is required to see how the woreda of focus fits within and is part of the larger picture of pastoral production, sharing of resources and mobility in the area.

> In Tanzania, policy and legislation define the village as the appropriate unit for land use planning. However, policy and legislation also recognise that this may not be the case in every circumstance and under certain land uses, a larger area may be more appropriate. In the case of rangelands and pastoral production systems for example, joint village land use planning is required to ensure that shared resources across villages, mobility and multiple layers of land use are incorporated into planning processes.
>
> Guidelines for Village Land Use Planning, National Land Use Planning Commission, Tanzania (2013).



Through the consultations carried out in Step 1 (as above) details of this larger picture of pastoral use should be becoming clear. The largest unit to consider in a pastoral context is likely to be the grazing unit including wet and dry season grazing areas which may spread over a large area. In order to verify these and to confirm what cross-woreda movement exists, a participatory mapping of the current pastoral production grazing unit should be carried out with representative pastoral community members. Where cross-woreda sharing of resources is known to exist, this mapping should be carried out with representatives from all woredas (and their corresponding kebeles).

BOX 3.1 WHY PARTICIPATORY MAPPING?

The mapping of resources is a powerful information-generation tool. The exercise triggers community level discussions about their resources and the issues that surround them. Maps can be used to identify and understand different uses of resources, different resource locations, resource access and resource seasonality. Maps depict important information such as water points, market infrastructure, land use boundaries, mobility routes and different production areas and their status. Whilst mapping is carried out management problems, challenges and potential solutions to these can be discussed. The map provides a visual record of the area, and land and resource use. Ground mapping (on the ground) or sketch mapping (on a piece of paper) represent key community-identified features on the land from a bird's eye view. They do not rely on exact measurements, yet they do show the relative size, distance and approximate position of features. Participatory mapping can help introduce and explore the concepts of spatial planning with communities. A picture paints a thousand words.

Where there are groups of stakeholders who use the land in significantly different ways e.g. farmers, livestock herders, conservation organisations and commercial investors, each group can produce their own map of resources and current land uses. Paper (or GIS) versions of these can then be 'overlaid' on top of each other to see where the land and resource uses of the different groups overlap for example. These points of overlap indicate where there may be conflicts or competition over land use that need addressing.

Once the sharing of resources is understood and confirmed, then each woreda can work in parallel to develop their own individual WPLUP and later come together to establish a resource-sharing agreement for shared resources such as a grazing area, or water point (which can then be managed by the relevant customary or other institution).

The boundaries of the woreda should be known. However, for land use planning purposes it can be useful to identify and or delineate these on:

- A topographic map; or an
- Enlarged or large-scale aerial photograph and/or satellite images.

Pastoralists mapping-out resources in Tanzania, ©Fiona Flintan/ILRI

Information gathered from participatory mapping such as resource type and location and key land use types will be identified. All information can then be fed into GIS after collecting locations by recording their coordinates using hand-held GPS. The use of Google Earth can also be applied since it is available for free and the information can quickly be transferred from community maps to GIS – the two maps can be compared by putting them side-by-side and the GPS coordinates of key features on both maps can easily be identified by clicking on the Google Earth map.

Using topographic maps, aerial photographs, and GPS are technical methods to be carried out by professional experts and surveyors in collaboration with land users. Land users can easily capture techniques if they are explained in simple language.

ACTION POINTS

1. Hold a **meeting** with local customary leaders and livestock experts to map out the rangeland unit, the natural resources, the distribution of resources used by livestock in the woreda and resources shared across the woreda boundaries. This will indicate the reach of the rangeland unit (including wet and dry season grazing areas, and permanent water points) and whether the rangeland unit exists within the woreda boundary or crosses the woreda boundary into neighbouring woreda. Details on how to hold this meeting is provided in *Worksheet 1-8*.
2. Where the rangeland unit crosses the woreda boundary, then a second meeting should be held to further explore the distribution of the rangeland resources across all woreda to confirm which woreda share grazing resources. This should be carried out

with representatives from all these woreda. Before this is carried out however, check whether a mapping of grazing areas in/across the woreda has already been completed by an NGO. If yes, then this map should be used as a starting point. its content verified, rather than a new map being produced. If not, then the activity of producing a new map can proceed.

A **detailed mapping of the rangeland unit and resources** is now carried out, with customary institutions and other community members taking the lead. The outcome of this activity is a detailed map of the customary grazing unit including all rangeland resources used within its boundaries. Where several woreda are involved, the costs and organization of this activity could be shared by all the woreda and the output map can be used by all woreda for their own land use planning processes (as below). Details on how to carry out this participatory mapping of rangeland resources is provided in *Worksheet 1-9*.

3. The information, map and its details can then be transferred into **GIS**. This can be done through taking GPS readings of all the features on the map. However, this is time-consuming. An alternative method is to call a meeting of those community members who drew the rangeland resource map, so that they can work with you to identify the features that they mapped, on a Google Earth image or satellite map. For instructions see *Worksheet 1-10*. From this GPS readings required for producing a GIS image can be taken. It is best to produce one map of the whole grazing area showing how and where it cuts across woreda administrative boundaries, and then produce more detailed individual separate woreda maps so each woreda has a map of its own section, for its own woreda land use planning process.

   The output is a GIS-layer that shows the distribution of rangeland resources and grazing land use. We shall return to this Rangeland Resource GIS-layer in *Step 5* where it is combined with other GIS layers for land use planning purposes.

4. Woreda found to be sharing resources should develop a joint woreda **land use plan or agreement** including arrangements for sharing of the resources. In order to do this each woreda should produce their own WPLUP in parallel and at the same time to ensure that shared resources are included and linked up. We will return to the joint woreda land use planning and agreement in *Step 8* and *12* later in this manual.

STEP 5
Prepare equipment and materials required

Technical equipment, instruments and materials will need to be purchased according to requirements – these could include hand-held GPS devices, clinometers, cameras, satellite images, soil testing equipment, topographic and/or satellite maps.

ACTION POINTS

1. Though it might not be entirely clear what equipment will be required for producing a WPLUP at this stage, the **availability of anticipated equipment** should be checked. A checklist of likely equipment is provided in *Worksheet 1-11*.

4

SECTION 4.0
Phase 2: Producing the woreda participatory land use plan

Once the preparation steps described in Section 3.0 have been completed, it is time to start producing the WPLUP. This involves collecting and analysing data, problem identification and prioritization, defining appropriate solutions, negotiating and deciding on the best land use option based on social acceptability, economic viability and environmentally-friendly approaches, preparing the final agreed land use plan map, writing up of the plan document, and final endorsement by the community and the local government.

At the end of Phase 2 you will have completed the following:

- Produced a woreda base map,
- Stratified woreda into land sub-units based on topography, soils, vegetation and current land use,
- Obtained baseline data on the woreda, its environment and land uses,
- Identified and analysed the data including problem identification and prioritization, with defined and appropriate solutions,
- Developed socially acceptable, economically-viable and environmentally-sound land use options, and
- Prepared final negotiated, agreed and endorsed land use plan map by the community and the local government along with a full write-up of the plan document.

STEP 6
Collect and analyze data

The first step in producing the Plan is to produce a woreda base map, preferably also as a GIS layer. This can then be combined with other map layers, including those collected below as well as the information in the rangeland management units collected in *Step 4* above.

Once the base map has been produced, the woreda needs to be stratified into data collection and planning units according to major differences in topography, soils, vegetation and current land use. The number of final sub-units of different land use types depends largely on the variability of parameters within the woreda. If their variability is high resulting in a large number of land use sub-units then this will be unmanageable in terms of time and resources required to consider each sub-unit separately. As such there is a need to limit the final number of sub-units in order to be manageable. In the case of having a large number of smaller sub-units, similar and very small sub-units can be merged. This would be after a discussion with relevant stakeholders on their significance and importance as separate units and how best the number of sub-units can be reduced. It is difficult (time and resource-consuming) to work with more than eight sub-units so eight or below should be aimed for.

Data analysis is the next core action within this step in the planning process. Different types of information and data is required related to biophysical, socio-economic and the political context and issues. *Table 4.1* lists some of the different types of data that is required to produce a well-informed and organised WPLUP.

Table 4.1: Data types to be collected for land use planning

i. Biophysical characteristics including:	ii. Socio-economic characteristics including:	iii. Political characteristics including:
- Climate, in particular precipitation (rainfall, dew) amount and distribution, and temperature. This will have an impact on the length of growing periods and livestock grazing and their mobility patterns, - Topography, - Soils and their physical/chemical properties, - Water and hydrological cycle, - Land cover including natural vegetation, crops, invasive species etc. - Environmental hazards, - Land use.	- Demography, - Land holdings and tenure type, availability of land, - Settlements, - Roads & road building, - Farming systems, - Type, area, distribution of crops, - Type, number, distribution of livestock, and their role, - Infrastructure, markets, communication networks, services, - Customs, values, - Proximity to social and economic services such as school and health facilities for human and livestock, etc	- Policy framework relating to land, tenure and use, - Legal framework including customary laws relating to land, tenure and use, - Institutional framework including administrative structures, and boundaries, governance institutions and processes including at local level.

Different types of information should be collected from different sources using different tools (triangulation) to ensure that the information is correct and well-substantiated. Primary data can be collected through tools suggested below – *Table 4.2, 4.3, 4.4* – this includes i) Biophysical data; ii) Socioeconomic data; and iii) Institutional and organisational data. This can be triangulated with secondary data including reports and other documents, aerial photographs, satellite images, Google maps (though licensing requirements need to be abided by), topographic maps, soil surveys, rainfall measures etc. Research institutes and NGOs can be good sources of information – in particular NGOs working in the area are likely to have already collected information on local level land and resources use. As much as possible the collection of this data should be carried out in a participatory manner.

> **NOTE:** *it is not necessary to use ALL the below tools for data collection. Decide which tools are most appropriate and will best serve the questions that you want answered.*

A summary sheet on why participatory tools are useful is provided in *Worksheet 2-3*.

Throughout the WPLUP process you should consider gender issues. For guidance on this see *Worksheet 2-4*.

Table 4.2: Tools/methods for obtaining information on biophysical characteristics relevant for woreda land use planning

Tools/methods	Information obtained on biophysical characteristics and worksheet
Land capability classification based on biophysical data collection	An inventory of major characteristics of landforms, land use, land cover, vegetation, climatic zones and trends, water resources, soil physical and chemical properties, hazards. *See Worksheet 2-6a, 2-6b, 2-6c, 2-6d*
Natural resources and land use mapping	Accompanying discussions reveal land and resource governance institutions and rights, roles and responsibilities, livelihood patterns and trends, availability of and gaps in services, challenges or hazards, and opportunities and solutions.*See Worksheet 2-7*
Hazard mapping	Identification and mapping of climatic or other hazards faced by communities and other stakeholders in the woreda, building on the Natural Resource Map produced in *Worksheet 2-7* above. *See worksheet 2-8*
Seasonal calenders	Identification of land and environmental trends and change related to seasons. This can also be used to explore seasonal trends in socioeconomic characteristics such as livelihood activities. *See Worksheet 2-9*
Transects	Understanding the landscape, a village or a particular area by walking through that area with local residents or users and answering questions about what can be seen or heard. *See Worksheet 2-10*
Trend analysis or timeline	An analysis of changes of various parameters over time, and highlights of important events. *See Worksheet 2-11*
Comparison of vegetation changes	Using satellite images, a comparison of temporal and spatial vegetation changes can be made. *See Worksheet 2-12*
Rangeland vegetation inventory	A listing of all rangeland vegetation resources including shrubs, forbs, grasses, trees and their distribution. *See Worksheet 2-13*

Table 4.3: Tools/methods for obtaining information on socio-economic characteristics

Tools/methods	Information obtained on socio-economic characteristics and worksheet
Natural resource and land use mapping	Accompanying discussions reveal land and resource governance institutions and rights, roles and responsibilities, livelihood patterns and trends, availability of and gaps in services, challenges or hazards, and opportunities and solutions. *See Worksheet 2-7 (see above)*
Mapping of mobility of people	Identification of seasonal movement patterns and trends of people and livestock for such as accessing markets, services, or livelihood resources. *See Worksheet 2-14*
Livestock route mapping	Identification of the routes that livestock take to access grazing, markets or other, and the services (water points, veterinary points, resting places or other) along these. *See Worksheet 2-15*
Seasonal calendar	Identification of land and environmental trends and change related to seasons. This can also be used to explore seasonal trends in socioeconomic characteristics such as livelihood activities. *See Worksheet 2-9 (see above)*
Survey and semi-structured interviews	More formal tools can be used to fill in gaps in information and to provide more quantitative data including surveys and semi-structured interviews. *See Worksheet 2-16*
Resource benefit analysis	A description of key resources, who uses them and for what, who controls use and access, who sells them and who controls the transaction such as sale and income etc. *See Worksheet 2-17*
Livestock population census and livestock data collection	A listing of numbers and types of livestock in the woreda and their approximate distribution. *See Worksheet 2-18* When analysing this data, consider *Worksheet 2-30* on Livestock Population Numbers, Carrying Capacity and Stocking Rates
Agronomic data collection	Data and other information on crops grown, yield, inputs, diseases, pests and trends. *See Worksheet 2-19*

Table 4.4: Tools/methods for obtaining information on institutional and organisational characteristics

Tools/methods	Information obtained on political characteristics and worksheet
Stakeholder, institutions and relationship mapping	Identification of key institutions, organisations and groups and the relations between them. *See Worksheet 2-20*
Review of legislation, policy, local and customary laws and institutions, plus the knowledge of local land users of these	Understanding of what policy and legislation exists at government level, as well as who has knowledge of this and how it is being interpreted on the ground including through local by-laws and regulations. Local customary governance and institutions will also be understood. Discussions in the natural resource mapping and other tools above can also contribute to this. *See Worksheet 2-21*

ACTION POINTS

1. Prepare a woreda **base map**. *See Worksheet 2-1* for how to do this.
2. Stratify the woreda into **sub-units** according to major differences in soils/landscape, vegetation and current land use. These sub-units should not total more than a manageable number and can be agreed through discussions with the land users including how to reduce if necessary. It is recommended that there are not more than eight sub-units of land use types. Add this information to the woreda base map so a map of data collection units is produced.

   See Worksheet 2-2 for instruction on this.

3. Hold a meeting of the WPLUP Team to identify what **further information** is required in order to develop the Plan, where the information can be sourced, and what tools/methods should be used to collect this information if gaps are known to exist. Once it is decided what information needs to be collected, then the Team should also decide who will be responsible for collecting this. If financial resources are available, then it may be appropriate to contract a group of consultants to collect all the information. If resources are not available, then it will be necessary for the Team with support from their colleagues to collect the information. In this process the active participation of the community is required.

   For guidelines/checklist on holding this meeting *see Worksheet 2-3*.

4. **Collect the information** as agreed upon in *Step 1*, using the different tools – data will be collected in at least 3 sites in each woreda soil/landscape-vegetation-land sub-unit. This can be one of the most time- and resource-intensive steps of the whole PLUP process if a large amount of information is needed to be collected and may take 2-3 months. However, the more information collected through a participatory manner, the more likely it is that agreement over the land use plan will be reached. Remember that information on the Rangeland Unit and rangeland resources has already been collected in *Step 3* (in *Stage 1*) so this does not need to be repeated. However, it may be decided that more details are required.

   Guidelines on the different tools and methods are provided on *Worksheets 2-6 to 2-21*.

   Each tool/activity should result in a short report providing the results, with relevant tables, maps etc.

   Before starting the data collection, *read Worksheet 2-4* on Using Participatory Tools and *Worksheet 2-5* on Gender.

5. **Consolidate** the different study reports and maps produced above, plus information collected previously (including *Step 3*) and write a summary of key results. This includes consolidating GIS maps to produce a current Woreda Land Use Map – *See Worksheet 2-22*.

6. The report/results should be presented to the WPLUP Team for **feedback**. If there is concern or disagreement with the study results then further research or gap-filling may be required. If there is agreement on the results then the Team can move onto *Step 7*.

STEP 7
Identify and analyze problems and solutions

It is important to identify problems and analyse their causes and effects. Focusing on solving the core or root problems, which may be many and complex, help to resolve a number of interconnected problems at once. For example, a problem could be conflicts between agricultural and pastoral land users. The core/root problem could be marginalisation of pastoralists from land use decision making processes and by resolving this (e.g. by including pastoralists in decision making processes) not only contributes to resolving the conflict but also leads to other benefits too.

Fully analysing problems helps to develop a land use plan that is integrated. The identification of problems and solutions (*Step 7*) should consider the nature and severity of problems, and their short- and long-term effects. Some problems may not exist now but may arise in the future for example climate change or disasters. These should also be considered in the land use plan and mechanisms incorporated to address them and their likely impacts.

Table 4.5: Tools/methods for problem identification and analysis

Tools/methods	Outputs
Problem tree	Articulation of causes and effects of problems related to different land uses. It determines the core or root problem(s) and the interconnectedness of problems. *See Worksheet 2-23*
Ranking	Identification of problems related to different components of land and land use, and a scoring of problems from most to least important. *See Worksheet 2-24*

Solutions to the problems raised above and opportunities for change now need to start being identified by the planning team. This should include solutions for the specific land forms and land use types. It is important to bear in mind the goal and objectives of the planning exercise in order to ensure that solutions will also lead to these.

Mainstreaming climate change adaptation and disaster risk management may benefit from the use of such tools. More information on this is presented in *Worksheet 2-15*.

Solutions and opportunities need to be acceptable to all land users and other stakeholders. Groups who may be marginalised from decision-making must be given the opportunity and time to contribute to these processes. It may not be easy to come to agreement over solutions to problems and in particular conflicts and competition over land use. This may mean several meetings and discussions, further data collection to clarify the situation, and a process of negotiation before agreement is reached. The planning team will assist this process by ensuring that all data and information gathered from different sources is incorporated into the decision-making process and that all stakeholders have room to voice their opinion.

Solutions need to be SMART (Specific, Measurable, Achievable, Relevant and Time-related). They should be socially acceptable, economically viable and environmentally sound

Table 4.6: Tools or methods for solution appraisal and identification

Tools/methods	Outputs
Solution tree	Identification of solutions for different problems related to different land uses, revealing points of intervention and the role of a land use plan. *See Worksheet 2-25*
Ranking	Identification of solutions related to different components of land and land use, and a scoring of solutions from most to least important. *See Worksheet 2-26*
Simulation or scenario planning	A testing out of different solutions and scenarios to identify best options.*See Worksheet 2-17*
SWOT Analysis	A SWOT analysis of different solutions can be carried out i.e. strengths, weaknesses, opportunities and threats. *See Worksheet 2-18*

ACTION POINTS

1. Hold a meeting of the WPLUP Team to identify and analyse different **problems** related to land use and land use planning. Use participatory tools such as Problem Tree and Ranking of Problems to help open up the discussions and provide a framework for analysis. Problems could include conflicts and competition over resources use, conflicts between land uses, lack of resources to implement a land use plan, lack of grazing areas, lack of agricultural lands etc.

   Steps for carrying out a Problem Tree exercise can be found on *Worksheet 2-23*, and on Ranking can be found on *Worksheet 2-24*.

2. Some problems may require further consultations and **follow-up** with the particular groups concerned. For example, if a problem has been identified as conflicts between agriculturalists and pastoralists, then it would be advisable to first visit these groups independently to learn more about their different needs, interests and positions. A short report on each consultation should be made and shared with the WPLUP Team.

3. It is now time to start trying to find **solutions** for the problems identified through the previous two exercises. It may be possible for the WPLUP Team to resolve some of the problems themselves. However, it may also be necessary to consult local communities and other land/rangeland experts to find solutions to the problems – so meetings with these different groups may need to be arranged. If there are conflicts over land use, then finding a solution may require a longer consultative process including in-depth conflict resolution, identifying negotiable and non-negotiable land uses and peace-making activities.

   Tools to use for identifying solutions to different land use planning challenges and problems are provided on *Worksheet 2-25* Solution Tree; *Worksheet 2-26* Ranking Alternative Solutions; and *Worksheet 2-27* Scenario Planning; *Worksheet 2-28* SWOT Analysis.

   Information on Conflict Resolution can be found on *Worksheet 2-29*.

Additional issues to consider in this process of finding solutions to challenges to be considered in the Woreda Land Use Plan include:

- Livestock Population Numbers, Carrying Capacity and Stocking Strategies (*Worksheet 2-30*)
- Gender Issues (*Worksheet 2-5*)
- Mainstreaming disaster risk management (DRM) (*Worksheet 2-31*)
- Settlements and resettlement (*Worksheet 2-32*)

4. Following on from the exercise with community members to find solutions to problems, now carry out an exercise to discuss, identify and rank local land user's **perceptions and preferences** for different land uses in the Land Use Units. This should also consider how such land uses contribute to overall development goals.

   A Worksheet to guide you through this process can be found on *Worksheet 2-33*.

STEP 8
Formulate and write the WPLUP

The images, maps and biophysical and socio-economic data collected (as above) should form the basis of preparing the WPLUP. A simple methodology is to zone the land into future priority and promising uses. This is something that can be done by local land users and form the basis for their own Community Action Plan (CAP) and livelihoods development plan. Decisions should be made based on the solutions and opportunities agreed upon. These can also be digitally mapped. However, often, more detailed plans are required that incorporate specific technical data. The tools used and the final product(s) (map and supporting documents) will also reflect the objectives of the planning process. The plan should be flexible enough to incorporate the variability and dynamics commonly found in pastoral areas, and to adapt to changes in environmental and socio-economic contexts.

Objectives of a new Woreda Land Use Plan may include:

- Regulating land use and checking of procedures;
- Establishing or strengthening technical services;
- Providing incentives for improving productivity of land;
- Coordinating kebele level activities;
- Cross-kebele management of resources such as rangeland management;
- Promoting dialogue across kebeles;
- Establishing or strengthening protected areas;
- Establishing or strengthening settlement areas;
- Capacity building;
- Translating strategies into action;
- Facilitating land use planning at kebele level.

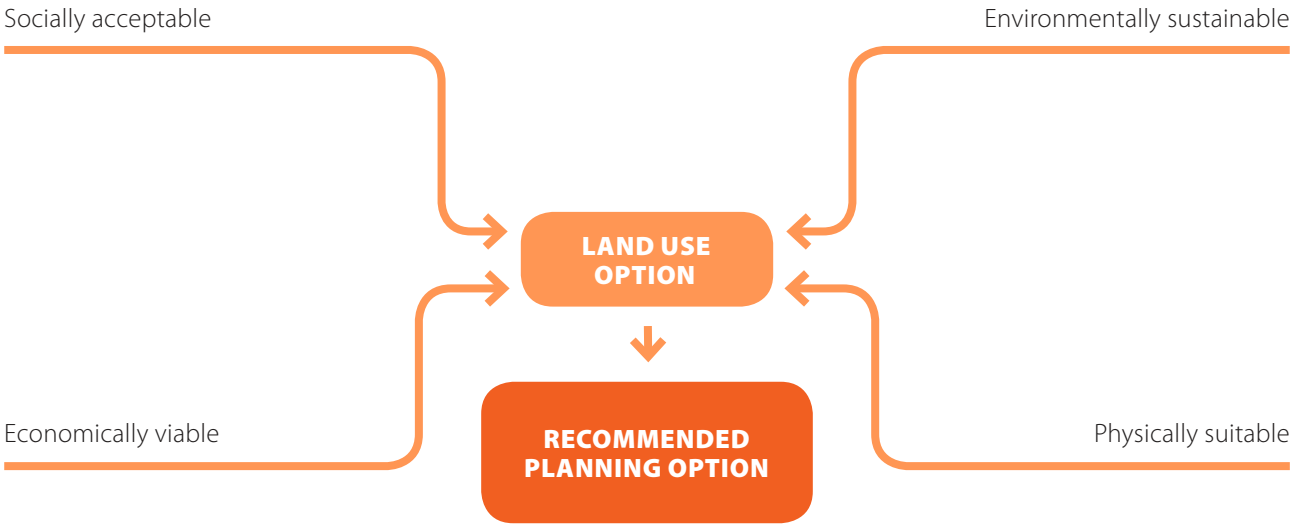


Figure 4.1 An appraisal of sustainability factors of land-use options (FAO & UNEP, 1999)

Problems and solutions to problems should be presented for each land use type. These should also be analysed by the team members and structured as to how they will be implemented, by whom, and the budget required in terms of material, labor, and technological inputs will be specified on a matrix table.

Ideas and interests for improved land use options will emerge through the planning process as stakeholders suggest necessary changes, and as information becomes available. Review of these options by the WPLUP Team should be a continuous process. Options should be screened for consistency with all the stakeholder objectives, for acceptability and for broad feasibility according to the resources needed for their implementation and their environmental and social impact. One option to include in all planning exercises is "to do nothing" i.e. it means no new land use will be planned. The result of such non-activity can then serve as a benchmark to measure against the result of various "active" options.

Roles and responsibilities of different stakeholder groups in implementing the plan, as well as a timeline, and how and from where the activities will be resourced, should be detailed in the plan. At this stage, these can remain provisional but should be confirmed in the next Section – Implementing the Plan – when a workplan and budget are developed. The plan should include mainstream issues such as gender, disability, climate change adaptation and disaster risk management. The plan should be physically suitable, socially acceptable, economically viable, and environmentally friendly. The figure below depicts an appraisal of sustainability factors of land-use options.

The draft WPLUP should be presented to the larger group of community members, the woreda and relevant kebele administrations and other stakeholders, who will be given an opportunity to comment and endorse on the Plan. If there is strong disagreement on the Plan or components of it, then this will need to be rectified through further consultations. However, if there is agreement on the Plan, it can be finalised through *Step 9-10* – all major groups of land users should receive a copy.

ACTION POINTS

1. Hold a meeting of the WPLUP Team and decide on how the **process of writing** up the WPLUP should be carried out – who will take responsibility for which sections, tasks etc. Check that you have all necessary information – see checklist on *Worksheet 2-34*. You will then decide how the writing of the WPLUP will be undertaken.
2. Take time to consider the **particular issues for rangelands** – these will be different to issues in agricultural and urban areas. See *Worksheet 2-35* and *2-36* for guidance on this. *Worksheet 2-35* also introduces the concept of Participatory Rangeland Management, which is a community-led process for managing zoned grazing land and may need to be undertaken across kebele, and even across woreda.
3. Define **improved land use options** for the WPLUP. Some of these will have emerged through the consultations with local communities etc. Others may be defined now though further analysis of the problems, and potential solutions and options may proceed. Identify solutions and options for the land use plan, and screen/appraise these against economic viability, social impact and environmental impact to ensure that they will do no harm and contribute to land use sustainability. *See Worksheet 2-37*
4. Hold a meeting with different stakeholders to present the proposed options and inclusions in the WPLUP to get feedback, negotiate if necessary and reach **agreement**. This is an important part of the planning process as unless all the different land users agree to proposed changes or recommendations for changes, it is likely that there will be little chance of them being implemented. At the very least, discussions/consultations should be carried out with all effected kebele leaders.
5. The Team must now take up their responsibilities to **write up the WPLUP**. This will include an analysis and interpretation of the data and information and a screening of options, and the preparation of a future Woreda Land Use map (see *Worksheet 2-38*). A draft index for the WPLUP is provided in *Worksheet 2-39*.

6. Organise a meeting to present the **first draft of the WPLUP** to key stakeholders including other woreda staff, community representatives and other land users. Give plenty of time for feedback. A checklist of issues to consider during this meeting is provided in *Worksheet 2-40*. Revise the Plan according to feedback provided at the meeting. The Plan is now ready for the final section to be added in *Phase 3*– monitoring and evaluation, and the development of a workplan and budget – and then for the Plan to be shared with a wider group of stakeholders.
7. An additional meeting should be held with woreda staff from different sectors to consider how the plan integrates with **overall development goals** of the woreda and its complementarity to the Growth and Transformation Plan (GTP) of the country.

SECTION 5.0
Phase 3: Implementation of the WPLUP

At the end of Phase 3 you will have:

- Developed a monitoring and evaluation system for the WPLUP.
- Prepared budget and workplan for implementation of the WPLUP.
- Finalised the Plan and distributed to stakeholders
- Prepared a woreda land use and resource-sharing agreement for shared resources such as grazing land and water resources

STEP 9
Develop monitoring and evaluation (M&E) system

A process of monitoring and evaluating progress of the plan should be set up with mechanisms to feedback results into the ongoing implementation processes and make adaptations as necessary. Ideally a multi-stakeholder team of land users should carry out this M&E. A decision should be made how often to update the plan.

M&E of short- and long-term social, economic and environmental impacts of land use planning should be carried out. Participatory tools such as Participatory Impact Assessment can be used – the information collected and maps produced during the planning process can form the baseline for such monitoring and developing quantitative and qualitative indicators. M&E should have local meaning, and feed into processes of reflection, adaptive management and change.

A M&E plan should be defined and detailed in the WPLUP. This should include progress monitoring and evaluation of activities on a regular time basis, and more in-depth periodic M&E against Plan objectives. Feedback mechanisms are required to ensure that results and recommendations for improvement influence further implementation on an ongoing basis. M&E should include both conventional and participatory processes and engage a range of stakeholders. Environmental impact monitoring should also take place.

ACTION POINTS

1. The woreda will need to consider how the Plan will be **implemented, promoted and enforced**. Guidance on this is provided in *Worksheet 3-1*.
2. The WPLUP Team should have tasked certain members of the Team to develop an **M&E system** for monitoring and evaluating progress of the Plan. These task members should now meet to draw up the M&E plan. This sub-Team should include at least one technical expert and one community representative from the WPLUP Team. A guideline for developing this M&E system is provided in *Worksheet 3-2*.

STEP 10

Prepare a budget and workplan

An activity plan or programme is now required in order to implement the Plan, and with a budget to access adequate resources to carry out the activities and/or programme. It is unlikely that resources will be available to implement the Plan all at once, and rather a phased implementation will be required. The budget should reflect this.

The budget needs to be accompanied by a clear workplan of activities, roles and responsibilities for the implementation of the WPLUP. Lower level action plans can then be developed for its implementation through and by the community representatives, and other stakeholders. Activities can include delimitation and zoning of priority uses drawing on the land use plan for guidance; the formalisation (and perhaps harmonisation) of customary (or other) rules and regulations through such as a local code or bylaws; management practices and structures for the different zones. The plan should include a time schedule for activities, and roles and responsibilities of the different actors implementing it.

ACTION POINTS

1. The WPLUP Team should have tasked certain members of the Team to develop a **programme, workplan and budget** for the Plan's implementation. These task members should now meet to develop these with the input of necessary stakeholders e.g. other government sectors. In *Worksheet 3-3* is the outline of the programme developed for Chifra woreda[2] as the first step in implementing the Chifra WPLUP, together with budget and workplan for your guidance.

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2 This WPLUP process was piloted in Chifra in 2016-17.

STEP 11
Present and finalize

The Plan in its entirety should be submitted to the regional government office responsible for land use planning issues, for feedback and approval. The process and the content will need to fulfil certain criteria and a checklist will be used by the land use planning office to approve it (see below). The WPLUP should be integrated into local and regional development plans.

Once approved the final land use plan and accompanying map(s) and data/ information should be stored and made available for public use, at both local and higher levels of government. The WPLUP should be included in woreda level knowledge management systems such as woreda risk profiles. The WPLUP should also be used within larger processes of land use planning by government and as an input to development priorities and interventions.

ACTION POINTS

1. Send the Plan to the regional government office responsible for land use planning issues, for their information. Now the Plan is ready for implementation.
2. Make copies of the Plan and distribute the Plan to different stakeholder groups including those who took part in its design. A copy of the Plan should be distributed to and stored with:
    - The local woreda land administration and use office.
    - The local woreda agricultural office.
    - Each kebele land administration and use and agricultural office.
    - The regional land administration and use bureau/agency.
    - Customary institutions responsible for rangeland management.
    - Other stakeholder groups as thought appropriate.

STEP 12

Prepare joint woreda land use and resource-sharing agreement

The issues of developing a joint woreda land use plan (JWLUP) and woreda resource-sharing agreement (WRA) was introduced above. In *Step 3* local rangeland users mapped out the rangeland grazing unit, showing whether the grazing unit crossed woreda boundaries or not. Where it does cross woreda boundaries these woreda should develop their own WPLUPs in parallel in order to ensure that the grazing area is incorporated into and accommodated by all plans. Now, all these woreda should develop a joint woreda land use plan and a resource-sharing agreement for the shared resources such as grazing. An agreement will also be developed for other shared resources such as forest land or a water resource e.g. a lake or river. If the woreda that share the resources are the same across all resource types then one Agreement is sufficient to include all of these. However, if one set of woreda share a grazing unit, and another set of woreda share a forest, or water resources, then separate WRAs will be required for each shared resource if the users are different.

All woreda sharing resources should first produce their WPLUP. However, if this is not the case and in exceptional circumstances (e.g. where the resource is under threat) a WRA can be developed on the understanding that the WPLUPs will follow.

ACTION POINTS

1. Confirm which resources in your WPLUP are shared with other neighbouring woreda and the names of these woreda. Check the status of the individual WPLUPs in these woreda. If all woreda have produced their WPLUPs then it is possible to move forward with the joint woreda resource-sharing agreement (WRA). If some woreda have not completed their individual Plans, then a decision will need to be made between the woreda whether to wait for the completion of this, or to proceed with the Agreement. If the resource is at risk from encroachment or exploitation then it would be better to go ahead with the agreement. You will need to have a meeting with all woreda involved to make a decision on this. *Follow Worksheet 3-4*.
2. Once it has been agreed between all woreda concerned to proceed with developing a woreda resource-sharing agreement (WRA), then a meeting needs to be held with all woreda concerned to develop this. The agreement should be developed in consultation with the local resource users i.e. if the shared resource is a grazing area, then community representatives responsible for the management of the grazing area should be included in the meeting. If the shared resource is a water resource, such as a pond or other watering point, then community representatives responsible for the management of the water resource should be included in the meeting. The agreement should include mechanisms for monitoring compliance to the agreement, and steps that will need to be taken if the agreement is not complied to by one or other woreda.

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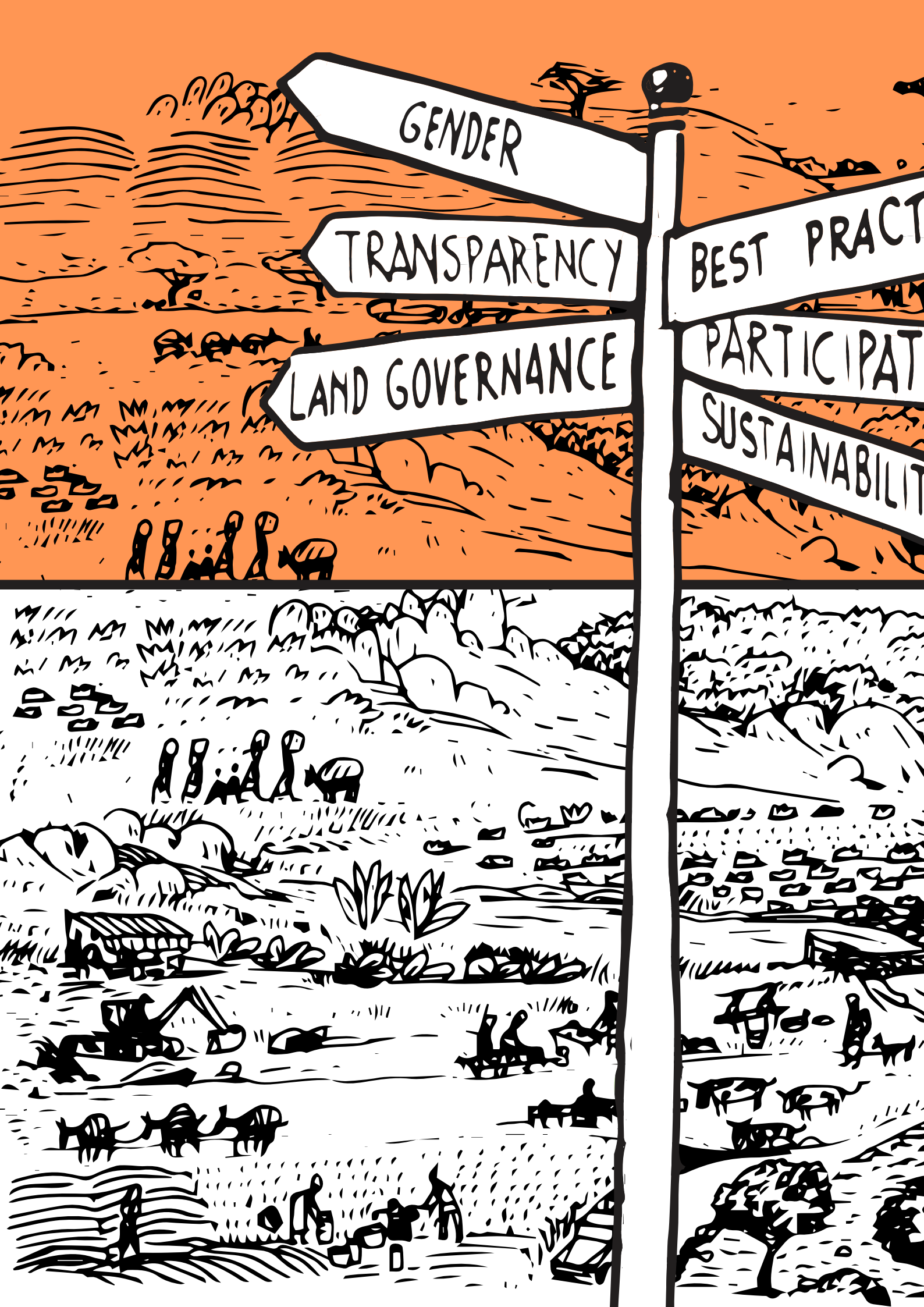
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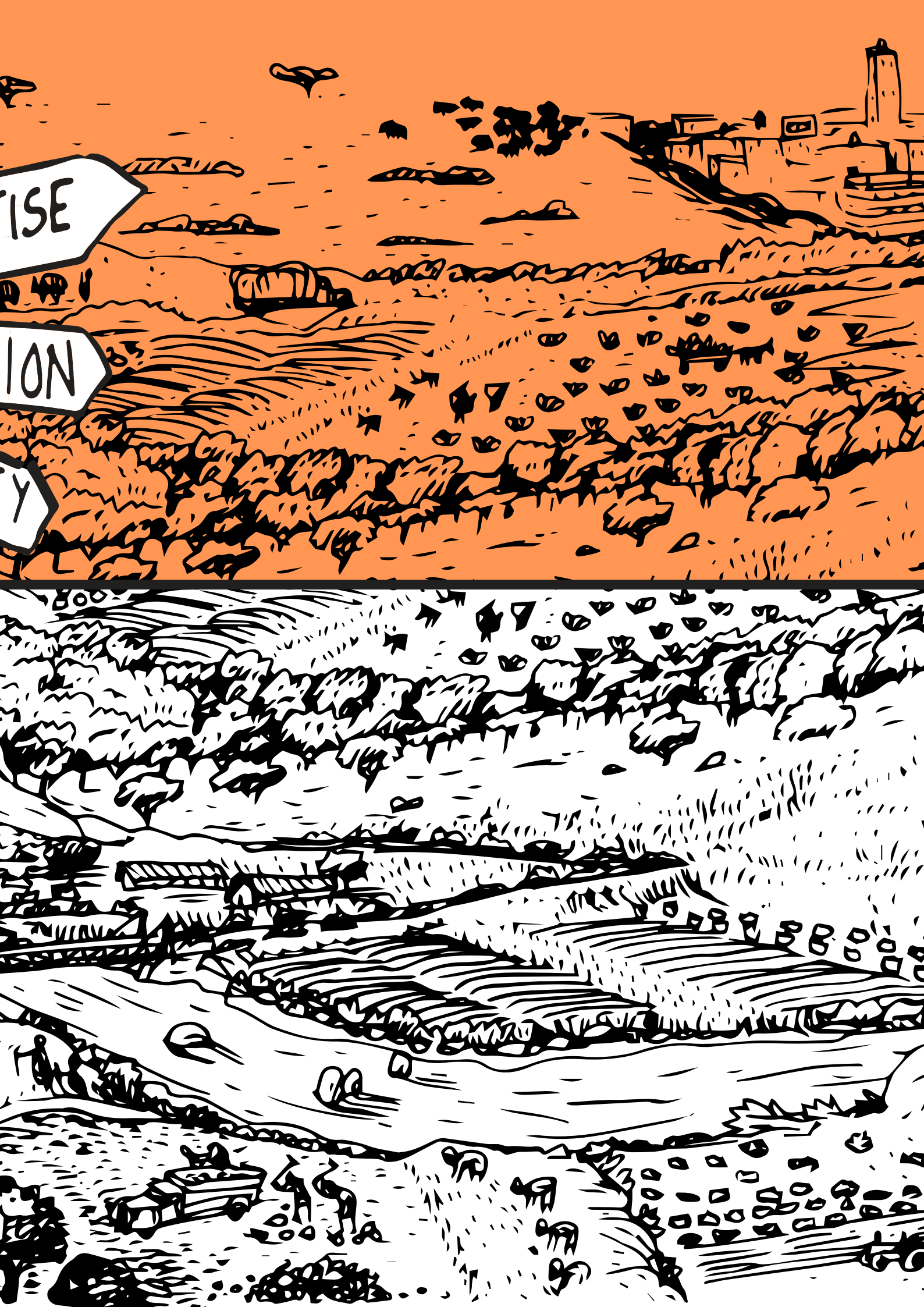
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