



Swiss Programme for Research  
on Global Issues for Development

## r4d Synthesis Workshop East Africa

3-5 May, 2022

# «Land-use planning for Sustainability »



**A Synopsis from the Members of the Organising Committee**

## **Background**

This note provides a summary compiled by the organising committee of the workshop that took place at the Aberdare Country Club in Kenya in May 2022. The event was sponsored by the Swiss Government and reviewed issues of land-use planning for sustainability. It included findings of research funded under the innovative programme “Research on Global Issues for Development (r4d)”. The workshop was intended to synthesize lessons drawn from research in East Africa on a broad range of issues affecting land-use. It also included a field visit to review a number of key strategic and operational aspects of land-use planning and implementation. This provided participants with an important understanding of the issues and opportunities for improved land-use planning.

## **Our Overall Findings**

Land use is playing a central role in addressing sustainable development challenges. It is both a cause of global environmental change, as well as (part) of the solution to many environmental challenges. Careful planning for sustainable land use is becoming an essential tool. Land use planning is the practice of prioritizing or constraining certain functions and uses of the land, while balancing trade-offs between different sectoral objectives and stakeholder interests. Land use planning is informed by scientific understanding of the socio-ecological systems of people and nature. However, bridging the gap between science-based understanding and the practice of land use planning has proven to be challenging. Matching high quality research in the field of land-use planning with opportunities for implementation, whether at the local or national level, has proven to be a worthy exercise. During the meeting, not only research findings of importance to land-use planning were considered, but issues of implementation as well.

The following points and observations are of particular relevance:

- ***Consideration of the “system boundary conditions” is essential.*** Land-use planning is complex. It requires a deep understanding of the bio-physical characteristics of land, including vegetation composition, the climatic and hydrological conditions, as well as the socio-economic situation of the local population and its aspirations. These conditions set the boundaries for the types and quantities of ecosystem services a landscape can potentially supply. Land use can only be considered to be sustainable if the resources or ecosystem services used by people do not persistently exceed the biophysical boundaries. Land-use planning thus requires an appreciation of the potential and variation in ecosystem service supply as well as the right balance between a wide range of demands placed upon land. Such socio-ecological system thinking is critical when reflecting on the system and its boundaries that should be subjected to land-use planning. Spatial planning areas such as community/village or county/regional administrative units are likely to remain relevant as system boundaries for many planning activities. It should, however, be taken into account that such locally based boundaries are increasingly embedded in networks of long-distance flows e.g. of materials, water, energy as well as information. They may, thus,

only partly match with actor or institutional and governance networks. Also, the system description must take the human dimensions, such as the access to land, inequalities and poverty into account. It must, moreover, consider spatial and biodiversity impacts as well as inter-temporal aspects. This requires planners and researchers to ensure that particular aspects of land-use (for example, ecosystem services) are framed within a broader concept of land-use (such as potential urban development, protected areas, water availability, climate change etc.), in order to fulfil the long-term requirements of sustainability in its environmental, social and economic dimensions.

- ***Pressure on land-use will increase.*** To a first approximation the *quantity* of land globally is fixed although the *quality* of land is not fixed: it can be improved by restoration or it can be subject to degradation. Examples of land degradation and associated reduction in human wellbeing can be found in every terrestrial system, but semi-arid landscapes, which are widespread in Eastern Africa, belong to the most vulnerable ones. With increased pressures arising from a combination of growth in economic prosperity, population, and demand for other services (such as conservation, aesthetics, cultural etc.) as well as the global need to reduce greenhouse gas emissions, land-use planning and implementation will increase dramatically in importance, if we are to move towards any hope of global sustainability. An integration of quality research with traditional knowledge on key land issues, including smart water management and ecological intensification, coupled with institutions capable of defining and promoting implementation of land use management policies and schemes can make an enormous contribution.

Increasing land pressures require long-term planning that optimises the use of resources, but limits activities leading to degradation of future resources. In some cases, safeguarding sufficient resources for the longer-term future may constrain fast economic development opportunities.

- ***Systems approaches to land-use are necessary.*** There are likely to be many cases where land will be utilised to provide multiple and simultaneous benefits. The designing and/or maintenance of multifunctional landscapes may require negotiations and carefully calibrated trade-offs or agreements amongst stakeholders with specific demands. Such trade-offs may happen on-site between multiple claims on the same land, but also over distances where a specific land use upstream might limit possibilities downstream through changes in streamflow. Finding mechanisms to bring together stakeholders to support cost and benefit-sharing may require new institutional frameworks, new rules of engagement and strong policies. To promote horizontal integration cross-sectoral land-use planning should be strengthened, which may require subordination of sectoral policies under overarching, cross-sectoral visions. The latter is particularly indicated if the land-use plans include high priority and/or highly vulnerable areas, such as the headwaters of large rivers which act as lifelines in arid and semi-arid regions. Also, sustainable solutions to land-use will only occur when the value chain from policy analysis and development through to front-line implementation is secured. A systems approach may help guarantee this.

- ***Adaptive planning and management are essential.*** Economic, ecological and climatic changes can be profound and dramatic. Our knowledge of global climate change, biodiversity loss and biological invasions is evolving rapidly. To a certain extent, forward-looking planning can help to prepare for future conditions and changes. However, uncertainty in such developments will always be important and not all can be foreseen. Therefore, land-use planning and management must be able to adapt quickly and forcefully as such changes become apparent. Accelerated economic growth leading to the demand for “prosperity-induced land-services” such as new housing, roads etc. must be factored in on an adaptive basis. Increasing evidence of changing weather patterns, including hydrological cycles, are likely to have a major impact on the baselines of land-use planning, both in terms of economic and social consequences. Setting a vision for land-use that integrates global change scenarios in the planning process and that maintains flexibility in coping with increasingly uncertain circumstances will become the hallmark of effective land-use planning.
- ***Capacity building in land-use planning and management needs strengthening at several levels.*** An important limiting factor with regard to effective land-use planning and management is the frequently perceived lack of human capacity at national and subnational levels. For example, based on Kenya’s County Governments Act that became effective in 2012, all counties must develop a County Spatial Plan (CSP) which, together with the County Integrated Development Plan (CIDP), should inform the counties’ annual budgets. However, by 2022, only 7 out of the 47 counties have finished preparation of their CSP. This may also be one of the main reasons for the current lack of successful implementation of land-use plans. Moreover, existing spatial plans are often not fit for purpose, as they have been predominately designed from a sectoral perspective and are therefore not adequately integrated. Land-use planning and implementation for sustainability must by definition be interdisciplinary and integrate biophysical, social, economic as well as legal aspects at all administrative levels. Institutional and human capacity building to conduct and support such processes is needed.

Even well-designed spatial plans rarely meet the desired planning and management objectives due to lack of capacity to ensure consistent implementation. In these considerations, it may be valuable to invest in further research and capacity building to provide new knowledge and help create new institutional approaches. Such research and capacity building would aim to contribute particularly to the development of innovative approaches and tools with the potential to capitalize on the rapid progress in digitalization and the exploding amount of available spatial data during planning process. Planning processes resulting from such innovative approaches and tools will effectively respond to the weaknesses related to the progress in planning outlined above.
- ***Complexity and uncertainty are no reasons not to design and implement land use plans.*** Land-use planning is a complex business and it is subject to a wide range of

ecological and economic uncertainties, some of which may further increase in the future (see above). This may seem like a reason not to bother about planning. The reverse is true however. Long-range land-use planning is about setting out plausible and reasonable assumptions in order to take robust decisions on land-use. Planning, however, is not an end in itself. The lack of adequate and timely implementation of established land-use plans is a common phenomenon. Therefore, rather than unnecessarily expanding the planning phase due to complex situations, implementing evidence-based measures such as sustainably managing water or halting land degradation may show a way forward. Such intermediate measures, however, require carefully monitoring and evaluation in order to revise, if appropriate, the land use plan.

- ***Land tenure is a necessary but insufficient condition.*** Land tenure is often perceived to be a critical issue in the promotion of effective land-use systems. Yet it must also be directly linked with land use security and rules about land use. Strong legislative efforts may be required to deal with issues such as water abstraction (and riparian rights), conversion of land from one purpose to another as well as fragmentation that affects the utility and efficiency of land use. National policies in Kenya (Community Land Act 2016) and Tanzania (Tanzania Village Land Act 1999) offer opportunities for communities and villages to link the allocation of land and title deeds to rules about land use, such as access rights and the sharing of duties and benefits on communal land etc. Customary laws or policies should also be assessed regarding their role in facilitating or hindering land use planning (e.g. due to land fragmentation through traditional inheritance of land) and adjusted where necessary. While land tenure security is important for secure livelihoods, it does not mean that the person with land tenure has ultimate rights on the land. Legislative frameworks are required that align land use planning with land tenure rights in a way that allows achieving both tenure security and land use planning implementation towards sustainable land use.
- ***Land is more than a (short-term) financial asset.*** The value of land can be much more than a financial or economic asset. In many countries cultural, historical and familial values need to be factored in. Pastoralists or farmers often have a cultural association with land. Indigenous peoples have a relationship with land that is both cultural and spiritual. The financial value of land rarely, if ever, captures such societal or cultural values or ecosystem services, yet they remain at the heart of social sustainability. The benefits of regulating ecosystem services in terms of biodiversity, soil fertility or hydrology (e.g. in wetlands) also tend to be neglected in short-term financial considerations. Land use planning should therefore consider the full suite of ecosystem services and explore the introduction of mechanisms that incorporate these values into decision making.
- ***Land and water resources are often inextricably linked.*** The cost of harnessing and utilising water is rising exponentially across the globe. Riparian conflicts have already emerged within and between countries. Global climate change will place additional

stresses on the interface between land and water, particularly in arid and semi-arid regions, which are by definition water-limited. The effective management of land thus requires the simultaneous management of the associated hydrological systems and of the quantity and quality of available water. Establishing community-based natural resource management institutions, such as water resource user associations, offer a way to foster multi-stakeholder collaboration to promote participatory management and governance of water resources, thereby avoiding conflicts. Institutions of water and land use planning need to work together to optimally align land and water management.

- ***Stakeholder engagement is not limited to local communities.*** The importance of engaging local communities in land use decisions is unquestionable. Yet it may be a necessary but insufficient condition to meet overall sustainability goals. National governments are being called upon to take decisions in light of global demands (for example under international agreements, such as the climate change or biodiversity conventions), and in light of sustainable management of vulnerable ecosystems (including watershed systems) of national or subnational importance. Perspectives may differ and must be reconciled: from national policy-makers to regional planners to local implementers. Finding mechanisms to encourage discourse amongst all stakeholders is essential although they may be politically complex. One possibility is to make the policy development process more inclusive: Instead of making land use-related policies and land use planning at the national and subnational level and leaving the implementation to lower-level institutions, a cooperation of actors working at different scales may hold promise for increased co-ownership of land-use plans and for reducing the implementation gap. Creating multi-stakeholder bodies, which will be engaged in knowledge sharing and decision-making processes, also offer opportunities: Commonly shared reflection on both, common visions and values as well as different interests, can help to better understand and navigate trade-offs.
- ***Proximate and underlying causes of land change must be assessed.*** It is all too easy to analyse local or proximate causes of land use change. There exists compelling evidence that there are many underlying causes which are of equal or even greater importance. International trade policies, investment regimes, and distorted economic policies such as agricultural subsidies may have a disproportionate impact on land use. Such effects must be factored in to land-use planning and management. Research on telecoupling, which deals with the increasing connectedness of land use systems to distant root-causes, makes an important contribution to the understanding of such influences.
- ***Strong communications and collaboration are essential.*** This is an obvious point in many ways and yet one that is not always adequately respected. Research findings for example need to be converted into understandable and compelling narratives that can shape people's perceptions and policy-makers' attitudes. Building in communications components to research and implementation projects can provide

important benefits to ensure effective implementation. Consistent messaging that is custom-tailored to each stakeholder group requires careful consideration. Strong communication skills and tools are needed for moderating multi-stakeholder dialogues and engaging different groups in reflections on values and visions, as well as conducting negotiation and decision processes. Collaborations between land use planning scientists and land use planning practitioners are essential to enhance such communication. Efforts towards bridging the gap between science and practice through communication and collaboration are essential steps forward.

- ***Land-use planning and management is not achievable with a quick-fix.*** The pressures of “short-termism” (political systems, finance, development assistance etc.) can undermine the securing of long-term sustainable gains in land-use. While adaptability is needed, it must also be accompanied by long-term supportive systems whether financial, political or knowledge-based. As noted earlier, complex land-use issues are rarely amenable to simple solutions. Because of its complexity land-use planning is all-too-often neglected or considered to be obsolete in view of other development priorities. As a consequence land-use may become prone to unsustainable practices or exposed to the risk of “land-grabbing”. Designing professionally researched solutions and adhering to them over a sustained period is essential to long-term sustainable development outcomes. This may require innovative institutional solutions such as the provision of long-term advisory services, independent reconciliation and arbitration councils, effective legal recourse systems and the like.

***The Organising Committee:***

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