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Management and governance of pastoral rangelands: a review of recent CGIAR initiatives

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Ruwaza Sustainable Development



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ILRI and ICARDA research on the management and governance of pastoral rangelands

In the arena of *research for development*, the progression from research to impact is often thought of as following a pathway made up of four steps: discovery, proof of concept, piloting, and scaling. Research discovers an innovation (or generates knowledge that is used to develop an innovation), and that innovation is then tested first in controlled and later real-world settings (the *proof of concept* and *piloting* stages, respectively). Some of those innovations are eventually ready to be scaled out. While this understanding of the generic impact pathway of research for development is most easily understood in terms of technological innovations—new seed varieties or farming methods, for example—some organizations in the CGIAR also conduct research, and contribute to innovation and impact, in areas such as institutional design, social process, and policy and legislation. Examples of this latter category can be found in the work of the International Livestock Research Institute (ILRI) and the International Centre for Research in the Dry Areas (ICARDA) on the management and governance of land and natural resources in pastoral rangeland settings.

Rangelands cover 34 million square kilometres, 25% of earth's land surface excluding Antarctica (1). Many of these rangeland areas are home to mobile livestock keepers—*pastoralists*—accounting for approximately 200 million households worldwide (2). Extensive livestock production on these rangelands is a crucial component of global food systems and contributes to a significant proportion of many national economies. In Kenya for example, 80% of all red meat produced in the country is raised in rangelands, and this production accounts for 13% of agricultural GDP (3). Sustainable management of pastoral rangelands is critical for achievement of the sustainable development goals but is threatened by an array of challenges.

At the heart of these challenges have been strategies, approaches, policies and laws that are not suited to the biophysical characteristics, socio-economic conditions and livestock production realities of pastoral rangeland regions. While it is often assumed that the defining climatic feature of these systems is their aridity, variability—of rainfall and consequently of forage—is at least as important as a driver of these systems (3,4). Extensive mobility with herds is at the heart of how pastoralists create livelihoods and economic value in these settings where other forms of agricultural production are precarious, unsustainable or impossible. Over the years, CGIAR research has explored various dimensions of pastoral mobility and documented the importance of maintaining mobility for healthy rangelands and for livelihoods (e.g., 5–7). Together, the dry and highly variable climates and the unique livelihood pattern that is an adaptation to those climates require solutions that fit the local realities.

In many pastoral systems, however, mobility and access to forage, water and markets is being curtailed as rangelands are increasingly fragmented. Research by ILRI has been prominent in highlighting the challenges of fragmentation of rangelands and the need for measures to curtail it (e.g., various contributions to 8). Fragmentation is enabled by weak land tenure systems, and research by ILRI and ICARDA has explored the importance of securing communal tenure for rangelands and some of the challenges of doing so (4,7,9,10). Pastoralist societies traditionally had effective, well-adapted systems for managing land and resources. The complexity and sophistication of traditional pastoralist land and resource governance systems is seldom appreciated in national policymaking, with the result of those systems being gradually eroded (4,11). CGIAR research has highlighted that approaches for strengthening tenure and for supporting rangeland management by communities are made more complicated by administrative boundaries that do

not correspond to actual land use patterns or to rangeland territories as defined in customary systems (7,12,13). As well as tenure systems that ignore, or sometimes actively undermine, effective governance of communal rangelands, land use planning has also been ignored. Until recently, government land use planning has tended not to be extended into pastoral drylands, contributing to haphazard development and creating obstacles for improving management of rangelands (11). CGIAR research has also contributed to debates on the impact of livestock on biodiversity and wildlife conservation, and conversely the impacts of fortress conservation on pastoralists (e.g., 14).

Research by ILRI and ICARDA has not only documented the challenges of governance and management of rangelands but has also pointed to solutions. For example, ICARDA research in the Middle East and North Africa region has identified enabling conditions that are needed for sustainable rangeland management practices to be adopted more widely (15). Research from both organizations has identified elements of land governance beyond land tenure that can contribute to improved rangeland management (9,13). Research into development practice and methods has explored what participatory approaches with pastoral communities can look like (12,16). This research has informed engagement with government partners and contributed to new directions in policy and government programs. This report documents five examples of partnerships between government and the CGIAR that have led to new policies, programs and approaches for governance and management of rangelands.

Cases

Tanzania: joint village land use planning

Joint Village Land Use Planning (JVLUP) is a government framework, focused particularly on pastoral and agropastoral areas, through which clusters of villages develop a shared land use plan. In Tanzania, a local government at the village level, made up of a village assembly and an elected village council, is the locus of development with recognized collective decision-making and rights. Tanzania's Land Use Planning Act, passed in 2007, mandates that all villages should produce a village land use plan. However, the village land use planning process has been hampered by the cost and lack of capacity. Stakeholders both inside and outside of government, moreover, realized that the village is too small a scale at which to address many of the key challenges of land and resource use, especially where livestock keeping is central to people's livelihoods, and grazing lands and water points are shared by several villages. Particularly where rainfall is sparse and highly variable, the ability to move herds is a key part of maintaining healthy, productive herds.

The International Livestock Research Institute (ILRI), therefore, worked with the National Land Use Planning Commission to pilot JVLUP in villages where resources were shared. Carrying out land use planning at this larger scale is expected to be more cost-effective, will leverage technical expertise, and will be able to address landscape-level challenges of land management and resource use. Through the Sustainable Rangeland Management Project (SRMP) funded mainly by the International Fund for Agricultural Development (IFAD), ILRI strengthened the use of participatory rangeland resource mapping for documenting community natural resources as a first step for JVLUP, and supported the Commission to develop a manual documenting the mapping process (17) and conduct trainings. Working with the Ministry of Livestock and Fisheries, the National Land Use Planning Commission, local NGOs, and district and village governments, SRMP has supported JVLUP in four clusters of villages across 175,000 hectares of grazing land.

Joint Village Land Use Planning

Country: Tanzania

Government organizations involved:

- The National Land Use Planning Commission
- Ministry of Livestock and Fisheries
- District administrations

Time period: 2014 to present

Community members have benefited from the process in various ways. One of the important benefits has been that the land use plans provide legal backing for communities' use, access to, and management of natural resources. Legal backing for the plans has protected the land from grabbing and conversion to other uses. The protection of the grazing land has directly benefited livestock keepers and families including women (18). In one cluster called OLENGAPA (a name made up of four villages that share the grazing area) a group certificate of customary rights of occupancy (CCRO) was issued to the members of OLENGAPA livestock keepers association—the first ever to be issued to a group of livestock keepers through this process (19). This secured the land for the group as a collective landholding. The JVLUP process has been shown to resolve conflicts between land users (20), improve access to resources for women as well as men, and lays a strong foundation for the strengthening of rangeland management.

The process is now being scaled up. The JVLUP approach has been included in government strategies and manuals (21). With a Global Environment Facility grant of USD7.15 million through IFAD it will be implemented across twenty-two villages in five districts, benefiting about 13,000 households (69,555 people). The approach has also received recognition internationally. For example, stakeholders involved hosting visitors from other countries such as government representatives from Sudan and Nigeria coming to learn about the approach. JVLUP has also been referred to in the United Nations Convention on Combatting Desertification 2019 East Africa Outlook Report (22).

Ethiopia: woreda participatory land use planning

Woreda (district) participatory land use planning (WPLUP) is an Ethiopian government process that was developed with technical assistance from ILRI. Through a series of experience-sharing meetings on development and resilience-building in pastoral areas in 2013, stakeholders in the Ethiopian government began to see the need of addressing challenges related to land governance and possibilities for land use planning processes in pastoralist areas specifically. The government requested assistance developing a manual for land use planning in pastoral areas. Informed by research by ILRI and others on the use, management and governance of land in pastoralist settings, development of an approach and draft manual took place over the next five years. The WPLUP approach also draws from experiences with similar approaches such as Joint Village Land Use Planning (JVLUP) in Tanzania (see above), and with Participatory Rangeland Management (PRM) (see below). Further research was also undertaken on the ways in which pastoralist communities plan (23).

The WPLUP process is specifically designed for pastoral areas. A key first step in the process is to understand the grazing lands and how they are used together with other rangeland resources through participatory mapping. The WPLUP process is led by government, specifically regional and district government land experts, but includes community representatives and other stakeholders. WPLUP thus provides for the involvement of local communities in the land use planning and development planning process, giving greater opportunities for their priorities to be considered. WPLUP can protect pastoral land uses and give greater security of rights of access to pastoralists and other users.

Woreda Participatory Land Use Planning

Country: Ethiopia

Government organizations involved:

- The Rural Land Administration and Use Directorate, Ministry of Agriculture and Natural Resources
- Regional governments
- Woreda administrations

Time period: 2013 to present

The first draft of the manual was used to guide piloting of the approach in two woredas—one in Afar Region (Chifra Woreda) and one in Somali Region (Shinile Woreda). Unfortunately, the latter pilot had to be stopped midway due to severe drought, but the pilot undertaken in Chifra woreda was successful and resulted in a land use plan for the district (24). Following on from the successful piloting, the manual was revised and completed through consultations with technical experts organized by the Ministry of Agriculture, and with support from ILRI. The manuals were endorsed by the Government of Ethiopia and finalized and published in 2018 (25,26). They were launched in 2019 at a government-led meeting followed by training of land experts from federal and regional government.

The Government of Ethiopia has shared the process nationally and globally (e.g., 27). It was included in the Ministry of Agriculture's work plan and budget for implementing the current Growth and Transformation Plan. It has also been included in the government's land use planning project. Alignment with the process has been included and/or mentioned in several donor-funded projects being implemented in pastoral areas. Practical training was given to woreda experts under the Development Response to Displacement Impact Project by the Ministry of Agriculture and the Government is now keen to scale up the approach across the country and funding opportunities are being sought.

Kenya: county spatial planning

Another example of CGIAR collaboration with governments on land use planning for pastoral areas is in the county spatial planning process in Kenya. A County Spatial Plan is a ten-year strategic development and land use plan developed by county governments. Kenya's 2010 constitution and the County Governments Act of 2012 devolved authority over key aspects of planning and development to 47 counties in the country. The planning framework mandated in the Act requires county governments to develop a County Spatial Plan—a long-term plan that guides not only management and use of land, but also provides a strategic direction for development in the country and provides the reference point for shorter-term planning such as through five-year county integrated development plans and annual development plans. The county spatial planning process provides an institutional framework that has the potential to address many of the challenges faced in pastoral rangelands.

ILRI sought out, and sometimes itself created, opportunities to deliberate with government and other stakeholders on the challenges facing management of land in Kenya's pastoral areas, and shared its own research into these challenges. Such engagement included informal face-to-face meetings, policy dialogue meetings (e.g., 28,29), and various workshops and conferences (e.g., 30). ILRI and the Kenya National Land Commission discussed some of these challenges and the opportunities that lie in the fledgling county spatial planning process and agreed to work together. The focus of the collaboration involved transforming some of the insights from research into land governance in pastoral areas, into materials to guide counties in the spatial planning processes. Together, the Commission and ILRI decided that they would develop an Annex to the Commission's guidelines on county spatial planning aimed specifically at issues relevant to pastoralists and rangelands, and a series of practical toolkits for county government staff and other interested stakeholders (31–34). ILRI scientists, National Land Commission experts and other stakeholders worked on the Annex and toolkits through a series of “writeshops” from 2017 to 2019.

As the process progressed, the Commission increasingly took on full leadership of the process. The materials were finalized and officially launched at a ceremony attended by stakeholders from across Kenya in August 2019 (35). This Annex and the toolkits, together with other interventions by ILRI and the Commission, have put county governments in a strong position to undertake land use planning in a way that supports pastoralist communities in the management of their rangelands.

County Spatial Planning

Country: Kenya

Government organizations involved:

- National Land Commission
- County governments

Time period: 2016 to 2019

Tunisia: new pastoral law in Tunisia

In Tunisia, ICARDA has supported the government in the drafting of a new law on pastoral livestock production and management of rangelands (36). The management and protection of rangeland ecosystems are facing an array of challenges in Tunisia, including challenges associated with the governance and management of land and other rangeland resources, and the inability of existing institutional frameworks to allow for effective governance. At present, rangelands in Tunisia fall under the legal umbrella of the country's *Code Forestier*. That law, however, makes scant mention of rangelands and pastoral production systems and does not provide a framework with which to address the management of rangelands. Stakeholders both inside and outside of government in Tunisia have come to recognize this shortcoming and agree that there is a need for a specific law on rangelands and pastoralism that is distinct from the *Code Forestier*. ICARDA partnered with the Ministry of Agriculture and other partners to support the development of the new *Code Pastoral*.

The initiative brought together diverse stakeholders from different sectors of government and civil society and representatives of pastoral communities in a series of national and sub-national workshops and expert panel meetings to discuss challenges and options, contribute to the development of the legal text, and guide the overall process. This process also mobilized accumulated knowledge deriving from research by ICARDA, the national research organization Institut des Régions Arides (37), and was also informed by international research on governance of rangelands. For instance, one of the dialogues included sharing of research results and experiences by international scientists from ILRI and ICARDA (38).

A New Pastoral Law

Country: Tunisia

Government organization involved:
Ministry of Agriculture

Time period: 2017 to present

The new draft *Code Pastoral* that has emerged from this process addresses issues related to the institutional framework for governance of rangelands, rangeland management, herd mobility, land tenure reform, and climate change (36). Building on insights from past CGIAR research (e.g. 15,39), the draft law also lays a foundation for the development of payments for ecosystem services programs for pastoral rangelands. The draft has been reviewed and approved by key decision-makers at the national level and will soon be introduced to delegates at regional meetings, where its intended impacts will be discussed with regional authorities, civil society organizations, pastoralists, and regional representatives of Tunisia's National Assembly (37). These meetings will contribute to one further round of negotiation and revision before the final version of the law is submitted to the Minister of Agriculture, head of government, and finally to the National Assembly.

Ethiopia, Kenya and Tanzania: participatory rangeland management

Participatory Rangeland Management (PRM) is a step-by-step process for improving local level rangeland management that is based on past experience with participatory approaches in pastoralist communities, and on research on mobility, livelihoods, resource use, and rangeland ecology in pastoralist systems. PRM was initially developed by various partners and a guideline published by Save the Children in 2010 (40). It was initially developed in Ethiopia as a tool for improving rangeland management and for improving the security of rights to rangelands in the absence (at the time) of a formalized land tenure system for pastoral areas. It was then piloted in Ethiopia by NGOs. ILRI played a key role in the development of the process including providing technical support to the NGOs and the then Ministry of Livestock and Fisheries. After piloting, it was upscaled significantly by the Pastoralist Areas Resilience Improvement and Market Expansion project funded by USAID. PRM has also been advocated in a government manual on woreda (district) land use planning (see above) (26).

Participatory Rangeland Management

Countries: Ethiopia, Kenya, Tanzania

Government organizations involved:

- Ethiopia Ministry of Livestock and Fisheries (now Ministry of Agriculture).
- Tanzania Ministry of Livestock and Fisheries
- District administrations (Ethiopia and Tanzania)
- County governments (Kenya)

Time period: 2013 to present

PRM follows three stages of investigation, negotiation and planning, and implementation. It supports establishment and/or strengthening of rangeland management institutions. Participatory mapping is an important tool in the process allowing practitioners and community members to understand and document the resources and how they are being used. Once resources are mapped and the rangeland management unit defined, a rangeland management plan is produced to be implemented by the community with support from NGOs and government. Where appropriate, a rangeland management agreement can be established between the community and local government to provide the community with more secure rights to their lands and resources. Monitoring and evaluation and capacity building are also important aspects of the approach.

ILRI led a review of the experiences in Ethiopia, finding that it has contributed to improved rangeland productivity, more secure access to resources and land, and improved rangeland management with more equitable decision-making processes (41). The review also concluded that PRM has empowered communities, particularly women. Informed by this review, other research by ILRI and others, and local experience, ILRI has led the scaling and adaptation of the approach beyond Ethiopia. In 2018, the piloting of PRM in Kenya and Tanzania was launched with a €1.5 million investment from the European Union. The Project is being funded through IFAD and the International Land Coalition and being implemented by the NGO RECONCILE (Resource Conflict Institute), the County Government of Baringo in Kenya, the Tanzania Natural Resource Forum (TNRF) and the Ministry of Livestock and Fisheries in Tanzania. It is being implemented in four community rangeland areas in Baringo County, Kenya, and in six shared grazing lands in Kiteto District in Tanzania currently covering around 246,773 ha. of grazing lands and involving over 22,000 pastoralists (ILC 2020). ILRI is providing technical support to the project.

By 2020 eight fully functional rangeland management institutions had been established with almost 45% female representation (42). At the same time, the capacities of local government and other stakeholders have been built. In Tanzania four of these grazing lands were secured through a process of joint village land use planning with support from the Sustainable Rangeland Management Project (SRMP) led by ILRI, the Tanzania Ministry of Livestock and Fisheries and the National Land Use Planning Commission (see above). While implementation moves forward on the ground, ILRI is also supporting capacity building and policy dialogue, contributing to efforts by national and regional governments. ILRI has developed a toolkit on PRM for county governments in Kenya which is being used to build

capacity among county government personnel in several other counties (43). The experiences of PRM are also contributing to global advocacy on rangelands highlighting that given the right support, communities can manage and improve the productivity and governance of their lands and resources to benefit all community members (44,45).

Discussion

In some instances, a direct pathway from research to legislative, policy and programmatic innovations can be seen. For instance, some of ILRI's research on the importance of migration and stock routes (e.g., 5,6) informed land use planning approaches. In some cases, implementation studies and impact assessments are carried out on the intervention itself (e.g., 41), contributing to its improvement and/or providing justification for scaling. Generally, however, these kinds of legislative, policy and programmatic initiatives by government are not traceable to a specific and discrete piece of research. That is to say, the relationship between research and the government initiatives is not one in which one specific research project leads directly to an outcome. Rather, the influence on the design of the initiative derives from an accumulated body of knowledge.

Over the years, there were various insights which ILRI and ICARDA research contributed to the growing bodies of knowledge on rangeland ecology and on land and resource governance in pastoralist communities, and which ultimately helped to inform the government interventions described above. Chief among these was the recognition that pastoral mobility is not an inefficient, primitive lifestyle but an intelligent strategy well-adapted to particular climatic conditions (5,7,8). Also, critically important has been research documenting both the importance of establishing secure land rights for pastoralist communities and the difficulty of doing so (13, and various contributions to 8).

Policies and programs for land and resource governance need to operate in complex, real-world contexts where climate, ecosystems, production systems, economics, culture, politics, government structures and processes, and interactions among all of these set the stage for problems, potential solutions and implementation. Research can have something to offer on each of these features of the problem space that is being addressed. However, for these kinds of policy and programmatic initiatives by governments, the knowledge derived from formal research is not the only knowledge that is brought to bear on the practical, real-world action, nor should it be. The task of designing such interventions is always, in some sense, political. As such, research has its influence only through engagement among different sources of knowledge—formal science, practitioner experience, traditional ecological knowledge, etc.—in a process that is sometimes referred to as *bridging epistemologies* (46).

In all five of the cases described above, ongoing partnerships and various types of formal and informal dialogue amongst researchers, policymakers, and other stakeholders were crucial to the process of design and implementation. In some of the cases, a key phase in the CGIAR contribution took place primarily through one particular project. Nevertheless, all of the cases emerged from partnerships which have transcended any single project. Maintaining such partnerships and long-term engagement in a world where funding is increasingly project-based is challenging. Stable, long-term, and flexible funding is key. In this connection, the CGIAR Research Programs (CRPs) have played an important role in all of the above cases. For these cases, the relevant CRPs have included *Climate Change, Agriculture and Food Security (CCAFS)*; *Dryland Systems; Policies, Institutions and Markets (PIM)*; and *Livestock*.

The trajectory of these initiatives suggests that a linear understanding of the *discovery–proof of concept–piloting–scaling* framework will seldom provide an accurate conceptualization of the research impact pathway in the realm of legislative, policy and programmatic interventions on land and natural resource governance. The socio-economic, political and ecological contexts are too complex and the windows of opportunity for action too unpredictable.

Nevertheless, progression toward impact in these cases is very promising. As these and similar processes move forward, ICARDA and ILRI can also be expected to increasingly engage on the same issues at the global level through platforms such as the International Land Coalition and the Global Landscapes Forum.

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