

CIRAD's POSITION

Pastoralism and the Rio Conventions: harnessing synergies for resilient socio-ecological systems



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Pastoralism and the Rio Conventions:

harnessing synergies for resilient socio-ecological systems

Pastoralism: between resilience and threats

The future of pastoralism is under threat. Rangelands, which cover almost half of the world's terrestrial surface, are degrading due to climate change, biodiversity loss and multiple forms of pollution, largely driven by human activity. Livestock mobility, which is central to this way of life, is increasingly constrained by the appropriation of grazing lands. Young people are leaving pastoral settlements, and traditional knowledge is disappearing. In many countries, pastoralists face economic, legal and political marginalisation: they are denied land rights and are blamed for environmental degradation.

Yet scientific research shows that pastoralism is an important component of the sustainability of global food systems and of biodiversity conservation, thanks to the agroecological practices developed by pastoral societies. Pastoral livestock farming relies on the seasonal availability of natural vegetation, drawing on knowledge and social structures built around herd mobility. Altogether, grasslands and rangelands store almost one third of the world's soil carbon, and rangelands encompass 67% of the world's biodiversity hotspots. Pastoralism supports the livelihoods of nearly 500 million people worldwide. Although it is difficult to mechanise and has relatively low productivity per animal according to standard assessment frameworks, it is a particularly efficient way of rearing animals and producing meat, fibres, hides and milk in very challenging environments, especially given the limited inputs it requires and the many environmental services it provides, including extensive recycling of natural resources and substantial carbon storage in rangelands.



A herd of zebu crossing the N1 in Senegal © Imagéo-Parry/Francin - 2025

In response to this reality, an international process was launched to raise awareness of the value of pastoralism, leading to the designation of 2026 as the International Year of Rangelands and Pastoralists (IYRP). The goal is to ensure recognition of the importance of pastoralism within the three Rio Conventions — the United Nations Framework Convention on Climate Change (UNFCCC), the Convention on Biological Diversity (CBD) and the United Nations Convention to Combat Desertification (UNCCD).

The ambition set out by the IYRP is to achieve recognition of pastoral societies and rangelands as sustainable, food-producing socio-ecological systems that generate shared benefits for the climate, biodiversity and land management.

At present, recognition of the roles played by pastoralism varies considerably across international conventions and agendas. Greater consideration of the scientific knowledge available on this subject could help to address this gap. CIRAD and its partners highlight the importance of rangelands and pastoralism for resilient socio-ecological systems and propose placing pastoralism on the agenda of the Rio Conventions.

Supporting a multifunctional system

For CIRAD, pastoralism is above all a multifunctional, family-based agricultural system: a way of life, a driver of rural economic diversification in rural areas, a producer of foods and services, and a factor of adaptation to climate change and of coexistence with biodiversity. It depends on a wide range of natural resources (biomass, water, soil, energy) and land resources, whose management combines commons, customary rights and public institutions within adaptable social organisations. Pastoral systems, through transhumance, extend across multiple landscapes and territories. This requires consideration of the synergies and multifunctionalities between diverse uses and stakeholders operating at different scales.

With the expansion of agricultural areas into rangelands, the arrangements between nomadic and settled communities have gradually changed, creating a risk of marginalisation for mobile populations. Pastoral societies need to be supported through territorial approaches (sometimes spanning borders) that can reconcile different resource uses, maintain the ecological functions of these areas and negotiate access rights to rangelands and their governance.

In this context, CIRAD is contributing to the identification of technical and organisational solutions to protect rangelands, to help pastoralists and their herds adapt to climate change, and to ensure the sustainable, collective management of these socio-ecological systems. It is essential to recognise the ecosystem services associated with pastoral farming system, to promote respect for customary rights, to address gender-related issues, and to translate the objectives of the international conventions into practical decisions and actions tailored to each context. CIRAD's teams are contributing to these efforts by fostering an integrated systems approach, linking climate, biodiversity and land management issues with the diverse dynamics specific to pastoral societies.

Progressive recognition in international negotiations

Until the 1980s, pastoralism was widely viewed by the international community and national governments as an outdated system that would inevitably evolve in line with the new priorities of agricultural “development” policies. Driven by a “modernising” ideological approach, pastoralists were often encouraged to settle permanently. However, the ecological, economic and social role of pastoral systems was reassessed following the 1992 Rio Earth Summit. Since then, the many ecosystem services provided by these systems have gradually gained recognition. International momentum in favour of pastoralism has consequently continued to grow:

- In 2022, the United Nations declared 2026 the “International Year of Rangelands and Pastoralists”;
- In 2023, UNESCO added transhumance to the Intangible Cultural Heritage of Humanity;
- In 2024, the Convention on the Conservation of Migratory Species (CMS) decided to examine the relationships between pastoralism and migratory species (Decision 4.179/181);
- At COP16 on Desertification in 2024, the UNCCD incorporated rangelands and pastoralists into its new objectives, with a specific decision on the sustainable management of rangelands (Decision 16/29);
- At its 2025 World Conservation Congress, IUCN adopted a resolution on the conservation and sustainable management of rangelands (WCC-2025-Res-008).

These decisions recognise the importance of pastoral socio-ecological systems as well as the need to respect the ways of life and customary rights of local communities in order to achieve the objectives of each framework. Nevertheless, there remains some caution about recognising pastoralism as a global response to today’s environmental crises.

In practice, the frameworks of the three **Rio Conventions** (see Table 1) approach rangelands socio-ecological systems and pastoral livestock systems very differently, each according to its own objectives.

- For the **Convention on Climate Change (UNFCCC)**, the Paris Agreement (2015) aims to limit global warming and supports the adaptation of societies to climate change. Pastoralism is included in the Nationally Determined Contributions (NDCs) as a contributor to global warming through greenhouse gas emissions from the livestock sector and land management. It is more clearly identified in the National Adaptation Plans (NAPs), which recognise its role in the adaptation and resilience of dryland areas and in securing livelihoods in the face of climate change.
- For the **Convention on Biological Diversity (CBD)**, the Kunming-Montreal Global Biodiversity Framework (KMGBF) highlights the impact of agriculture, and therefore livestock farming, on biodiversity. But the agricultural and food sectors, which are also viewed as part of the solution, are linked to more than half of the Framework’s 23 targets. Rangelands are particularly concerned by the “30x30” target, which aims to protect 30% of land and marine areas by 2030. The Framework recognises the rights of Indigenous Peoples and local communities, as well as their role in achieving the conservation objectives.
- For the **Convention to Combat Desertification (UNCCD)**, rangelands and pastoral systems are addressed through the objectives on land degradation neutrality, restoration and the resilience of dryland areas set out in the 2018-2030 Strategic Framework. The Convention is concerned with land-use change, the livelihoods of affected populations and the restoration of degraded ecosystems. It is gradually recognising the role of pastoralism in sustainable land management.

Explicitly integrating pastoral socio-ecological systems into Nationally Determined Contributions, National Adaptation Plans, National Biodiversity Strategies and Action Plans, and the Performance Review and Assessment of Implementation System would make it possible to move beyond sectoral approaches and to highlight the combined contributions of pastoral systems to climate, biodiversity and sustainable land management.

Table 1. Pastoralism in the Rio Conventions: synergies to be developed

	UNFCCC	CBD	CNULCD
Reference framework	Paris Agreement (2015)	Kunming–Montreal Framework [GBF]	2018–2030 Strategic Framework
Central objective	Limiting global warming to 1.5 – 2°C	Halting biodiversity loss, restoring ecosystems and ensuring the sustainable use of biological diversity	Land degradation neutrality
Tensions with pastoralism	GHG emissions, land management	Impact of agriculture on biodiversity	Degradation and restoration of drylands
National planning and monitoring tools	Nationally Determined Contributions (NDCs), National Adaptation Plans (NAPs)	National Biodiversity Strategies and Action Plans (NBSAPs)	Performance Review and Assessment of Implementation System (PRAIS), Land Degradation Neutrality (LDN) target, ecosystem restoration
Level of recognition of pastoralism	Partial, through livestock farming; better integrated into NAPs than into NDCs	Indirect, through agriculture and the rights of local communities	Increasing, but still associated with land degradation
Potential for enhancement	Climate resilience, adaptation of drylands, mitigation through soil carbon storage	Rangelands conservation, local knowledge, genetic diversity	Sustainable land management, restoration of pastoral ecosystems

Harnessing synergies between the Rio Conventions for pastoralism

Synergies between the Rio Conventions are based on the idea that climate, biodiversity and sustainable land management are inter-dependent, and that it is therefore essential to develop coherent policies to address these three major environmental crises. Since 2001, the three conventions have been supported by a Joint Liaison Group¹ (JLG) to exchange views on cross-cutting issues such as integrated landscape management, energy, food systems and gender [see Figure 1].

In 2024, an international Synergies Collaboration Platform² was developed. It aims to accelerate the implementation of synergies between the conventions by the second Global Stocktake of the Paris Agreement in 2028.

Pastoralism can play an important role in this agenda: as both a production system and an integral part of ecosystem management, it relies on a shared and multifunctional use of land, at the interface between natural resource management, agricultural production and ecological regulation. Positioning pastoralism as a nature-based solution represents a major scientific and policy opportunity.

CIRAD's scientific approach to pastoralism and the synergies between the three Rio Conventions is built around three ambitions: (i) supporting sustainable transitions in pastoral territories, (ii) co-producing knowledge and data to harness international synergies for pastoralism, and (iii) strengthening multi-stakeholder, multi-level cooperation on pastoralism.

Supporting sustainable transitions in pastoral territories

CIRAD supports pastoral and agropastoral communities, as well as development stakeholders, in territory-based projects to: (i) give pastoralists a role in steering ecosystem restoration, (ii) sustainably manage rangelands to adapt to climate change,

and (iii) enhance the role of pastoralism to foster biodiversity. The solutions implemented on the ground are co-designed with stakeholders to generate shared benefits for pastoralism and the environment, while negotiating trade-offs within socio-ecological systems.

Empowering pastoralists to lead ecosystem restoration

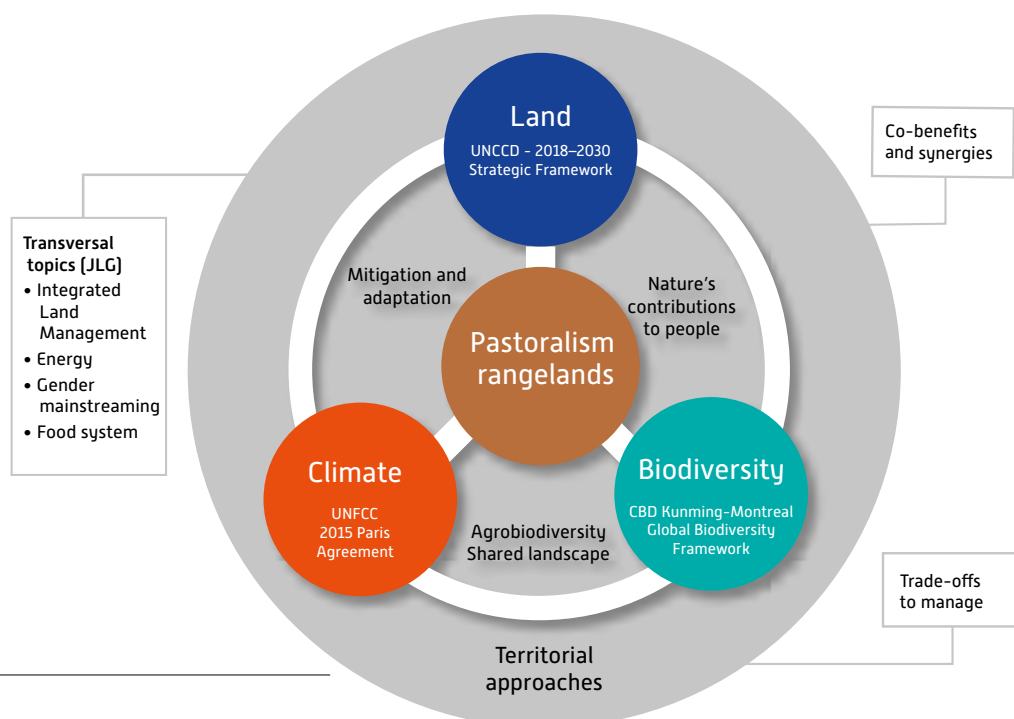
Restoring degraded land in pastoral areas remains challenging, as climate conditions are often poorly suited to plant production. Many of the solutions promoted today are still based on the exclusion of pastoral communities and their herds, from both governance tools and the technologies used. These approaches overlook the role of livestock in ecological restoration and generate high costs for pastoralists, thereby reducing their engagement in operations that too often focus only on reforestation, or the construction of half-moon pits and stone bunds. CIRAD is developing solutions that put pastoralists and agropastoralists at the centre of degraded ecosystem restoration, based on three complementary areas of action:

- **Co-developing inclusive governance tools**, integrating livestock farmers and transhumant pastoralists, with fair representation in terms of gender and age in decision-making and management processes through living labs or territorial innovation platforms.
- **Promoting pastoral knowledge and practices**, recognising the role of livestock as a driver of ecological restoration — organic fertilisation, seed dispersal, soil tillage and controlled burn management.
- **Developing viable economic models** that combine land restoration and local development to ensure ownership and replication of interventions, particularly within the framework of the Great Green Wall in West Africa.

Figure 1.

Synergies and trade-offs between the Rio Conventions for pastoralism and rangelands: climate, biodiversity and land

(adapted from Global Land Outlook, UNCCD, 2022)



1. <https://rioconventions.org/>
2. <https://synergiesplatform.org/>

Reforestation management committees for pastoral units

In Senegal, CIRAD and its partners are supporting pastoral units in developing a participatory governance model for reforestation operations through the Dundi Ferlo project. Livestock farmers determine the location of plots while preserving transhumance corridors, organise local labour and manage the sale of straw during the dry season. The management committees also oversee site protection, manage plot fertilisation and maintain firebreaks, while preparing for the gradual reintroduction of livestock, with all decisions made jointly with technical operators and NGOs. This model demonstrates that effective and sustainable ecological restoration can provide economic and social benefits for pastoral communities.

More information: <https://www.ffem.fr/en/projects/towards-colaborative-sustainable-management-agropastoral-resources-dundi-ferlo>



A herder showing a tree planted in a community reforestation plot
© J.-D. Cesaro, CIRAD

Managing rangelands sustainably to adapt to climate change

As highlighted by the Intergovernmental Panel on Climate Change (IPCC), ecosystem conservation is now the highest priority, particularly with regard to soil carbon storage. This makes the protection of existing carbon stocks a key challenge, given the vast areas covered by rangelands. Preventing degradation is more effective, both ecologically and economically, than attempting to restore what has been lost. Livestock farmers need to be able to assess grazing intensity and its impacts on ecosystems in order to strike a balance between production needs and the preservation of natural resources.

In pastoral areas, sustainable land management is based on four complementary pillars:

- **Safeguarding herd mobility:** planning land use to enable herd movements between key regions, and strengthening management committees and local consultation bodies.

- **Managing water points to limit concentrations:** prioritising the restoration of existing ponds and wells in order to better distribute livestock and to reduce trampling and soil compaction.
- **Strengthening synergies between farmers and pastoralists:** the agroecological transition calls for a territorial level review of crop rotations, organic fertilisation, the development of service plants and the maintenance of pasture vegetation in order to enrich soils, secure pastoralists' access to resources and improve incomes for both groups.
- **Fostering energy transitions:** as pastoralists rely on natural resources for their energy needs, developing alternative energy sources such as solar power and biogas can help to reduce pressure on these resources and to mitigate direct emissions from livestock farming.

Large-scale sustainable rangelands management: the example of PRAPS

The Regional Sahel Pastoralism Support Project (PRAPS) is an initiative funded in particular by the World Bank and implemented by the Permanent Interstate Committee for Drought Control in the Sahel (CILSS) in several Sahelian countries (Burkina Faso, Mali, Mauritania, Niger, Senegal and Chad). Its objective is to strengthen the resilience of pastoral systems in the face of climate, economic and security crises. PRAPS II (2022-2027) places greater emphasis on sustainability, regional integration and the development of livestock sectors. In this context, CIRAD has been particularly involved in mapping pastoral infrastructure and interventions implemented since 2012, and presented this work at the Nouakchott+10 regional pastoralism forum.

More information: <https://praps.sn/v2/>

Recognising the role of pastoralism in supporting biodiversity

In territories with exceptional biodiversity, the coexistence of pastoralism, natural areas and wildlife can generate tensions with conservation stakeholders. Competition over access to water and grazing resources, as well as health risks linked to interactions between domestic and wild animals, are real challenges. However, when it is adapted to ecosystem dynamics, pastoralism helps to shape mosaic landscapes that support a diversity of habitats and contribute to the conservation of numerous animal and plant species.

To strengthen the complementarity between pastoralism and conservation, and to move beyond the conventional land sharing/land sparing divide towards an integrated approach suited to pastoral realities, three key areas of action can be identified:

- **Ensuring coexistence and spatial planning of land use:** this requires improved integration of land-use planning approaches to reduce biodiversity loss while maintaining connectivity between ecosystems. Pastoralism, which is based on mobility and the coexistence of multiple forms of land use, is a key mechanism for preserving landscape connectivity.
- **Fostering dialogue between protected area managers and pastoralists** in order to overcome opposing approaches, to build mutual understanding and to support the co-management of shared spaces, following the example of Indigenous and community conserved areas.

- **Developing new tools to reconcile conservation and pastoralism** (Land sharing) through “other effective area-based conservation measures”, such as multifunctional corridors combining pastoral mobility, ecological connectivity and access to natural resources, or through payments for ecosystem services (PES) or nature certificates and credits in particularly sensitive areas.

The One Health approach provides an integrated, systemic framework that articulates the environmental, animal and human dimensions of these issues. This is the aim of the One Limpopo One Health (OLOH) project, funded by FFEM and AFD. Implemented by CIRAD and its partners in Mozambique, the project supports the development of a management plan for the buffer zone of Limpopo National Park in order to promote agropastoral systems that are aligned with the functioning of the ecosystem and contribute to its resilience.

More information: <https://www.ffem.fr/en/projects/one-limpopo-one-health-addressing-challenges-human-animal-and-ecosystem-health>

Co-producing knowledge and data to harness international synergies for pastoralism

CIRAD advocates an approach based on the co-production of knowledge on pastoralism, combining scientific methods, local knowledge and territorial data. Faced with standardised indicators that are often ill-suited to the complexity, mobility and multifunctionality of pastoral socio-ecological systems, CIRAD is committed to developing robust, context-specific, integrated indicators that are grounded in local territories. This approach is based on participatory research mechanisms involving pastoral communities, development stakeholders and public policymakers.

Measuring the components of pastoral socio-ecological systems

Pastoral systems are still insufficiently recognised within the separate frameworks of the three Rio conventions, because existing indicators fail to reflect their multifunctionality and herd mobility.

The emission factors used in nationally determined contributions tend to overestimate the impacts of pastoralism, while rangelands are not properly integrated into land degradation monitoring. In terms of biodiversity, a disconnect remains between the recognition of their ecological functions (open environments, habitat diversity) and the fact that they are largely viewed as drivers of degradation.

These limitations highlight the need to develop integrated indicators based on a socio-ecological system approach, linking climate, biodiversity, land and livelihoods. Beyond indicators, the aim is to build assessment frameworks that better reflect the specific characteristics of pastoralism and its contributions to territorial sustainability. Such an approach would enable greater recognition of the role of pastoral systems and help to shape climate and environmental policies that are better suited to the realities of dryland areas in particular.

The CASSECS project (2020–2024), conducted in three Sahelian countries (Burkina Faso, Niger, Senegal), has improved the assessment of the carbon balance of agropastoral livestock systems by integrating both emissions and sequestration potential. Tools and knowledge have been produced on the interactions between livestock farming, soils, vegetation and climate, through approaches combining observations, modelling and spatialised data. The project has also facilitated the co-construction of sustainable livestock farming practices and strengthened the capacities of national stakeholders. Its findings contribute to public policy and climate negotiations by enhancing recognition of the multifunctionality of pastoralism.

More information: <https://www.cassecs.org/>

Observing the dynamics of change in pastoral territories

Faced with the reduction in rangelands and the intensification of land-use change (agribusiness, land grabbing, infrastructure), monitoring pastoral socio-ecological systems requires integrated observation frameworks. Initiatives such as the Land Matrix (<https://landmatrix.org/>) help to document these large-scale transformations.



Mapping pastoral mobility around Djoudj National Park (Senegal) © J.-D. Cesaro, CIRAD

For over two decades, CIRAD has been developing information systems, observatories and databases dedicated to pastoral areas in order to monitor vegetation, biodiversity and land-use dynamics, and to produce early warning indicators for climate and environmental hazards. These tools draw on geographic information systems, climate, botanical and agronomic databases, and socio-economic data spanning several decades. Together, they provide a better understanding of the transition pathways of pastoral territories and help to inform public policies aimed at the sustainable management of dryland areas.

The FairCarbon research programme (2023-2029)

conducts computer simulation modelling on the adaptation of agricultural territories to climate change in France and Africa by 2050. In Senegal, unlike the “Business as usual” scenarios, the “territorial agroecology” (without mobility) and “agro-silvo-pastoralism” scenarios show capacities for carbon sequestration in agro-silvo-pastoral soils, while enabling an increase in ecosystem provisioning services for populations.

More information: <https://eng-faircarbon.custom.hub.inrae.fr/view/content/788/full/1/788>

Modelling and scenarios on synergies between the Rio Conventions and pastoral territories

The production of indicators and the observation of pastoral systems are no longer sufficient to anticipate the combined effects of climate, environmental and development policies. Pastoral socio-ecological systems are based on complex interactions between rangelands, herds, wildlife, climate, soils and human activities, which calls for a shift from measurement alone towards modelling of dynamics and feedback processes. Whether based on expert knowledge or participatory approaches, modelling helps to identify synergies and trade-offs between production, conservation and adaptation, while exploring possible long-term pathways.

Participatory scenario-building approaches build on this analysis by exploring future dynamics with stakeholders, incorporating uncertainties and identifying tipping points. Combining stakeholder participation with scenario-based modelling makes it possible to inform public policies in an integrated manner and to support change in pastoral territories.

The territorial foresight study “Pour une transhumance apaisée (2020-2023) à la frontière du Burkina Faso et du Togo”

(For peaceful transhumance on the Burkina Faso-Togo border) explored possible futures for the cross-border region between Burkina Faso and Togo by 2035, in order to better integrate pastoralism into territorial development. Based on an assessment combining historical data, interviews and field surveys, this project, resulting from an agreement between CIRAD and FAO, enabled local stakeholders to develop eight future scenarios. This process brought transhumance back to the heart of discussions on territorial change and created spaces for dialogue between stakeholders and policy-makers. It ultimately resulted in practical proposals to strengthen cross-border cooperation, local governance and peaceful coexistence between pastoral activities and other land uses.

More information: <https://agritrop.cirad.fr/615306/>

Strengthening multi-stakeholder, multi-level cooperation on pastoralism

CIRAD acts as an interface between the different levels of pastoral governance. At the international and national levels, it contributes to scientific networks and informs the processes of the Rio Conventions by producing robust data and analyses on pastoral systems. At the local level, it supports administrations, NGOs and livestock farmers' organisations in designing consultation mechanisms suited to territorial realities, through integrated approaches such as the multifunctionality of socio-ecological systems.

Support at the local level

CIRAD supports producer organisations, local authorities and local actors through innovation platforms and co-construction mechanisms. These spaces (Living labs, multi-stakeholder platforms, territorial initiatives) make it possible to develop solutions tailored to the realities of pastoral socio-ecological systems, by integrating local knowledge, mobility practices and environmental constraints. They also strengthen capacities for collective action and the collaborative management of natural resources.

Territorial action plans for pastoralism in Mongolia

In Mongolia, the Nomad4Life project, coordinated by Agronomes et Vétérinaires sans Frontières (AVSF), supports the public authorities and pastoral organisations in developing territorial action plans (TAPs) to promote sustainable pastoralism. CIRAD trains community leaders in the approach based on the multifunctionality of pastoral systems. The TAPs aim to increase the added value of pastoral production, to improve rangelands management and to support pastoral mobility. This approach contributes to more sustainable and resilient management of pastoral socio-ecological systems.

More information: <https://www.ffem.fr/en/projects/sustainable-and-resilient-transition-semi-nomadic-pastoralism-mongolia-nomads-life>



Participatory modelling of the pastoral socio-ecological systems in Mongolia
© J.-D. Cesaro, CIRAD

Support at the national and regional levels

CIRAD helps to structure and facilitate international and regional scientific networks dedicated to pastoralism, in connection with universities, research centres and partnership initiatives. These networks support the production of robust knowledge, the training of researchers and practitioners, and the dissemination of integrated approaches (multifunctionality, biodiversity-health nexus, and socio-ecological systems modelling). They also contribute to strengthening local and regional capacities for analysing and managing pastoral territories.

Platforms in partnership (dP) in pastoral areas

CIRAD has defined a geopartnership strategy based on the implementation of Platforms in partnership for research and training (dPs). These platforms aim to address specific development challenges identified collectively by research, innovation and training. Several dPs focus on pastoral socio-ecological systems in collaboration with national and regional scientific stakeholders, including: (i) in West Africa, with the dP “Pastoralism and drylands in West Africa (PPZS)” and “Agro-silvo-pastoral systems in West Africa (ASAP)”, (ii) in East Africa with the dP “Transforming agriculture for animal, crop and ecosystem health in the East African Rift (TRACE)”, “Production and conservation in partnership in Southern Africa (RP-PCP)” and “Highland production systems and sustainability in Madagascar (SPAD)”, and finally (iii) in North Africa, with the dP “Water and territories in Northern Africa (SIRMA)”.

More information: <https://www.cirad.fr/en/worldwide/platforms-in-partnership>

Support at the international level

CIRAD is working to bridge the gap between research on agro-silvo-pastoral systems and the forums where major international policies are shaped. Through its involvement in networks — the Global Agenda for Sustainable Livestock, CGIAR, IUCN, FAO —, its contribution to the French team through the French Scientific Committee on Desertification (CSFD), and its observer status under the Rio Conventions, the institution is striving to highlight realities that standardised frameworks still fail to fully capture: herd mobility, the multifunctionality of rangelands and the complexity of land-use rights.

Its role is to support public policies by providing useful data for States wishing to better integrate pastoralism into their commitments — NDCs, NAPs, NBSAPs, PRAIS — and to demonstrate that a single on-the-ground intervention can simultaneously contribute to climate action, biodiversity conservation and sustainable land management.

Nevertheless, there is still considerable scope for progress. In many countries, pastoralism remains largely overlooked in national strategies, despite making an important, though often unrecognised, contribution to objectives that those very strategies struggle to achieve. Ensuring that the impacts of pastoralism are reflected in coherent and equitable public policies remains an ongoing challenge — one that CIRAD and its partners are working together to address.



Reconciling pastoral mobility and reforestation in the Ferlo region (Senegal) © J.-D. Cesaro, CIRAD

Conclusion

Pastoral socio-ecological systems are a vital asset for the planet, and pastoralists are their custodians. However, their essential contribution to environmental conservation, rural livelihoods and food system sustainability cannot be maintained without a collective commitment to supporting pastoralism.

For these systems to endure, pastoral societies need greater recognition at the international, national and local levels, together with concrete action: securing their rights of access to land and resources, integrating their practices into public policies, and developing planning tools that are suited to their mobility and diversity. Only under these conditions will pastoralism be able to fully realise its potential as a nature-based solution to climate and environmental challenges.

The Rio Conventions each provide a promising framework for advancing towards this goal. By bringing together the climate, biodiversity and land management agendas, they create the conditions for a coherent and integrated recognition of pastoralism, moving beyond the sectoral approaches that have traditionally prevailed.

The post-2030 period will be a crucial milestone. The next rounds of national commitments provide a tangible opportunity to integrate pastoral societies into national strategies, to improve the assessment of their contributions to addressing climate and environmental challenges, and to finance actions commensurate with the scale of the challenges. CIRAD's research demonstrates that pastoralism can contribute to sustainable solutions for the challenges ahead. ■



A transhumant pastoralist using community grazing land in an agricultural area of Senegal © J.-D. Cesaro, CIRAD

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