WYSS ACADEMY FOR NATURE

PASTORALISM AND NATURE: CONNECTIVITY MATTERS

Key messages on how the Wyss Academy for Nature contributes to sustainable pastoral systems in semi-arid landscapes



Herding livestock through the semi-arid rangelands of Northern Kenya.
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Pastoralism sustains both people and nature, yet it is under growing pressure from climate change, inequitable policies and gaps in their implementation, economic challenges and the fragmentation of once-contiguous rangelands. In Northern Kenya, the Wyss Academy applies its "Solutionscape Approach" (see Box 1) to promote people and nature coexistence in two pastoral landscapes: the semi-arid rangelands of Naibunga (Laikipia) and Oldonyiro (Isiolo), as well as the Gambella wetland (Isiolo, Meru), which are a vital dry-season refuge for herders, their livestock and wildlife.

Building on existing community institutions and initiatives, the Wyss Academy works in partnership with community conservancies, elders, women and youth, government agencies, researchers, entrepreneurs and implementers, to help catalyse a Coalition for Change. Together they co-create and implement a shared vision for a sustainable landscape where people and nature can thrive.

Practical solutions are co-designed, tested and monitored on the ground, tracking their effects on biodiversity, land use and production systems, human wellbeing, and governance and social organisation. Combining scientific evidence with local knowledge, this builds a shared understanding of how the system works.

AT A GLANCE

~180,000 Semi-circular bunds dug to restore degraded rangeland	**2.5 vs 1 t/ha** biomass on restored vs. untreated plots (June 2025)	**192** bird species recorded, including 3 critically endangered vultures
3 Dual purpose wildlife–livestock corridors included in the gazetted Oldonyiro town land use plan	**3,529** women engaged in beekeeping, mushroom, gums and aloe vera livelihoods	**17** reptile and amphibian species using bunds for shelter and breeding

Figures from tested interventions in Naibunga/Oldonyiro landscapes: Wyss Academy Annual Report 2025, Naibunga biodiversity assessment 2023–24.

KEY MESSAGES

1 Coexistence: Pastoralism and wildlife are part of the same connected landscapes

Livestock herds and wildlife have long shared the same routes, pastures and water points. In increasingly fragmented landscapes, maintaining and restoring connectivity is essential for coexistence and for sustaining both pastoralist livelihoods and thriving wildlife. We work toward healthy, (re-)connected rangelands where people, livestock and wildlife can coexist, combining traditional and scientific knowledge and generating evidence for policy adjustments that recognise pastoralist livelihoods and wildlife needs as integral to the same landscape.

These connected landscapes also underpin county and national economies. Livestock contributes around 12% of Kenya's GDP, and the arid and semi-arid lands hold about 70% of the national herd, supplying meat, hides and skins to domestic, regional and Middle Eastern markets. The same rangelands host most of Kenya's wildlife – an estimated 65% lives outside national parks and reserves – which, together with the living cultural heritage of pastoral communities, sustains tourism, jobs and county revenues beyond protected areas.

2 Connectivity: Mobility and connectivity must be secured – on the map, in town and land use plans and in law

Settlements, roads and fences increasingly block the migratory routes that livestock and wildlife use to follow the rains. Legal recognition is what turns an informal pathway into something that can be recognised and managed in the long run. The Wyss Academy, the National Land Commission, county planners, other partners and communities worked together to map 5,626 critical natural assets – including migratory corridors, water ponds, rock catchments, salt licks across Laikipia, Samburu and Isiolo counties. Three community-verified wildlife–livestock corridors supported by science are now part of the gazetted Oldonyiro town land use plan 2024–2034.

3 Community focused: Community-led restoration can scale with measurable results

Semi-circular bunds are half-moon shaped structures constructed to capture and retain rainwater runoff, making the most of scarce and increasingly erratic rainfall. By increasing water availability in the soil, and when combined with reseeding, gulley healing and the removal of invasive species, they can help mitigate the impacts of drought, promote vegetation growth, stabilise soils, reduce erosion, and create micro-habitats that support biodiversity. Scaled out to sites prioritised by the community conservancies themselves, and combined with governance mechanisms and revenue generation, the number of bunds grew from a few thousand to around 180,000 by the end of 2025. Restored sites produced about 2.5 t/ha of biomass against 1 t/ha on nearby untreated rangeland and act as dry-season forage banks, easing pressure on sensitive pastures and water points. Elephants and Grevy's zebras use them more often, and plants' diversity is returning. These gains build resilience where climate change hits the hardest. Trained local monitors track this recovery through citizen science.

4 Blended systems of governance: Sustainable system change rests on governance that blends customary and formal rules

Restoration only lasts when rules about who grazes where and when are collectively agreed, locally owned, and respected. We support governance that builds on both traditional institutions and formal structures. At Ol Gaboli in Naibunga (Laikipia), an 18-month participatory process enabled the Community Land Management Committee to mandate a committee representing 35 women's groups to manage a pilot site where land restoration and livelihoods evolve together. The initiative combines the reseeding of semi-circular bunds with the planting of aloe vera, whose leaves provide the basis for natural cosmetic products, helping to diversify and strengthen women's income. In Gambella wetland (Isiolo, Meru), a government-approved Wetland Management Committee and a Coalition for Change of around 40 members – including the National Land Commission, Kenya Wildlife Service, Kenya Forest Service and the National Environment Management Authority (NEMA) convened by CETRAD, our implementing partner in the Landscape – now steward the wetland: 67 acres are demarcated and secured, and new troughs provide water for livestock and wildlife away from fragile wetland habitat. Camera traps are recording an increasing diversity of wildlife species using the rehabilitated wetland. Water flowing from the wetland has supported livelihoods, livestock and wildlife for at least up to 18 km downstream, easing pressure on the core of the wetland, although growing demand is now reducing these flows (see "What we are learning").

WHAT WE ARE LEARNING

Recovery brings new trade-offs. As vegetation recovers, incentives to enlarge livestock herds grow, and returning wildlife can increase human–wildlife conflict. Restoration must be planned together with grazing rules, water access and secured corridors and gazetted land use plans.

Governance before scale. Governance around restoration will take priority in the coming years, so that gains are not reversed.

Social cohesion matters. Competition for land and water has increased tensions between groups; trust and fair access are preconditions for collective action.

Rising water demand downstream. Downstream of the Gambella wetland, water demand has increased beyond the needs of livestock, wildlife and people, as water is also used for small-scale irrigation, especially during the dry season, reducing the volumes that flow downstream. Mechanisms for sustainability, including payments for ecosystem services (PES) and strengthened governance, are being explored.

Markets make or break livelihoods. Livestock remains the primary livelihood. Complementary Nature-positive enterprises on restored land – such as honey, aloe vera, grass seed and fodder, or gums and resins – are still at an early stage. They need responsible buyers, certification and value addition so investments circulate back to the communities, which we are exploring with private-sector partners.

Multi-level partnerships are essential. None of the progress above would have been possible without strong scientific evidence and authentic partnerships from community to national level.



Livestock keepers, youth, women's group members and community scouts train to monitor semi-circular bunds in Naibunga-Mukogodo, Laikipia County, Kenya. © Fiona Stappmanns

LOOKING AHEAD: 2026–2030

01

Growing momentum in our landscapes

We continue to partner with communities, conservancies and county authorities in Naibunga/Oldonyiro and Gambella in securing the progress made so far. This includes working toward the legal gazettement of wildlife–livestock corridors, community land use plans with zones for grazing, conservation and wildlife movement, the legal registration of community conservancies, and coordinated grazing plans that give restored areas time to recover across community and private conservancies.

02

Replicating beyond our landscapes

Our strategy project "Systemic solutions for pastoral systems" builds on indicators of success identified in the tested landscapes of Naibunga/Oldonyiro and Gambella to engage with key institutions and pastoralist communities, learn from successes and setbacks, and catalyse the replication of practical solutions across arid and semi-arid landscapes, generating new evidence to inform governance and further replication.

03

Influencing policy and recognition

We feed evidence from the landscapes – such as natural asset maps, corridor plans and restoration monitoring – into county planning, national policy and global processes. This includes exploring how and whether community-managed rangelands can be recognised as Other Effective area-based Conservation Measures (OECMs), contributing to the 30x30 target of the Kunming-Montreal Global Biodiversity Framework, and new ways of rewarding nature stewardship.

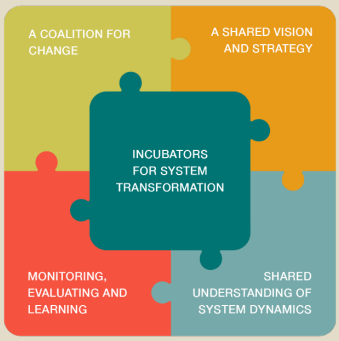
Box 1

The Wyss Academy Solutionscape Approach

The Solutionscape Approach is the Wyss Academy's approach for tackling nature–people challenges in concrete landscapes. These nature-people challenges generally are wicked problems - where there is no consensus neither of what the problem itself – and the drivers behind it – is, nor what the solutions might be, and where there are many competing, often vested, interests represented by different actors. In each landscape the work is organised around one specific challenge and the system driving it, not around sectors or administrative boundaries. At the Wyss Academy, the Solutionscape Approach is tested and monitored in six landscapes in Kenya, Madagascar, Peru, Thailand and Switzerland. They are run as a real-world lab where communities, government, civil society, scientists and business jointly analyse the system, build a coalition for change, and co-create and test solutions.

The approach is designed for practitioners, researchers and decision-makers working in concrete landscapes. Grounded in sustainability and transformation science, it links research, experimentation and implementation, so that local pilots also generate evidence and stewardship models that can inform policy and be scaled.

In practice the Solutionscape Approach combines five interdependent elements, a jigsaw rather than a fixed sequence. Each is tested in the field and brings together local actors to ensure lasting change (see diagram).



The five interdependent elements of the Solutionscape Approach

The approach supports four impact dimensions:

Systems Transformation – catalysing systemic solutions by mobilising science, policy, and practice

Nature protection that benefits people – inclusive conservation strategies improving ecological functionality while supporting livelihoods

Human wellbeing that supports nature – fostering nature-based economies, diversified livelihoods, and resilient social structures

Stewardship – strengthening governance structures and ensuring local ownership of conservation and development efforts

WHAT IT TAKES

Pastoral landscapes are productive, multi-functional spaces that can simultaneously support climate adaptation, biodiversity, and resilient livelihoods – if policies and investments work with the logic of pastoralism, not against it. The learnings and results above rest on communities' own choices and are carried forward by coalitions of local and institutional actors. Supporting pastoral landscapes therefore means providing long-term, flexible support rather than short project cycles; securing mobility, connectivity, and shared access to key resources through land-use planning and tenure systems; treating connectivity and coexistence between people and wildlife as core parts of conservation; and recognising and rewarding the communities who steward these landscapes, especially in arid and semi-arid landscapes vulnerable to cyclical climate shocks.

We welcome partners – governments, practitioners, donors and research institutions – interested in our approach and in replicating some of these successes in other rangelands, adapted to each context and shaped by the communities who live there.

SUPPORTING MATERIAL

Wyss Academy for Nature (2025a). *Annual report 2024*. Bern: Wyss Academy for Nature. *wyssacademy.org: Annual report 2024*

Wyss Academy for Nature (2026). *Annual report 2025*. Bern: Wyss Academy for Nature. *wyssacademy.org: Annual report 2025*

Wyss Academy for Nature (2025b). *Semi-circular bunds and community-based conservation at the Naibunga Community Conservancy, Laikipia County, northern Kenya: Key highlights from the technical report of dry and wet season biodiversity and socioecological assessments of local livelihoods* [Infographic]. Assessments by the University of Nairobi, National Museums of Kenya, Technical University of Kenya and the Directorate of Resource Surveys and Remote Sensing. *wyssacademy.org: Naibunga biodiversity assessment highlights*

Wyss Academy for Nature (2026a). *Conserving 30%: Where, how and to what end?* (CBD COP17 Briefing note 1).

Wyss Academy for Nature (2026b). *Beyond conservation boundaries: Cross-scale governance, equity and spillovers* (CBD COP17 Briefing note 2).

ABOUT THE WYSS ACADEMY FOR NATURE

The Wyss Academy for Nature at the University of Bern develops and catalyses solutions to complex challenges at the intersection of nature and people. It brings together science, policymaking, and concrete action and works with partners across East Africa, Southeast Asia, South America, and Switzerland. Its approach combines work in real-world landscapes with research, learning, and engagement in wider policy and governance processes.

READ MORE

Explore the COP17 briefs and related research on our COP17 landing page: *go.wyssacademy.org/cbd-cop17*

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