Protecting the Steppes Where Wild Horses Roam: Community-Led Co-existence in Hustai National Park

Hustai National Park and surrounding area, Mongolia
Japan International Cooperation Agency
Protected Areas (including public natural or cultural parks)
Nature & Environment

Summary of Good Practice Story
Hustai National Park, a UNESCO Biosphere Reserve in Mongolia's forest-steppe and home to wild Takhi horses, faced a post-2010 tourism boom that satellite and AI analysis revealed was causing severe erosion, disrupted herding routes, and overgrazing. The Hustai National Park Trust united with seven local herder groups under a 2024 Tripartite Management Agreement combining strict, ranger-guided vehicle control inside the park with a community-owned "Hustai Organic Programme" that used shared scientific data to align livestock numbers with rangeland carrying capacity, supported by a zero-commission retail channel for herder products. The programme achieved 100% compliance with vehicle restrictions and a 23% reduction in livestock in one buffer village while formalising 32 scattered herder groups into seven cooperatives representing 1,700 residents. The key lesson: pairing transparent data with direct economic security lets communities co-own conservation science rather than resist it.

Setting the Scene: Destination & context
Located 100 kilometres west of Ulaanbaatar, Hustai National Park spans 506 square kilometres of fragile forest-steppe. Designated as a UNESCO Biosphere Reserve in 2002, this raw landscape serves as a thriving sanctuary for 354 wild Takhi horses, 2,000 red deer, 14,000 marmots, and 150 argali sheep, with rare gazelles and ibexes now residing here permanently.

To the local herders, the Takhi is revered as the ultimate spiritual ancestor of their living nomadic culture, establishing combined UNESCO ICH assets that have shaped the rangeland for millennia.

Uniquely, the Hustai National Park Trust (HNPT) independently manages this ecosystem without government funding, sustaining conservation through eco-tourism run by 42 full-time staff. However, the post-2010 tourism boom across 7 buffer camps fractured this equilibrium, hiding a structural strain behind the high visitor volume. This is not merely a story of park protection, but a collaborative masterpiece to safeguard the very soul of the Mongolian steppe.

The Turning Point: Why change was needed

The defining turning point arrived in 2021. As a sharp post-2010 boom in visitor traffic overwhelmed the territory, an innovative satellite imagery and AI rangeland assessment, developed with Japanese experts, exposed an invisible ecological disaster. The scientific data revealed that thousands of unauthorised tyre ruts left by surging 4WD tourist vehicles had become highly vulnerable erosion triggers. By physically disrupting traditional herding routes, this tourism encroachment squeezed available pastures and severely intensified localised domestic overgrazing. Combined with worsening climate shifts, these fractured topsoil zones were accelerating patch-desertification across common rangelands at an irreversible speed.

This objective evidence proved that unregulated tourism expansion was no longer just a localised operational conflict, but a structural threat to the entire multi-village ecosystem, directly endangering the shared habitat of these thriving wildlife populations and the intergenerational survival of the traditional nomadic agropastoral economy.

The data served as a profound wake-up call for the executive board of the HNPT and community elders. Seeing their ancestral lands face terminal collapse from tourist-driven degradation, the participating herder groups realised that passive destination management was fundamentally broken, forcing a radical leap toward unified, data-driven ecosystem governance.

The Vision: What you set out to do

The decision to act was driven by a unified coalition: the HNPT management and leaders of the 7 active herder groups. Motivated by the satellite and AI data exposing the terminal risk of rangeland collapse, the team designed a harmony-based vision: "Absolute spatial control over tourism mobility, combined with data-driven agropastoral quality."

To govern this dual ambition under the Long-Term Tripartite Management Agreement signed in July 2024, the design philosophy split the vision into two synchronised operational strategies.

First, on the spatial front, the coalition set out to eliminate private individual vehicular transit inside the reserve entirely, transitioning to a centralised, ranger-guided, low-emission official transport system to protect natural water springs.

Second, on the socio-economic front, the framework engineered a circular agropastoral value chain through the Hustai Organic Programme. Tourism revenues served as an economic anchor, supporting herders to transition from quantity-based livestock production to quality-based pastoralism. This dynamically matched domestic herd sizes to the scientifically verified carrying capacity of their territories, lowering overgrazing to secure long-term habitat resilience.

The Journey: How change happened

The transformation was executed through three strategic phases, turning the 2021 scientific shock into a framework of community dialogue, multi-generational education, and academic partnerships across the multi-village buffer zone:

Phase 1: Strict Vehicle and Time Governance

To eliminate overcrowding at watering zones highlighted by the 2021 data, the park trust restructured entry mechanics into a rigid "two-hour even-hour" timed system. Motorised access inside the reserve was prohibited without an official ranger-guide, and visitor vehicles were restricted to designated tracks and parking zones, enforcing the critical 300-metre exclusion zone. Initially, this enforcement faced resistance from independent drivers. However, strict spatial monitoring and mandatory ranger briefings quickly established this framework as the non-negotiable baseline, effectively halting off-road driving and minimising wildlife acoustic stress during peak crisis hours (17:00 to 19:00).

Phase 2: Multi-District Livelihood Mobilisation and Democratic Agreement

To address economic pressures outside park fences, the HNPT built on efforts since 2003 to formalise community associations. Consolidating 32 scattered groups across three buffer villages, the park guided an institutional merger into 7 highly active herder groups (including Mungun Savaa and the nationally acclaimed Bayansonginot group), collectively representing over 1,700 residents across 3,500 square kilometres. Following the devastating 2024 dzud (winter freeze) that caused severe livestock mortality, this network urgently forged the Tripartite Management Agreement in July 2024. To bridge alternative livelihoods with cultural continuity, the park supported the "Little Nomads" (Biaytshan Nuudulchin) junior herder initiative. To overcome herder scepticism, the visitor centre implemented a 0% commission policy, purchasing organic dairy and hand-pressed felt crafts directly from cooperatives. This economic cushion inspired a profound shift: herders abandoned loud motorcycles, proudly reviving traditional equine techniques. To maintain democratic integration, the Annual Buffer Zone Herders' Conference every October brought herders, protected area managers, and village governors together as equal planning partners. Simultaneously, local secondary students

engaged in annual eco-tours, establishing a rangeland clean-up network that converted youth into environmental stewards.

Phase 3: Scientific Co-Management and AI-Driven Innovation
To scale landscape resilience, the coalition codified the 2021 data into the permanent Hustai Organic Programme. Partnering with Japan's Tsukuba University and the National University of Mongolia, the HNPT conducted joint surveys using rigorous science to validate pasture recovery. Under this alliance, herders integrated advanced satellite imagery and AI mapping via peer-to-peer interactive workshops, converting technical data into a shared, community-enforced grazing calendar that successfully reversed rangeland degradation across multi-village boundaries. To involve international visitors in conservation financing, Educational Field Tours and Eco-Volunteer programmes fund birch forest restoration, while a structured "Takhi Adoption System" allows guests to sponsor habitat security at USD 250 per certificate, turning visitor capital into direct anti-poaching field funds.

The Breakthrough: What you achieved
The implementation delivered verified ecological, social, and mobility milestones, validating this data-driven co-management framework.

Inside the reserve, the timed-entry system achieved 100% operational compliance, entirely eliminating illegal off-road traffic between 17:00 and 19:00. Continuous ranger patrols confirmed wildlife populations secured stress-free access to natural springs, recording zero panic disruptions within the critical 300-metre exclusion zone.

Outside the fences, the Hustai Organic Programme transformed rangeland stewardship across 350,000 hectares. Guided by these shared AI assessments, data-empowered herders successfully stabilised pastures. This is anchored by a 23.4% reduction in domestic livestock within Argalant village–dropping from 102,063 head in 2023 to 78,149 in 2025–mitigating regional overgrazing pressures despite severe climate anomalies like the 2024 dzud.

Socially, long-term capacity building consolidated 32 scattered entities into 7 active community associations, including the Mungun Savaa and nationally recognised Bayansonginot groups. The 0% commission retail infrastructure successfully expanded tourism-driven income, strengthening climate resilience for over 1,700 buffer-zone residents. Most evocatively, as herders revived traditional equine herding techniques, the harsh roar of motorbikes vanished from common pastures, replaced by the rhythmic, soothing sound of horse hooves and the healthy laughter of the "Little Nomads"–permanently restoring the forest-steppe’s acoustic and emotional tranquillity.

This exemplary governance has garnered profound international recognition, culminating in high-profile delegations, including the July 2025 state visit by the Emperor and Empress of Japan to observe Hustai's sustainable model.

Reflections: What you learned and what others can learn

Our primary insight is that sustainable destination management must evolve from reactive infrastructure control to proactive, data-driven community ownership. What surprised us most was the initial cultural friction; herders were deeply skeptical of abstract satellite pixels mapping their ancestral pasture. The human breakthrough occurred during workshops when elders pointed at the screens, cross-references AI data with oral traditions to recognize their own degraded winter camps. By translating invisible ecological degradation into undeniable visual evidence, science stopped being an alien threat and became a shared tool, bridging modern conservation with ancestral stewardship.

The second core lesson is that economic security is the absolute prerequisite for environmental and cultural preservation. Enforcing strict mobility regulations and domestic livestock reduction would have collapsed without the 0% commission retail infrastructure and alternative tourism livelihoods that cushioned the transition for the 7 active herder groups.

Our advice to other destinations facing climate or overtourism friction is clear: do not erect exclusionary barriers. Instead, equip local communities with transparent, shared data and directly align commercial tourism revenues with the defence of their living heritage. True destination resilience is achieved only when the community completely owns the science.

The Ripple Effect: Lasting impact

The ultimate success of the Hustai model rests on two scalable pillars: the institutional formalisation of community-led governance and the seamless integration of advanced technology with traditional heritage. By converting global tourist capital directly into conservation financing and cooperative retail streams, the destination has successfully decoupled economic growth from environmental degradation.

Looking ahead, this collaborative masterpiece is transitioning into a national policy blueprint. The framework is now scaling its verified indicators to establish standardised sustainable tourism guidelines across other vulnerable landscapes. By proving that traditional nomadic pastoralism can dynamically co-exist with cutting-edge AI conservation through community-owned data, Hustai has created a timeless, resilient template for global biosphere management and international protected areas worldwide.

Awards or Certifications

- National Special Protected Area Designation (Achieved 1993)

Officially designated as a State Special Protected Area (National Park) by the State Great Khural (Parliament) of Mongolia, establishing the foundational legal boundary for the entire ecosystem.

- UNESCO Man and the Biosphere (MAB) Network Registry Designation (Achieved 2002)

Formally registered under the UNESCO MAB global network as a Biosphere Reserve, recognising its unique forest-steppe ecosystem and international ecological significance.

- International Union for Conservation of Nature (IUCN) Official Member Organisation Status (Achieved 2007)

Approved as a registered NGO member organisation under the IUCN, validating the Hustai National Park Trust's (HNPT) authority as an independent, non-governmental ecosystem management body.

- BirdLife International Important Bird Area (IBA) Designation (Site Code: MN048)

Recognised globally as a critical avian habitat, providing the definitive baseline data to protect endangered raptors, including the newly recorded nesting pairs of the Saker Falcon.

Web Articles

- Pioneering the Takhi reintroduction since 1992, Hustai National Park successfully catalysed a historic shift in The IUCN Red List status from "Extinct in the Wild" to "Endangered". Today, it safeguards the world's largest self-sustaining, free-ranging population.

https://iucn.org/news/commission-ecosystem-management/201803/extinction-free-ranging-successful-reintroduction

- Hustai National Park welcomed Japan's Emperor Naruhito and Empress Masako during their July 2025 state visit to observe the free-ranging Takhi, underscoring its global conservation prominence.

https://sp.m.jiji.com/english/show/41356

Other Relevant Links

- National Special Protected Area Designation Reference Link (1993): Auditor instruction. Review the chronological legal framework under the institutional "Establishment" section of the website to verify the original 1993 statutory boundaries.

https://www.hustai.mn/

- UNESCO Man and the Biosphere (MAB) Network Registry Link (2002): Cross-reference instruction. Locate the active reserve profile for "Hustai Nuruu" on the live UNESCO database using the global Registry ID: MNHu2002.

https://biodiversity.unesco.org/profile/site/MNHu2002/

- IUCN Official Member Organisation Profile Link (2007): Governance check. Verify the valid National NGO status of the Hustai National Park Trust directly via the live IUCN online Member Directory.

https://iucn.org/our-union/members/iucn-members/hustai-national-park-trust

- BirdLife International IBA & Fauna Verification Link: Data source verification. Review the official institutional fauna registry to verify specific local avian distribution records corresponding to Site Code: MN048.
https://www.hustai.mn/fauna/

Quotes or Testimonials

"Previously, unmanaged vehicles aggressively destroyed pastures and disrupted wildlife watering zones. Today, under our rigid two-hour timed-entry rules, we strictly enforce a zero-tolerance policy inside the critical 300-metre exclusion zone. Guests observe quietly from guided viewpoints, eliminating illegal off-road traffic during peak hours (17:00-19:00). The thriving wildlife has regained absolute tranquillity." – Hustai National Park Ranger

"We were deeply skeptical of abstract satellite pixels mapping our land at first. But the breakthrough happened during workshops when we recognized our own degraded winter camps. Guided by this shared AI pasture data, our herder groups successfully managed herd density, cushioning climate shocks like the 2024 dzud. This science empowers our sovereign stewardship." – Buffer-Zone Nomadic Herder / Community Leader

"Supported by the visitor centre's 0% commission infrastructure for our dairy and felt crafts, we expanded our tourism income. This economic cushion allowed us to phase out loud motorcycles and proudly revive traditional equine herding techniques. Crucially, through the 'Little Nomads' initiative, our children are learning to secure this living heritage for the next generation." – Nomadic Craft Cooperative Member / Parent

"Our research focused strictly on processing high-resolution satellite imagery to diagnose rangeland degradation over Hustai. What is academically remarkable is that this data didn't just sit in a university library. The local community directly translated our satellite mapping into an actionable grazing calendar to halt desertification, proving the power of grass-roots environmental governance." – Japanese Remote-Sensing Researcher, Tsukuba University