



The Economic Impact of Increasing Investment to Expand Protected Areas and Improve Sustainable Livestock in and around Protected Areas in Mongolia

A TARGETED SCENARIO ANALYSIS

Executive Summary

Mongolia's livestock sector is central to rural livelihoods and a major contributor to the country's GDP (over 5%). The sector is also under growing pressure from rangeland degradation and climate stress, with around 70% of Mongolia's rangelands affected by varying levels of degradation. Under current business-as-usual (BAU) policies, continued herd growth and limited ecosystem management are expected to reduce productivity and weaken herder incomes over time. This brief summarizes a Targeted Scenario Analysis (TSA) to compare this BAU with a Sustainable Ecosystem Management (SEM) pathway, which expands protected area coverage and improves livestock and grazing management, and quantifies the long-term economic impacts of this transition (2025-2050).

BAU leads to measurable economic losses in the livestock sector.

Under current practices, net livestock revenue is projected to decline by approximately \$153.8 million between 2025 and 2050 (an 8% reduction), driven by continued degradation and declining system resilience.

Transitioning to SEM generates substantial economic gains.

Protected area expansion and improved management reverse projected losses; annual net livestock revenue increases by \$422.1 million by 2050 under SEM (a 24% gain). The cumulative net present value of shifting from BAU to SEM is approximately \$681.5 million (2025-2050), or about 3% of Mongolia's 2024 GDP.

Benefits emerge after an initial transition period.

While herd adjustments and management changes create short-term reductions, the SEM pathway surpasses BAU economically by 2032, after which benefits continue to grow.



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These results support three policy actions: pass the revised Protected Area Law by Parliament, operationalize the community and financing provisions it already contains, and route near-term herder financing through existing programs rather than new ones.

Parliament should approve the Protected Area Law; protected area administrations and soums should implement its buffer-zone councils and Natural Resource Use Fee provisions; and Eternal Mongolia financing should target the 2025-2031 transition period, when annual net livestock revenue is higher under the BAU scenario.

Background

Eternal Mongolia plans to mobilize \$198 million over the next 15 years to support the country's ambitious Vision 2050 goals, which include protecting 35% of its total land by 2050, improving protected area management, and advancing sustainable community development. Eternal Mongolia, which is a Project Finance for Permanence (PFP) initiative, is a negotiated partnership that was formally launched in 2024 by the Government of Mongolia, The Nature Conservancy, and Mongolia Nature's Legacy Foundation. The initiative aims to conserve an additional 14.4 million hectares of land and water, strengthen management across 47 million hectares of protected areas, and expand sustainable and climate-resilient practices across 34 million hectares outside protected areas. Eternal Mongolia combines these clear conservation and development objectives with innovative financing mechanisms designed to provide long-term funding for biodiversity protection, climate resilience, and sustainable economic opportunities for communities throughout Mongolia.

Alongside the funding channels established within Eternal Mongolia, national-level policy changes will be needed to strengthen the legal and institutional foundations for these investments. These policy changes are critical not just to protect natural lands but for the Mongolian economy that depends on these landscapes:

Around 70% of Mongolia's rangelands are affected by varying levels of degradation, almost twice the global rate, and much of this land is critical to supporting both local livelihoods and Mongolia's economy.¹

Over 7% of Mongolia's GDP came from agriculture, forestry, and fishing in 2024, and over three-fourths of this contribution is estimated to come from the livestock sector.² Mongolia's livestock sector relies on

rangelands that cover over 80% of Mongolia, covering 129.3 million hectares.³

Over 195 thousand herder households herd livestock throughout all four seasons and rely on animal husbandry as their main source of livelihood, representing nearly 20% of all households.⁴ The livestock sector also remains a major source of employment with one in four employed people in Mongolia working in livestock husbandry and over 300 thousand herders engaging in animal husbandry nationally.⁵

The livestock sector could face severe economic losses if current unsustainable livestock management practices, aggravated by the impacts of climate change, continue to fail to account for sustainable ecosystem services, such as overgrazing, degraded forage production, declining freshwater supply from protected areas, and lack of diversification. This Targeted Scenario Analysis (TSA) compares the economic impact on the livestock sector of two protected area and livestock sector policy scenarios: a) an ongoing Business-as-Usual (BAU) scenario where current unsustainable policies and practices are maintained into the future, and b) a Sustainable Ecosystem Management (SEM) scenario where protected area expansion and improved protected area management of livestock are implemented in alignment with Eternal Mongolia and in pursuit of Vision 2050. We focus on the economic impact of the SEM policy scenario on the net revenue of livestock production relative to the BAU.

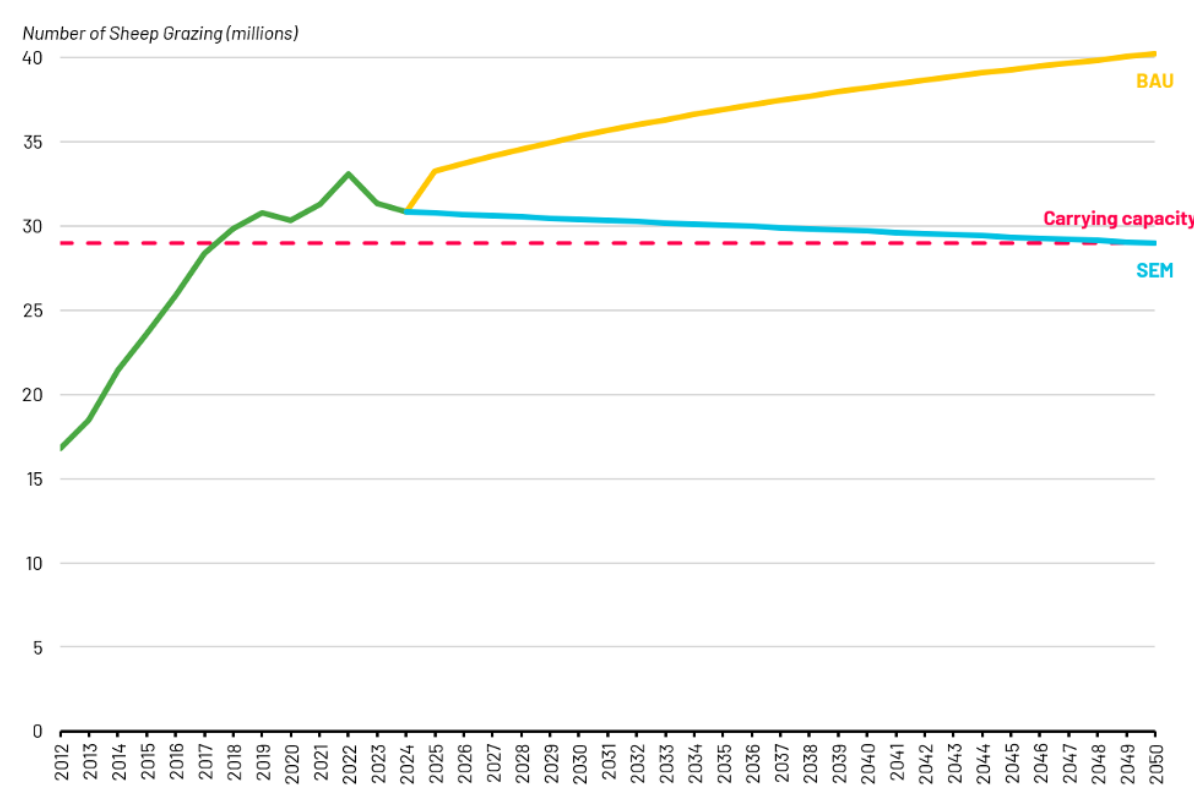
This TSA was commissioned by The Nature Conservancy, in partnership with the United Nations Development Program, in support of the Eternal Mongolia PFP initiative.

Key Results

Under BAU, the national protected area coverage in Mongolia is held constant at its current 2024 level of 32.8 million hectares (20.8% of total land) through 2050, and livestock numbers continue their historical growth trajectory from 2024, with livestock numbers within and around protected area buffer zones increasing from 30.8 million sheep to 40.2 million by 2050. Under the SEM, national protected area coverage expands to 46.8 million hectares (30% of total land) by 2030 and to 54.7 million hectares (35% of total land) by

2050, in line with Vision 2050's long-term development strategy. In addition, under SEM, improved management practices and protected area expansion will enable a reduction in livestock numbers to align with rangeland carrying capacity in 2050 (nearly 29 million sheep), a level that has been exceeded since 2018.⁶ The transition to SEM generates financial benefits to herders and economic benefits to the sector, both of which are discussed in the next section.

Figure 1: Sheep livestock numbers in and around protected area buffer zones continually increase in BAU and, in SEM, return to long-run carrying capacity by 2050.



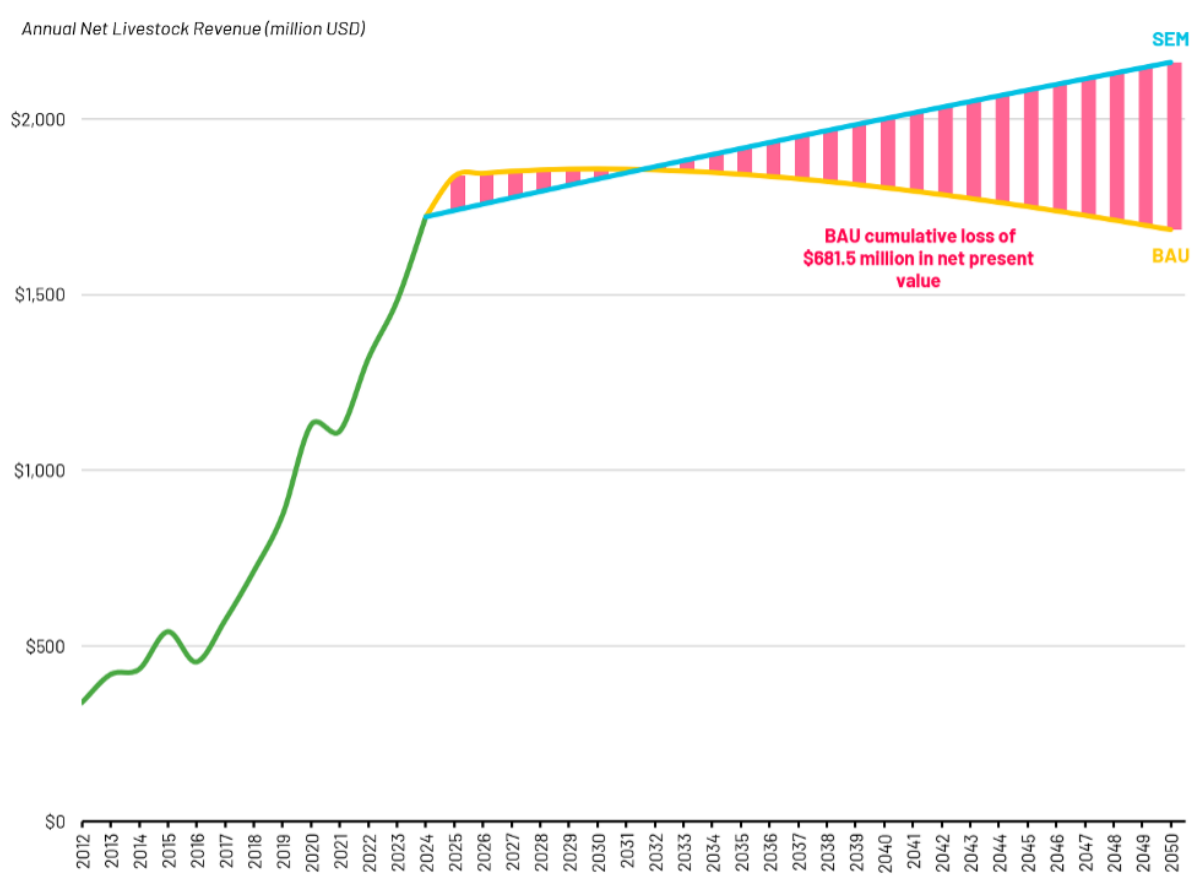
Source: Ganzorig Gonchigsumlaa, Enkh-Amgalan Gurjav, Munkh-Od Sukhbaatar, and Ariunbold Batkhuu, "The Economic Contribution of Sustainable Ecosystem Services from the Expanded National Protected Area System of Mongolia to the Livestock Sector: A Targeted Scenario Analysis," consultancy report, prepared for The Nature Conservancy, June 25, 2026.

Financial and Economic Impact of Shifting from BAU to SEM

The TSA results show that continuing with BAU would decrease annual net livestock revenue by \$153.8 million from 2025 to 2050 (an 8% reduction), affecting herder households' incomes and the sector's economy (see Figure 2). Shifting to SEM can avoid this economic loss and convert it into an economic gain, i.e., the net livestock revenue under SEM grows by \$422.1 million over the same period (a 24% increase). This shift would

ultimately benefit the 195 thousand herder households in Mongolia. Over the 2025 to 2050 period, the shift from BAU to SEM would generate an additional \$681.5 million in cumulative net present value (discounted at 8%), equivalent to nearly 3% of Mongolia's 2024 GDP.⁷ These results provide compelling evidence to increase investment in expanding and improving protected areas and livestock management.

Figure 2: The shift from BAU to SEM in Mongolia's livestock sector increases annual net livestock revenue starting in 2032.



Notes: The projected cumulative loss or gain in net livestock revenue generated from shifting from BAU to SEM is represented by the shaded area. The \$681.5 million figure reflects the net present value of the cumulative loss from staying with BAU calculated using an 8% discount rate. The projected loss would become a gain with a shift to SEM. All conversions to USD used an exchange rate of 2,941 MNT to the U.S. dollar.

Source: The Nature Conservancy; and Ganzorig Gonchigsunmaa, Enkh-Amgalan Gurjav, Munkh-Od Sukhbaatar, and Ariunbold Batkhuy, "The Economic Contribution of Sustainable Ecosystem Services from the Expanded National Protected Area System of Mongolia to the Livestock Sector: A Targeted Scenario Analysis," consultancy report, prepared for The Nature Conservancy, June 25, 2026.



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Policy Recommendations

The results of this TSA show that the SEM pathway could generate net economic gains for the livestock sector starting in 2032. Many of the legal and institutional policy changes needed to support the shift to SEM have been laid out in the revised Protected Area Law, which is now before Parliament, alongside other changes, such as revisions to the Natural Resource Use Fees Law with the Ministry of Environment and Climate Change (MECC) and support from the Biodiversity Finance Initiative (BIOFIN). The recommendations below focus on passing the revised law, effectively operationalizing what it already provides for herder communities, and financing the transition period (2025-2032), where annual net livestock revenue under SEM is below BAU due to the costs of transitioning to SEM. In this context, the following is recommended:

Parliament should accelerate the approval of the revised Law on Specially Protected Areas.

The revised law provides provisions critical to transitioning to the SEM scenario, such as ecological-carrying-capacity-based master and management planning (Arts. 31.2, 32.3), a formal co-management principle (Art. 33.1.9), buffer-zone governance structures with herder representation (Art. 28.2.3), and performance-based financing (Art. 55.1.2). Despite these important provisions, additional regulations to implement the law at the subnational level are needed,

such as defined local financial instruments to support the 2025-2032 transition period. Financial instruments could include improving herder households' access to preferential credit (such as the proposed Green Herder Financing Loans) and subsidized insurance using a blended finance model focusing on reducing financial institutions' risks, in collaboration with public banks and private/commercial financial institutions. Mongolian herder households formally have access to commercial banks like Khan Bank and microcredit, but high interest rates (often exceeding 30%), strict collateral rules, and climate shocks frequently trap smaller herders in cyclical debt rather than sustainable productivity.⁸

Operationalize the community and land-use provisions the law already contains, ensuring consistency with existing land legislation.

Establish the Buffer Zone Councils required under Article 28, which reserve seats for herders and give councils budget authority, in every buffer zone. Prioritize herder access to the winter/spring camp certificates (Art. 41.6) and livelihood funding (Art. 29.2.4), and enforce Article 32.3 carrying-capacity and zoning requirements. Any amendments affecting pasture use should be checked against the Law on Land, the Law on Land Fees, and other relevant frameworks to avoid legal conflicts.

Strengthen national rangeland Measurement, Reporting, and Verification (MRV) and monitoring systems to support carrying-capacity-based management.

Implement consistent ecological monitoring, geospatial analysis, and ecosystem condition assessments to inform stocking decisions, measure restoration outcomes, and support implementation of the revised Protected Area Law and Climate Change Law.

Use the Steppe Action Agenda as the national platform for coordinating investments in sustainable rangeland management.

Align Eternal Mongolia, Mongolian Nature's Legacy Foundation, public financing, and international donor resources around shared implementation targets for restoration, climate resilience, and sustainable livestock production.

Identify the financial needs (gap) to fully support the transition from BAU to SEM (2025–2031) and link existing programs, not new public funding requests, to fill this gap.

For example, herder-facing pilot financing through the Mongolian Nature's Legacy Foundation Accelerator Program (more than \$5 million over four years under Eternal Mongolia) can be routed to bridge the 2025–2032 finance gap.

Direct support to the Natural Resource Use Fee (NRUF) enforcement reform already underway with MECC, including BIOFIN's recommendations, and explore result-based payments for ecosystem services (PES) as a complementary disbursement mechanism.

Mongolia collected 95.4% of the NRUF revenue planned for 2025, but only 45.15% of the amount legally required for environmental protection and restoration was actually approved and spent. To address the underutilization of NRUF, additional disbursement mechanisms could be engaged, such as payments for ecosystem services, which, as of 2014, were not widely or systematically practiced as a standalone market mechanism in Mongolia despite being incorporated into the Government's Green Development Strategy.⁹ Administered by a specialized private organization or local fund, PES could serve as a dedicated channel for NRUF revenue, helping ensure funds are fully deployed for natural resource management in critical areas in and around protected areas, while building local herders' capacity to access and use that funding.

Target the Community-Based Natural Resource Management (CBNRM) strategy's herd-size-differentiated, market-based tools at the herders most responsible for pasture pressure, rather than a uniform limit on livestock numbers.

MECC's draft CBNRM Strategy finds that herders with over 500 head comprise 13% of all herders but drive most carrying-capacity pressure, while 61.7% hold less than 200 head and are largely welfare-dependent. It proposes performance-based green loans and premium certification for the largest-herd segment, and conservation-linked income (ranger pay, payment for ecosystem services) as a supplemental livelihood for the smallest-herd segment, market-based tools consistent with the Ministry of Food, Agriculture and Light Industry's stated preference for economic instruments.

ENDNOTES

- 1 United Nations Development Programme. "Reviving the Steppe: Mongolia's Living Laboratory for Combating Desertification." April 17, 2025. <https://www.undp.org/mongolia/stories/reviving-steppe-mongolias-living-laboratory-combating-desertification>.
- 2 World Bank, "GDP (current US\$) - Mongolia," World Development Indicators, accessed June 23, 2026, <https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?locations=MN>; and Food and Agriculture Organization of the United Nations, "SCALA Programme: Mongolia," FAO, accessed June 23, 2026, <https://www.fao.org/in-action/scala/countries/mongolia/en>.
- 3 National Statistical Office of Mongolia, "Report of Unified Land Territory of Mongolia, by Aimag, Capital, Unified Land Territory and Year," table DT_NSO_2400_015V4, *Statistical Database*, updated June 25, 2025, accessed August 11, 2026, https://data.1212.mn/pxweb/en/NSO/NSO_Economy.%20environment_Environment/DT_NSO_2400_015V4.px/.
- 4 The National Statistical Office of Mongolia reported 997 thousand households in Mongolia in 2024, the most recent year for which data are available. Source: National Statistics Office of Mongolia, "The Total Number of Livestock Reached 57.6 Million, a Decrease of 10.9% from the Previous Year," livestock census results for 2024, published January 16, 2025, accessed August 11, 2026, https://downloads.1212.mn/Llw4s_FFj0rbSK-PjdgG-Ml32-0z_2eJB-caGto_.pdf.
- 5 National Statistics Office of Mongolia, "The Total Number of Livestock Reached 57.6 Million."
- 6 Due to modeling and data constraints, the TSA is not able to capture the impact of specific producer practice changes as livestock numbers are reduced to carrying capacity in SEM, such as the impact of market premiums, changes in access to markets, or changes in products sold, to name a few.
- 7 Mongolia's 2024 GDP is estimated at \$23.79 billion. Source: World Bank, "GDP (current US\$) - Mongolia." All net present value calculations done assuming an 8% discount rate. All conversions to USD used an exchange rate of 2,941 MNT to the U.S. dollar. Both of these assumptions align with those used in financial planning for Eternal Mongolia.
- 8 Jian Zhang, Lynn Huntsinger, Yanbo Li, and Wenjun Li, "Is Microcredit a Form of Risk for Pastoral Households of Inner Mongolia's Semiarid Rangelands?," *Rangeland Ecology & Management* 71, no. 3 (May 2018): 382–388, <https://doi.org/10.1016/j.rama.2017.12.011>.
- 9 Asian Development Bank, *Making Grasslands Sustainable in Mongolia: International Experiences with Payments for Environmental Services in Grazing Lands and Other Rangelands* (Mandaluyong City, Philippines: Asian Development Bank, 2014), <https://www.adb.org/publications/making-grasslands-sustainable-mongolia-international-experiences-payments-environmental>.

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