

Low Carbon rangeland and livestock management Integrated and Transformative Green Urban-Rural Approaches in Mongolia

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Decarbonizing Asia and the Pacific:
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Overall Context



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Fragile Rangeland Ecosystems

Rangelands represent about **70% of the earth's land surface**, excluding Antarctica.

Vulnerable to climate change and unsustainable human activities, such as unsustainable animal husbandry or poor water management. In arid and semi arid regions rangelands can turn into a desert if not well-managed.

Large mitigation potential through better rangeland management, estimated at **1.1 billion tCO₂/year globally**.



In **Mongolia**, rangelands cover **82% of the country**. Livestock sector representing about **25% of total employment** and its contribution of not less than 10% of GDP.

Both are under severe threat of climate change, unsustainable rangeland and livestock management, and weak urban-rural linkages. Approximately **70% of pastoral land has degraded**, while changing plant composition.



Climatic, Socio-economic, Geographic... ... a complex set of interrelated parameters

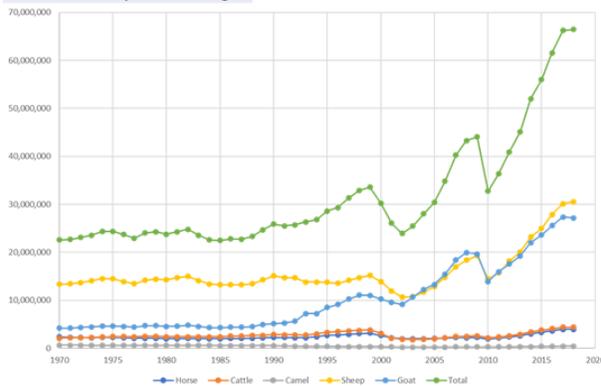


- Collapse of service to herders, cooperatives and livestock value chain since the 1990s.
- Poor urban productive and service functions delivered to the rural economy
- Poor rangeland Management

- **Climate change** has increased exposure of herders and the animal husbandry sector to climate-related natural disasters such as dzud.

It causes a decline in water availability and rangeland productivity and availability resulting in a steady decrease in carrying capacity, as well as livestock productivity and quality

Livestock development in Mongolia



To cope with those challenges herders have increased their herds' size to unsustainable levels (70.97 million in 2019, compared to 25.86 million in 1990) Leading to overgrazing averages of 22.6% above the rangeland carrying capacity Overgrazing severely degrades the rangelands, which aggravates herders' vulnerability, who then further increase the size of their herds as safety net.



Rangeland degradation, Natural Capital Depletion, Carbon Sequestration

- Current situation will have long-lasting, adverse consequences for Mongolia: (i) severe rangeland degradation; (ii) productivity decline of the livestock sector, which is key to the economy of Mongolia, in particular in terms of employment and income opportunities for vulnerable population groups; (iii) increase in poverty incidence and social conflicts; and (iv) decrease in food production and security.
- Rangeland degradation means that both above- and below-ground biomass has been considerably reduced, and soil carbon is significantly below its capacity.
- Reversing the degradation and restoring the health of Mongolia's vast rangeland area offers a very **large mitigation potential**, estimated at over **440 million tCO₂ countrywide over a 20 years period**.

If herders will reduce their animal numbers, adopt better grazing method, and improve rangeland management the rangelands will be restored, and a replicable model covering policies, plans, and enforcement systems for climate change mitigation and adaptation in the rangelands

Transformation will come from integrated approach where herders are well-off in the new system



Integrated, Complementary, and Transformative Solutions



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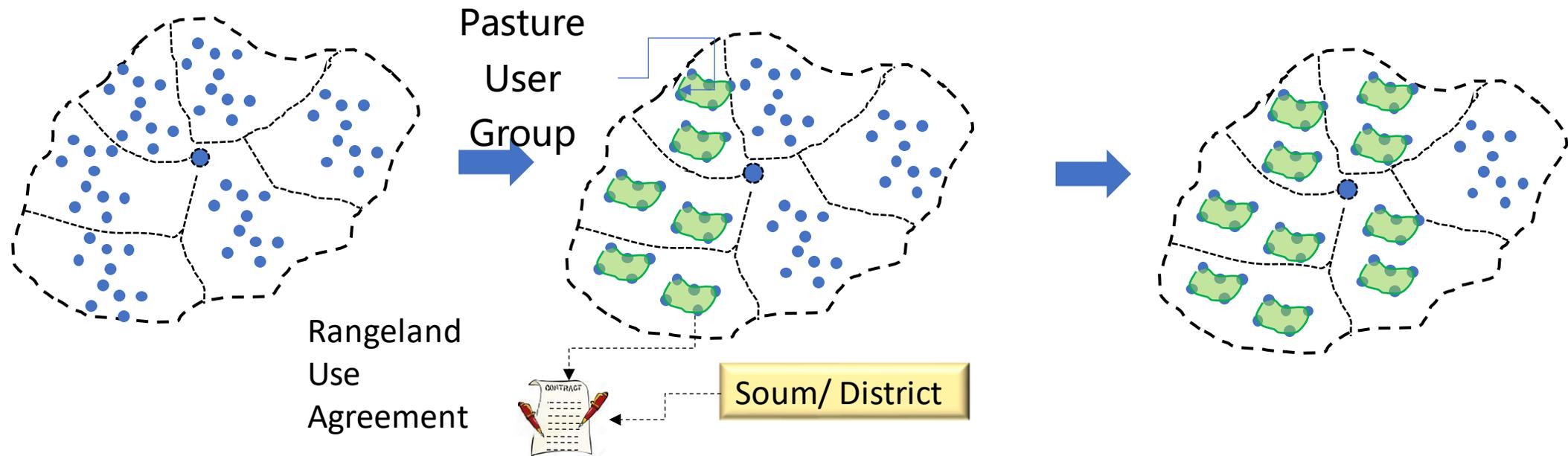
Four Key Actions for paradigm shift towards low-carbon and climate-resilient

- (i) **Provides herders with incentives and institutional and management structures for low-carbon and climate-resilient rangeland management** to reduce animal numbers, prevent rangeland degradation, restore rangeland carbon sinks and manage herds and their food outputs within the dwindling water and rangeland biomass resources;
- (ii) **Creates the necessary low-carbon and climate-resilient infrastructure and improved living conditions at the aimags and soums centers** to attract Low-carbon and Climate-resilient Livestock Value Chain investments and create improved markets through enhanced livestock producer links with processing, distribution and marketing;
- (iii) **Provides financing for LCLVC investments** that provide herders and SMEs with the means to increase herd productivity and value added per animal and access to long-term alternative income sources enabling the reduction in animal numbers and GHG emissions and increase in climate resilience, and food production and security in the face of climate change
- (iv) **Builds institutional capacity of sector stakeholders** to formulate, implement and enforce transformational low-carbon and climate-resilient development policies and plans for the livestock sector, disseminate knowledge about sustainable rangeland management approach to herders and other public and private stakeholders inside and outside the targeted aimags, and strengthen M&E and MRV capacity.



Action 1: Provides herders with incentives and institutional and management structures for low-carbon and climate-resilient rangeland management

Aim for 80% of herders agree to Rangeland Use Agreement; 20% reduction in stocking rates

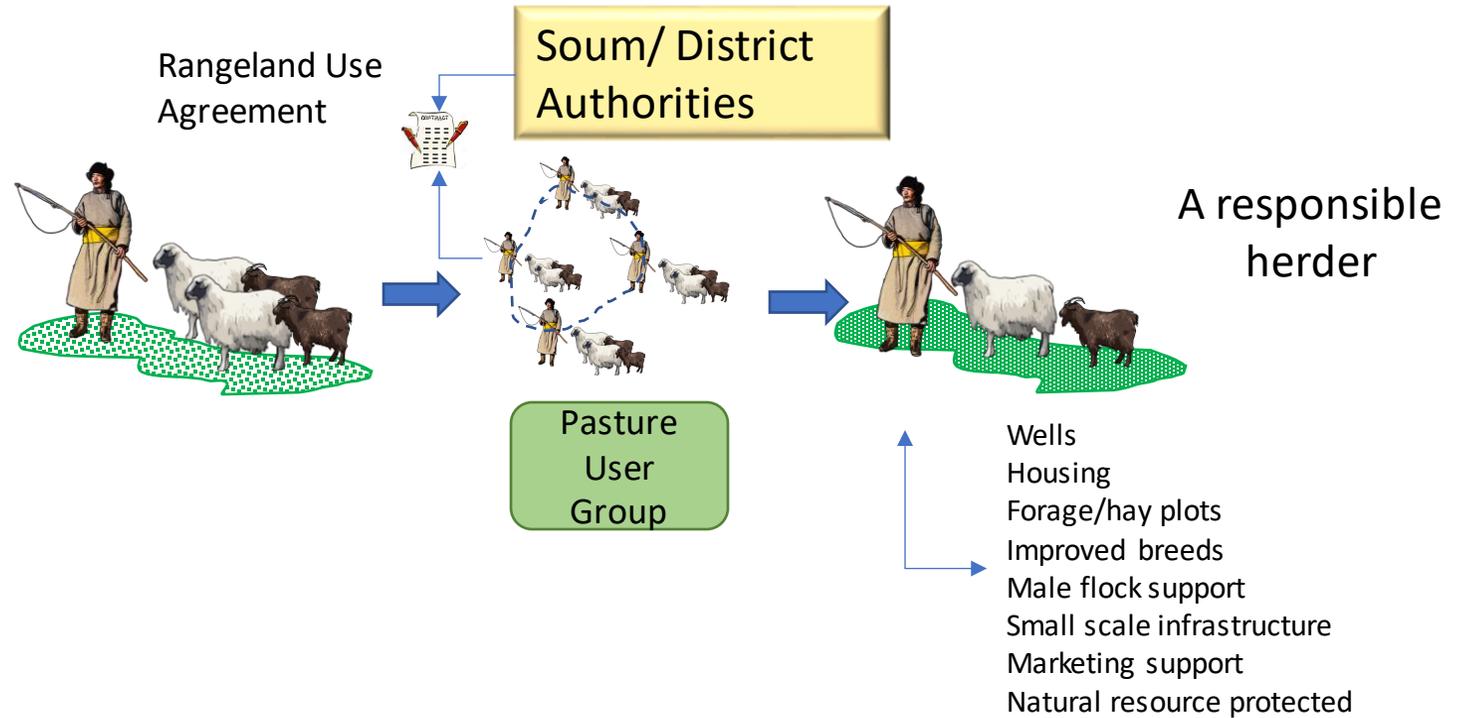


- (i) a grazing management plan for the Pasture User Group area
- (ii) annual targets over a 15-year period



The project approach for decreasing stocking rates

If you join into a Pasture User Group and agree on a Rangeland Use Agreement, you will get access to additional opportunities





Upgrade and establish water points



Enhance winter shelters



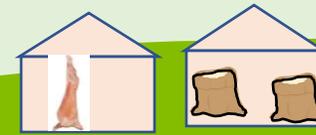
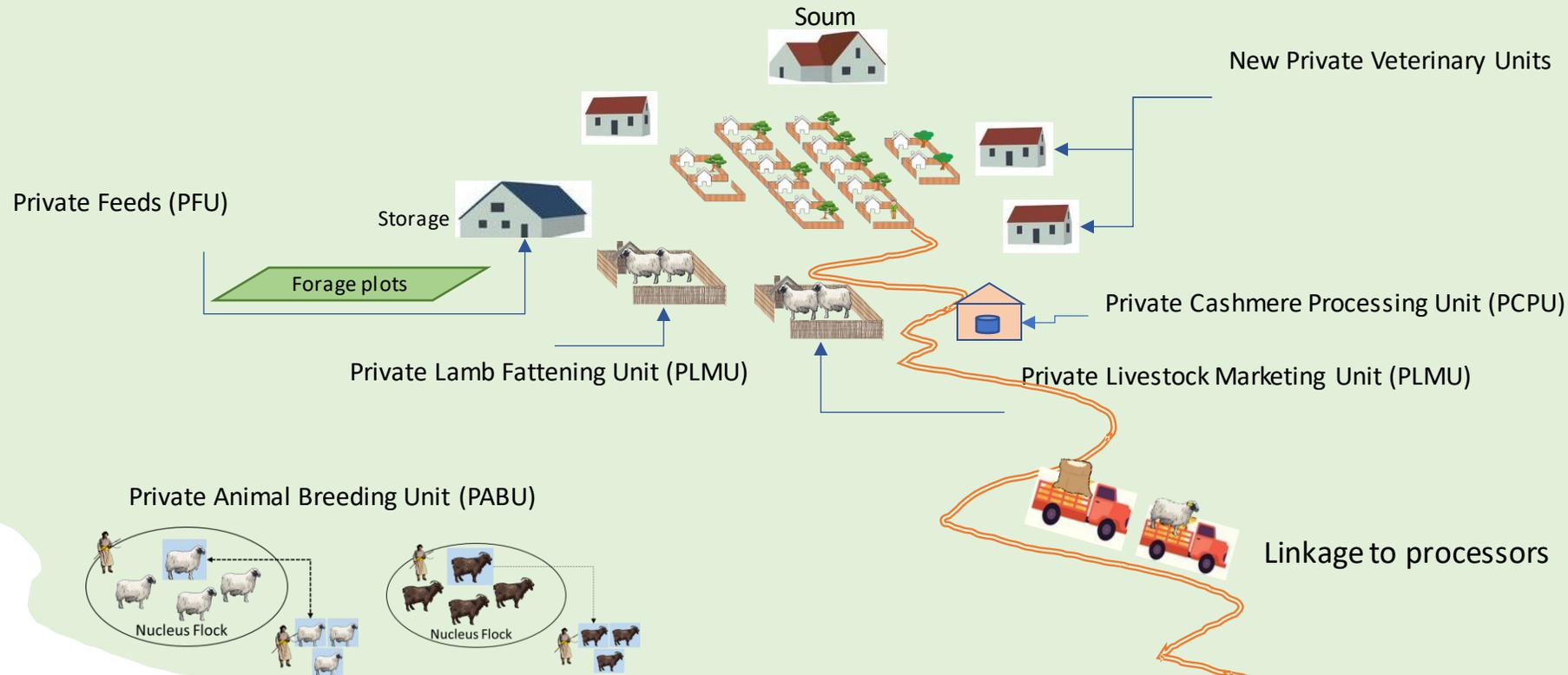
Facilitate herder groups/cooperatives



The project approach for health, breeding, feeding, marketing

The projects supports the establishment of a number of private businesses based on the model of the Private Veterinary Units:

- Based on a business model proposal, the district/soum constructs facilities for rental by private actors to establish businesses as Private Veterinary Units, Private Feeds Unit, Private Lamb Fattening Unit (PLMU), Private Livestock Marketing Unit (PLMU), Private Cashmere Processing Unit (PCPU), Private Animal Breeding Unit (PABU),
- Project provides technical support for business plan development, and technical and linkages support and equipment and supplies for the first few years of operation



Action 2: Creates the necessary low-carbon and climate-resilient infrastructure to attract Low-carbon and Climate-resilient Livestock Value Chain (LCLVC)

- Comprehensive urban infrastructure extension including water supply capacity increase; upgrade of wastewater treatment; district heating network extension; upgrade of electricity substation capacity; optical cable extension; urban road and drainage system extension; flood protection extension and initial treatment of solid waste dumpsite of affordable housing units
- Selected socioeconomic services such as dormitories, community centers, and sport complexes
- Agribusiness park infrastructure and basic services
- Heating metering system and renewable energy on buildings
- Smart Land Management and Climate Responsive Digital Complex

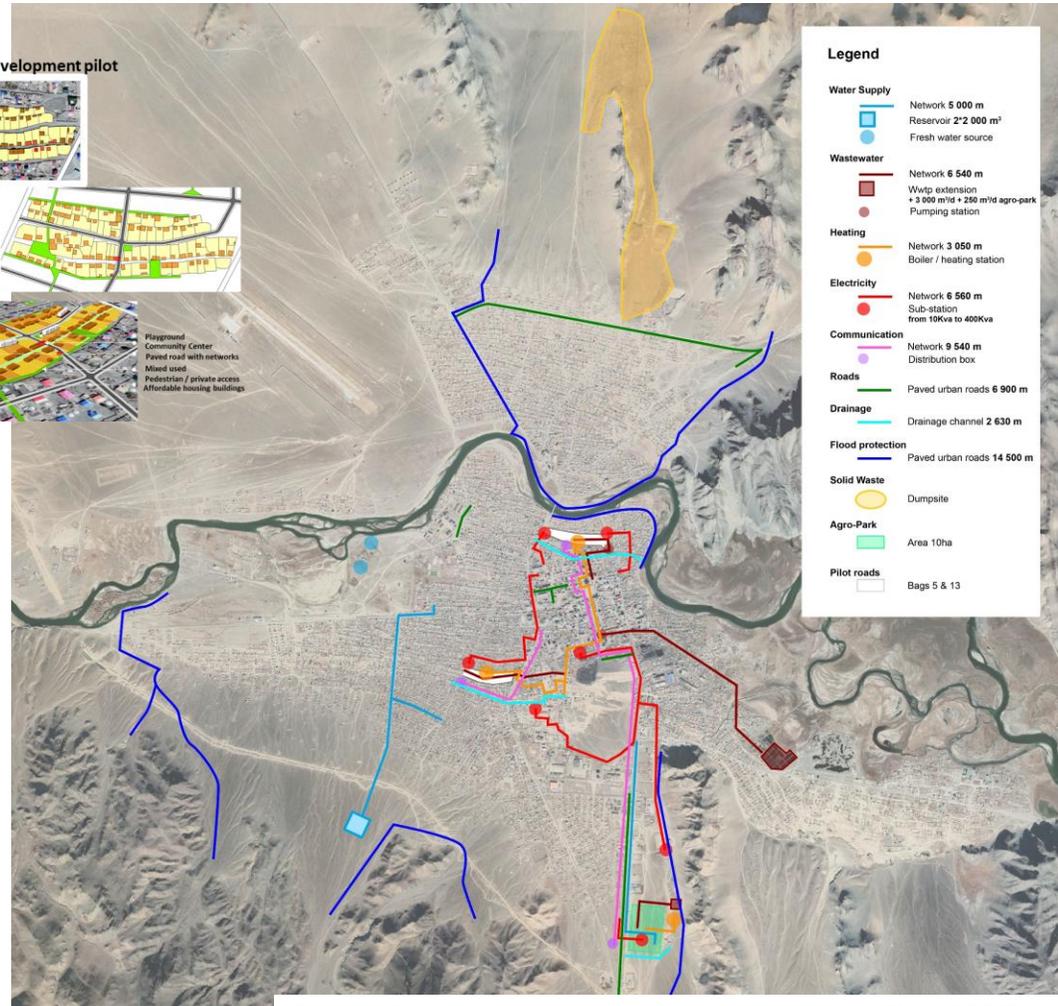
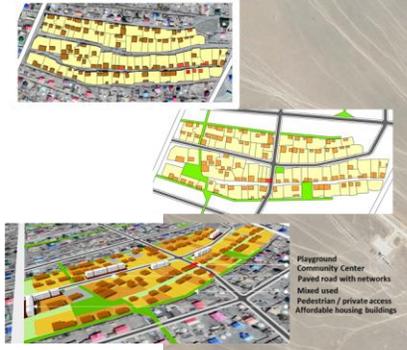


Targeted aimags and soums centers become more resilient, offer better living conditions, and support the development of green and inclusive agribusiness value chain

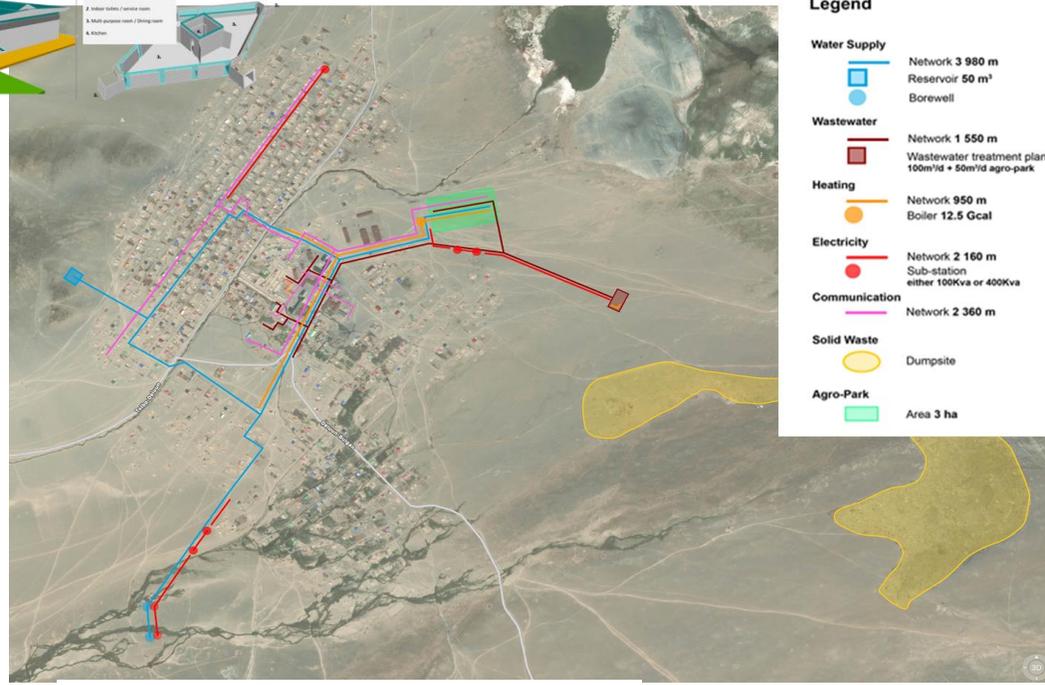
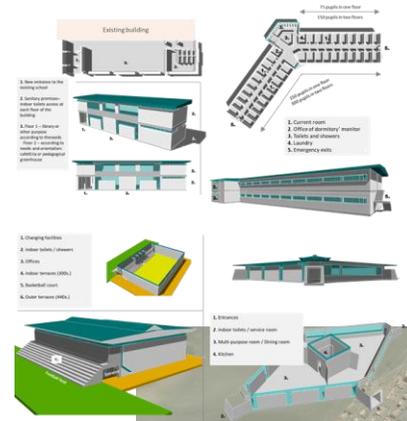


Example of Intervention in Aimags and Soums Centers

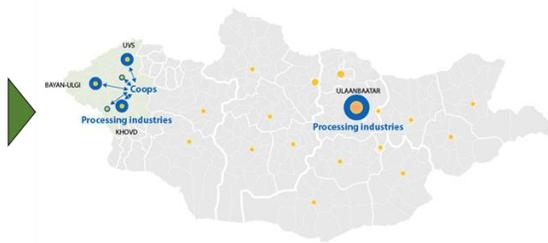
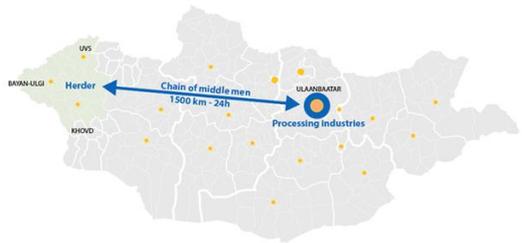
Ger areas street development pilot



Current Situation



With ASDIP



Action 3: Provides financing for LCLVC investments that provide herders and SMEs with the means to increase herd productivity and value added per animal

- Establishment of the Green, Inclusive Regional Agribusiness Fund (GIRAF) as revolving fund
- Financial intermediation support for access to financing to SMEs and agri-cooperatives with 3 operational windows targeting each segment of the agri-value chain
- Innovation grant
- Credit risk guarantee
- Local Agribusiness Development Plan Non financing support to strengthen capacities of SMEs and cooperatives such as business plan support, technical specification for processing facilities, marketing.

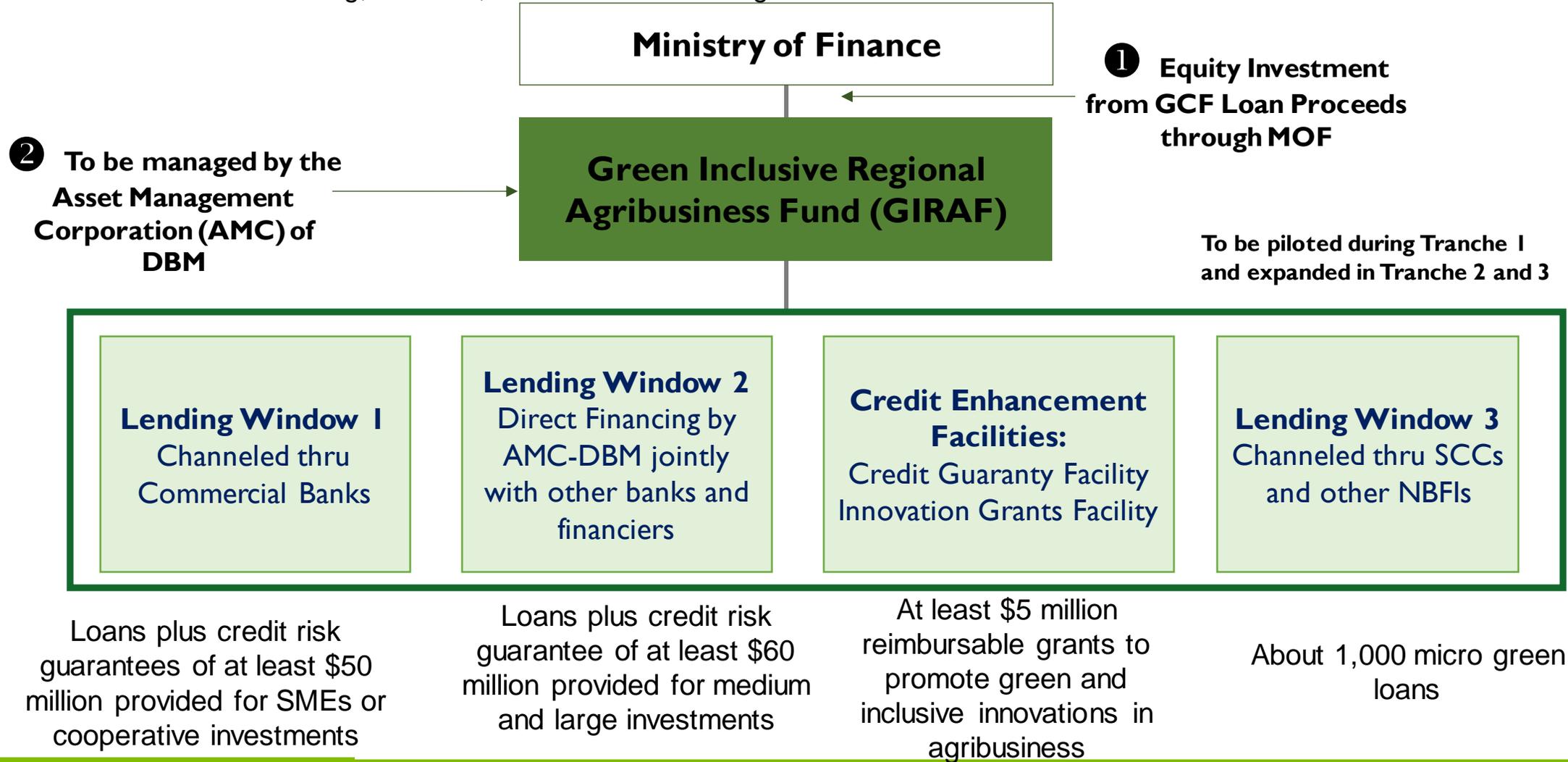


Agribusiness value chain is inclusive, support sustainable rangeland management, performant and access to financing and credit risk guarantee for agri-business companies and agri-cooperative is extended



GIRAF Fund Structure and Management

The GREEN INCLUSIVE REGIONAL AGRIBUSINESS FUND (GIRAF), with an estimated funding of about \$93.6 million, will address the financing constraints preventing agriculture cooperatives and agribusiness SMEs in the aimag and soum centers of Mongolia from capturing the full benefits of a well-functioning, inclusive, and climate-resilient agribusiness value chain.



Action 4: Capacity Development and Replication Mechanism

Builds institutional capacity of sector stakeholders Focusing on building the government and main stakeholders' capacity to ensure efficient program management and implementation and strengthen the government's capacity to formulate, implement, and enforce policies and plans that are conducive to integrated green agro-territorial development, as well as climate-smart livestock husbandry, rangeland management, and urban development, and strengthen M&E and MRV capacity.

Replication Strategy and MFF modality

The use of MFF modality is key to produce the transformative impact and the paradigm shift carried out by the project. Each tranche builds up on the outputs and successes of preceding tranches and complements earlier efforts made to provide a demonstrable model with replicability mechanisms that built on development partners complementary initiatives:

First: Tranche 1 will target 3 Western Aimags and will start activities in 3 other Aimags to create the integrated model

Second: Tranches 2 and 3 will implement integrated territorial development model based on selection criteria and pre-conditions in the rest of Mongolia.

→ **Replicability mechanisms integrated in the implementation arrangements.**

→ Design to create synergies and complementarities with other project such as [ADB Mongolia: Climate-Resilient and Sustainable Livestock Development Project](#), [ADB Mongolia: Agriculture and Rural Development Project Phase 2](#), [UNDP Improving Adaptive Capacity and Risk Management of Rural Communities in Mongolia](#); and, [ADB Mongolia: Sustainable Tourism Development Project \(phase 2\)](#)...



Synergetic Environmental, Economic, Social and Climate Benefits

- (i) **Decrease urban pollution, vulnerability, and CO₂ emission**, increase the attractiveness of urban areas and promote green urban rural linkages
- (ii) **Green economic diversification and post COVID-19 green recovery** fostering vibrant green local development, reverse the rural out-migration to Ulaanbaatar
- (iii) **Increase carbon stocks in rangelands** (above- and below ground biomass) and **ecosystem resilience** in particular rangelands in the context of climate change
- (iv) **Promote sustainable and equitable management of natural capital and ecosystem services**, reverse rangeland degradation and improve herders' resilience.

- **Ecosystem restoration:** Regeneration of **28.8 million ha** of rangeland
- **Main socioeconomic benefit: 11,400 green direct jobs** and 150,000 indirect jobs created
- **Climate mitigation impact:** 117.40 million tCO₂e, including 94.0 million tCO₂e from carbon sequestered in the soil (potential for **440 million tCO₂e countrywide** over a 20 years period)
- **Adaptation beneficiaries: 550,000 people**, incl 54,000 vulnerable herder households.



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