Sustainable Herds, Thriving Steppes: Rethinking Livestock for Mongolia's Future

Inna Punda, Agribusiness Officer (Private Sector Engagement) FAO Investment Centre

Enkhbileg Gonchig, Chairperson Dairy Development Board of Mongolia



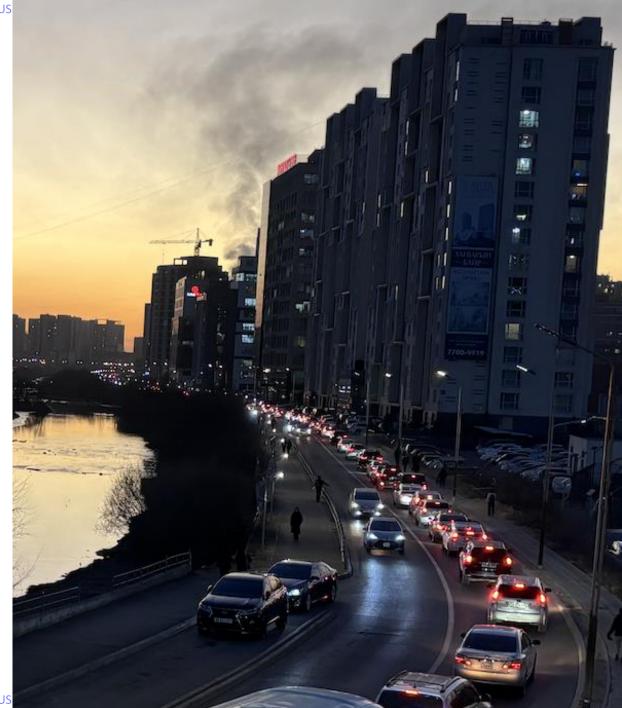








Population Growth & Urban Demand



Ruminants: Mongolia's Protein Powerhouse - But at What Cost to Grasslands?

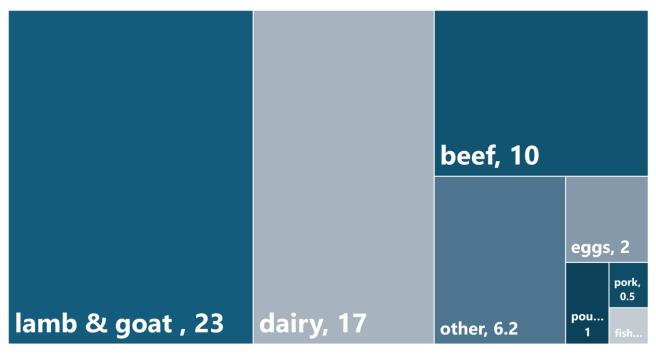


Daily Per Capita Animal Protein Supply

Global # 5: **60 g**

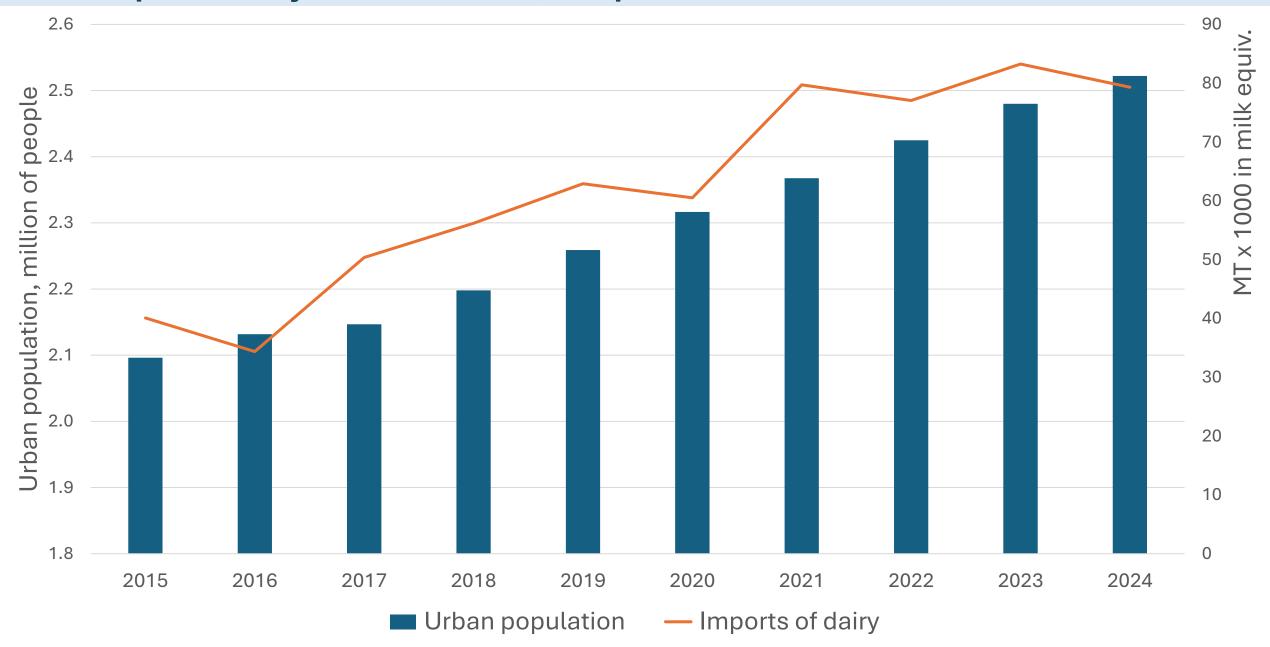
+40% people by 2050

77 > 110 t. of protein



Example of Dairy: Urbanization Imports



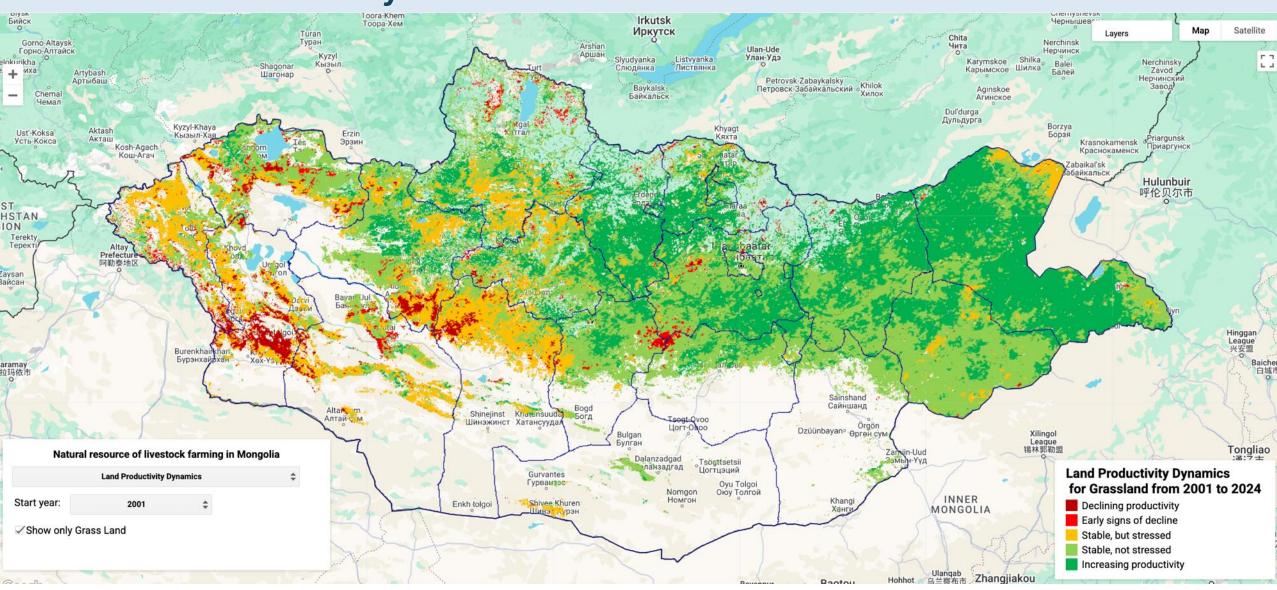




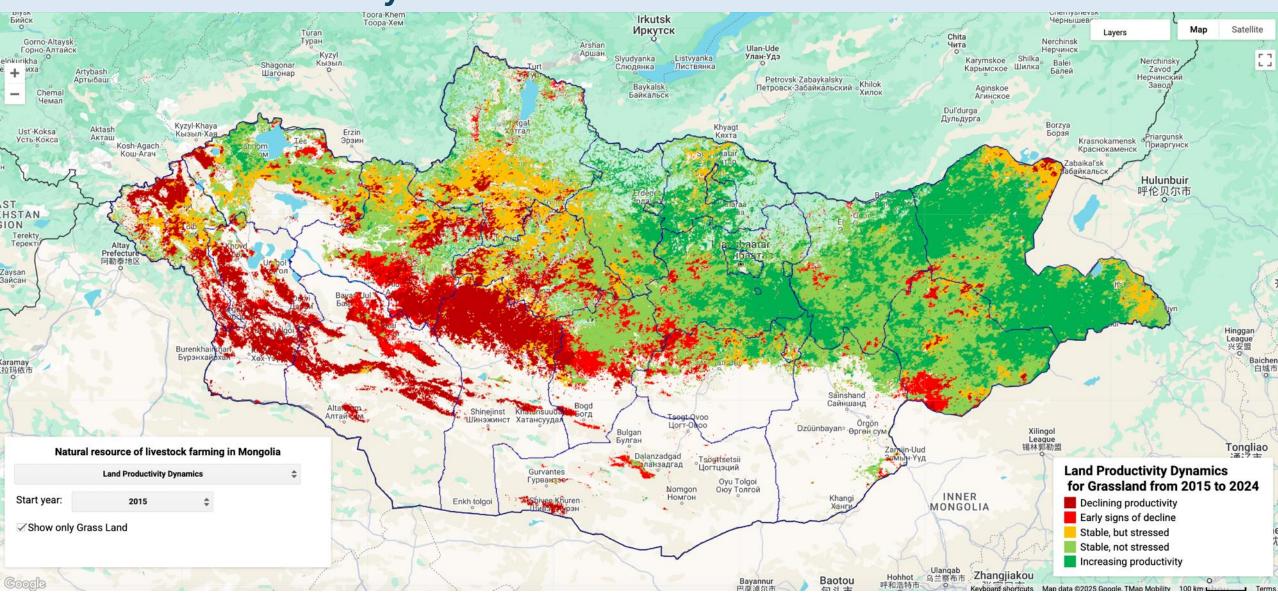
Regenerating the Steppe: A Win for Climate & Economy



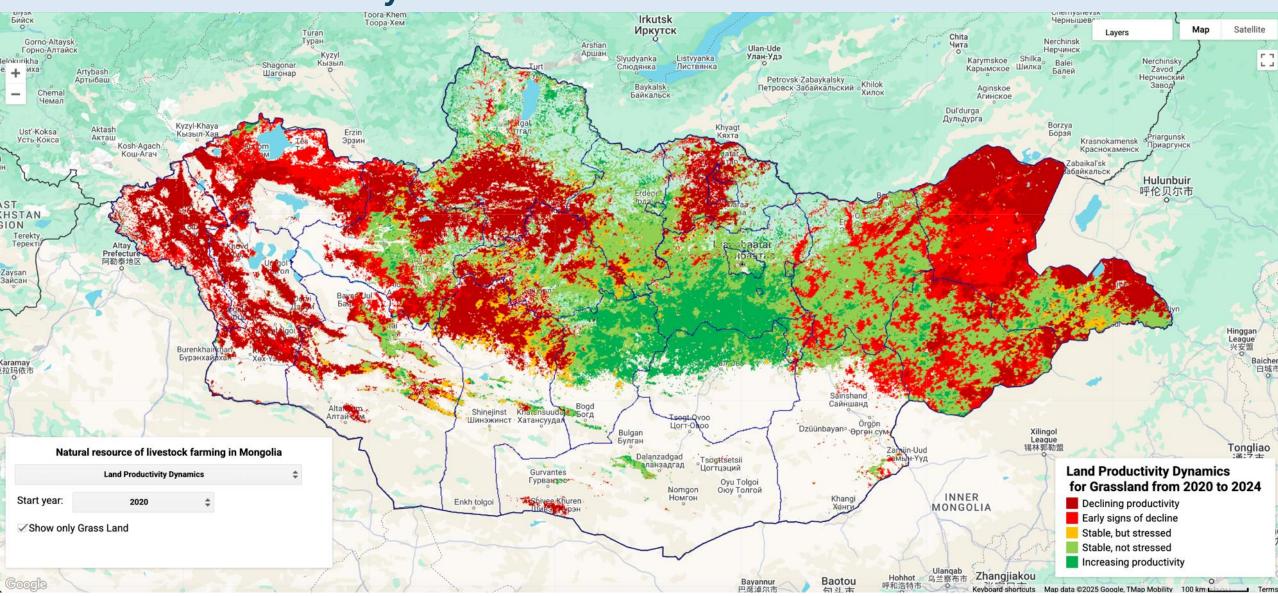
Grassland Productivity: since 2001



Grassland Productivity: since 2015



Grassland Productivity: since 2020



Regenerating the Steppe: A Win for Climate and Livestock Industry



Carbon Sink (CO₂eq./year)

- 1 ha of pasture = 0.2-2 t.
- 1 ha of forest = 5-20 t.

% of Feed in Production Cost

Raw milk example:

Semi-intensive: 30-40%

Intensive: 70-80%

BUT: can be 0% (25 L)

Welfare & Consumer Appel

Mongolia's Signature

SCALA Project (FAO/UNDP)

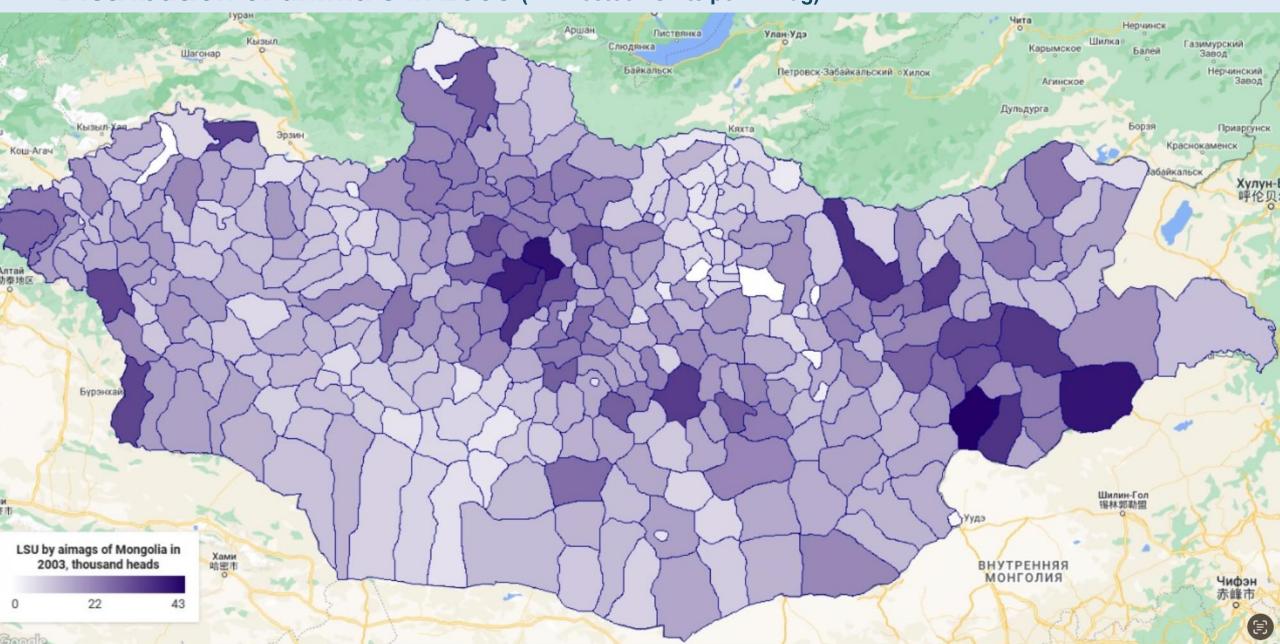


Measuring What Matters: Data for Smarter Livestock Policies and Investments

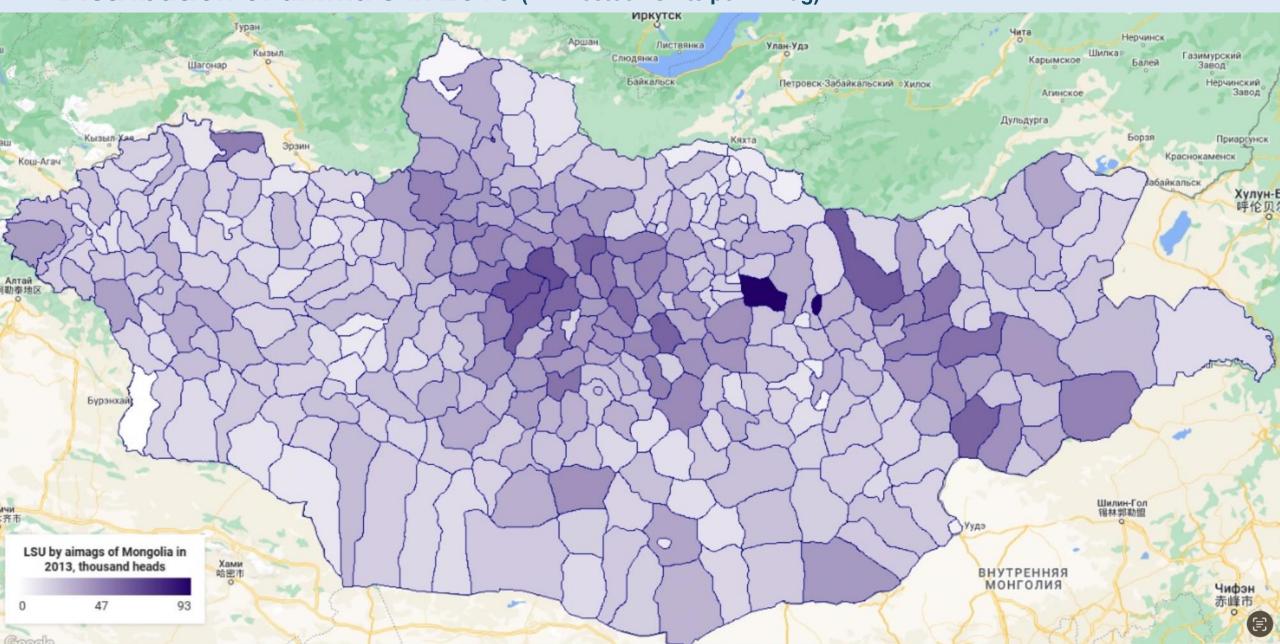




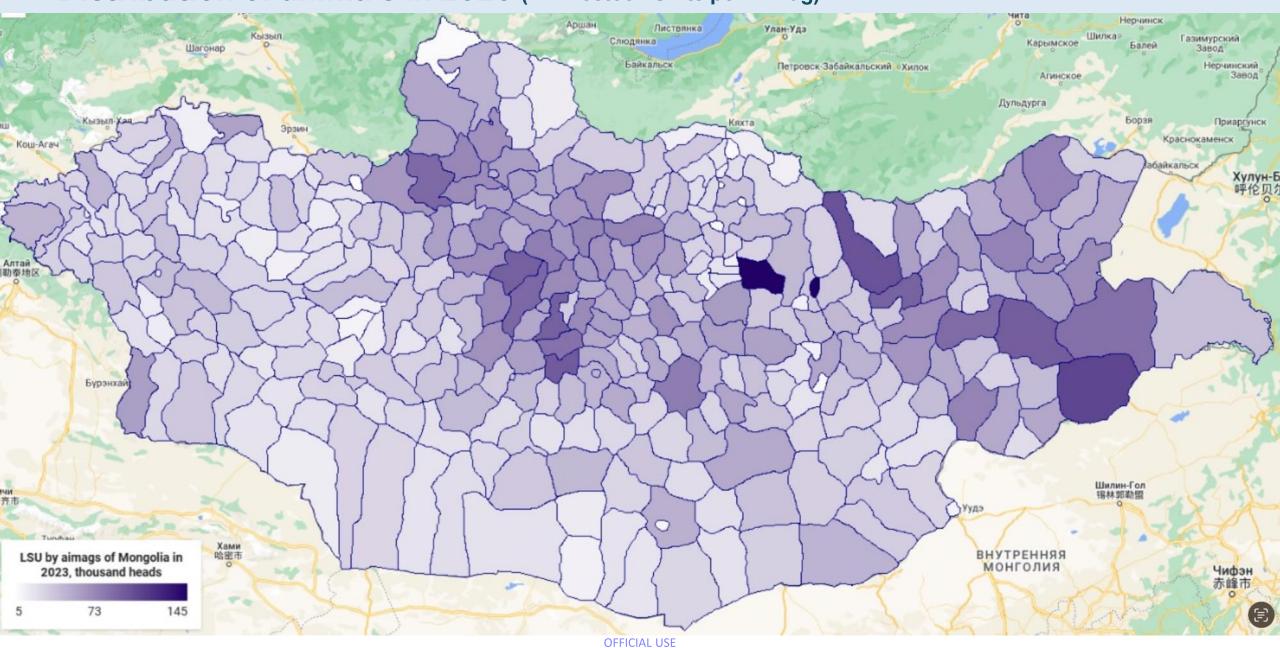
Distribution of animals in 2003 (in Livestock Units per Aimag)

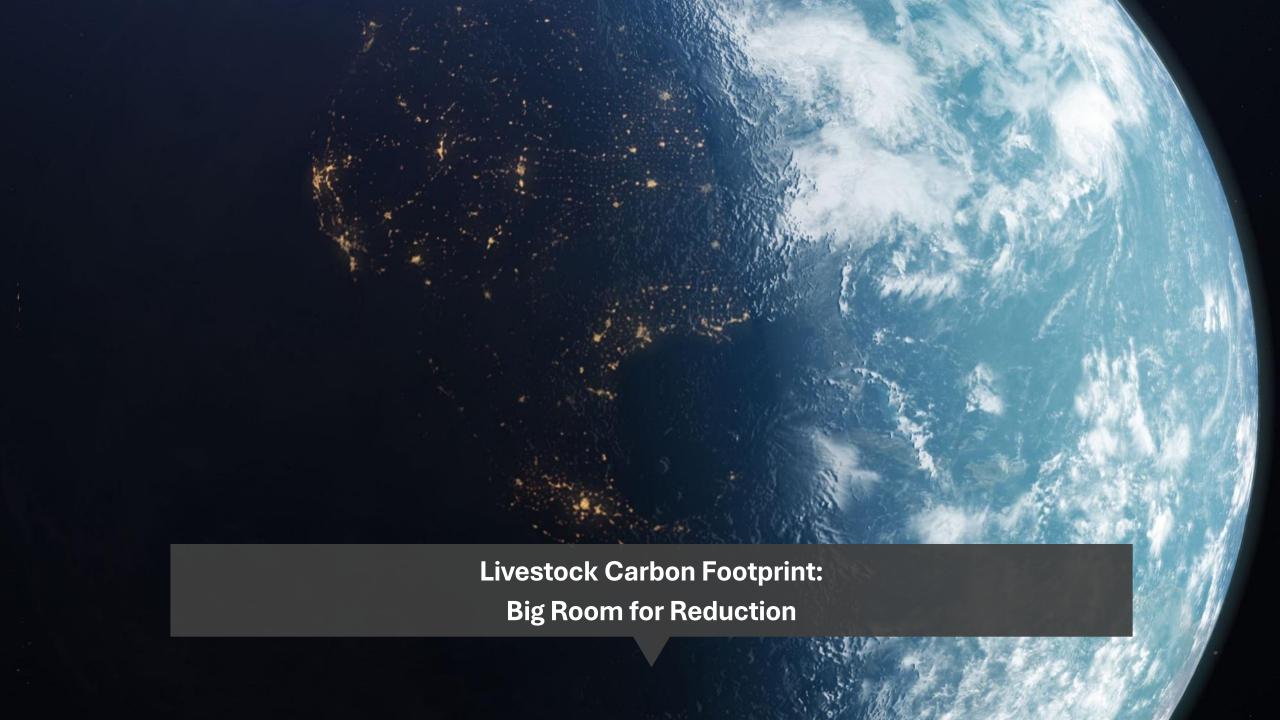


Distribution of animals in 2013 (in Livestock Units per Aimag)



Distribution of animals in 2023 (in Livestock Units per Aimag)



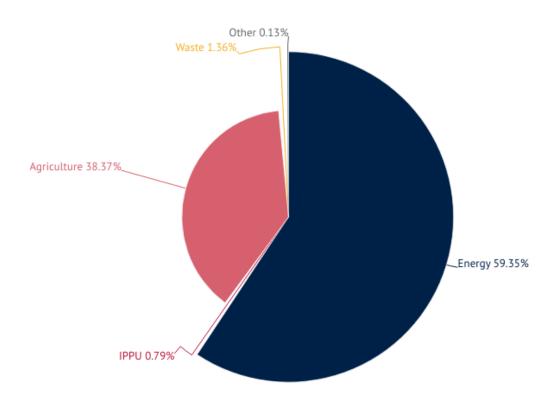


Mongolia's GHG Emissions: By Sectors. Ag – 38%

National greenhouse gas emissions by sector over time (1970–2022)

70M 60M 50M 40M 30M 20M

Distribution of emissions in 2020 by sector



Sectoral GHG emissions represent emissions within each IPCC sector, except to land use, land use change and forestry (LULUCF) IPPU stands for Industrial Processes and Product Use

Energy IPPU Agriculture Waste Other

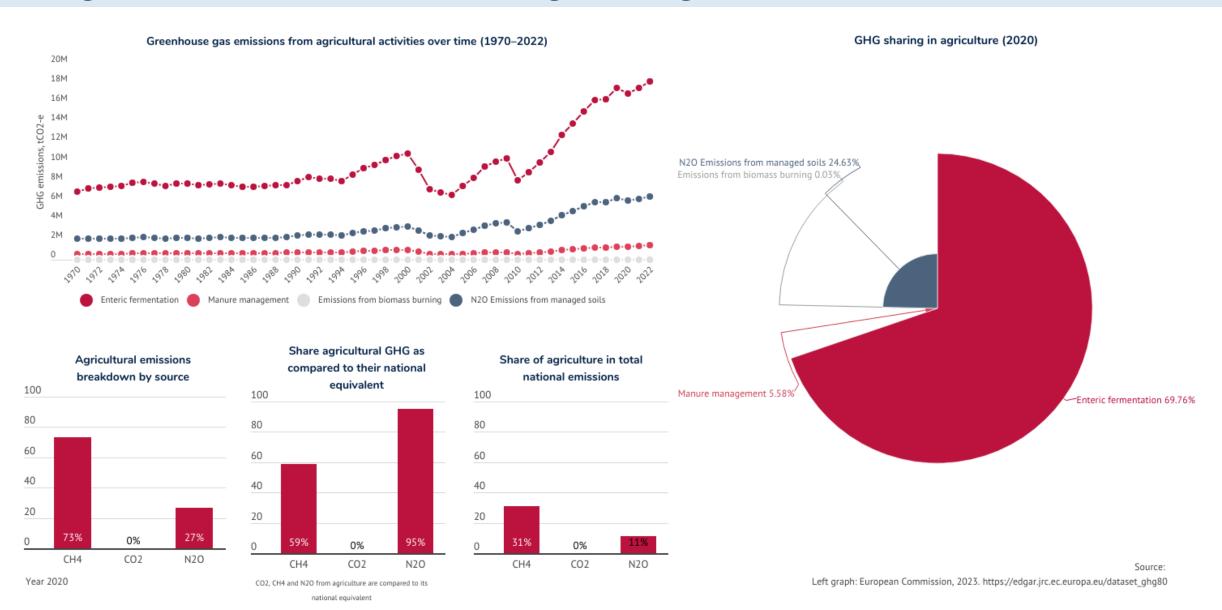
Other are indirect N2O emissions from the atmospheric deposition of nitrogen in NOx and NH3

Source.

European Commission, 2023. https://edgar.jrc.ec.europa.eu/dataset_ghg80

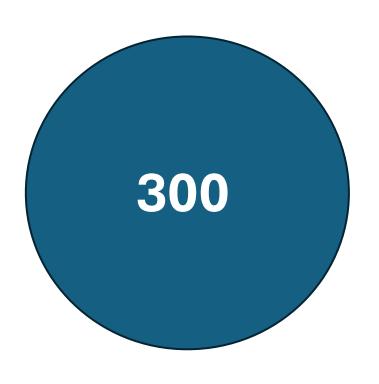
All emissions are in tCO₂-e estimated with the Global warming potential of the 5th Assessment Report from the IPCC without climate-carbon feedback

Mongolia's GHG Emissions: Zooming in on Agriculture



Low-Cost Solutions for Sufficient Raw Material Base

Example of Cow Milk Emission Intensity, kg CO2-eq./ kg of protein





(!) Yields can be doubled

Extensive system BAU

Semi-intensive system BAU

Balanced Feed Ration + Enough Drinking Water

FAO & EBRD's Exit Strategy: Partnering with the Industry Associations





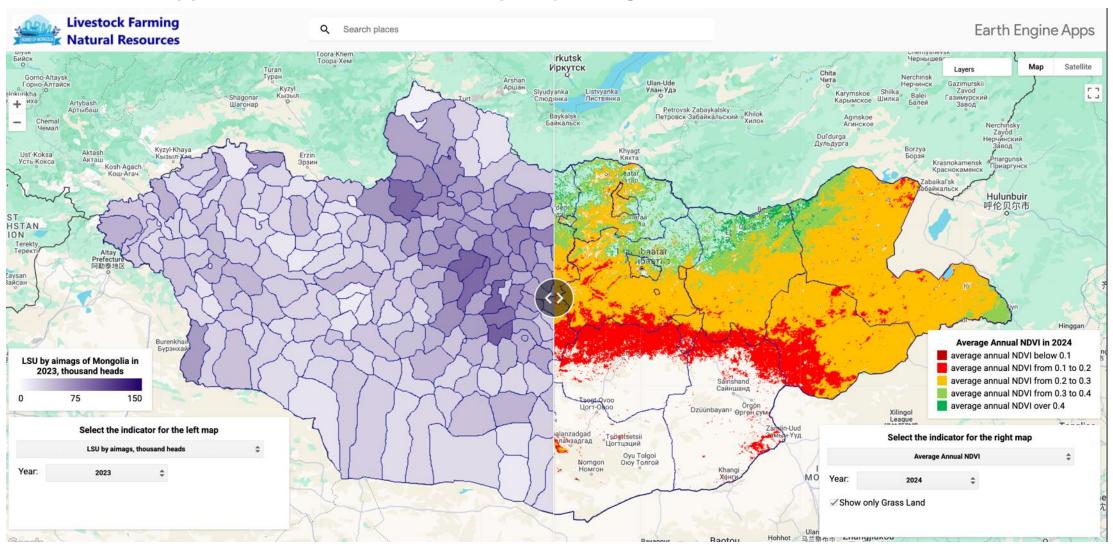
Kick-off meeting in November 2024

EBRD/FAO Technical assistance project "Mongolia: Strengthening Climate Resilience in Dairy Farming -Sustainable Strategies for Future of Food"

Climate Resilience. Opportunities in the Livestock Sector in Mongolia

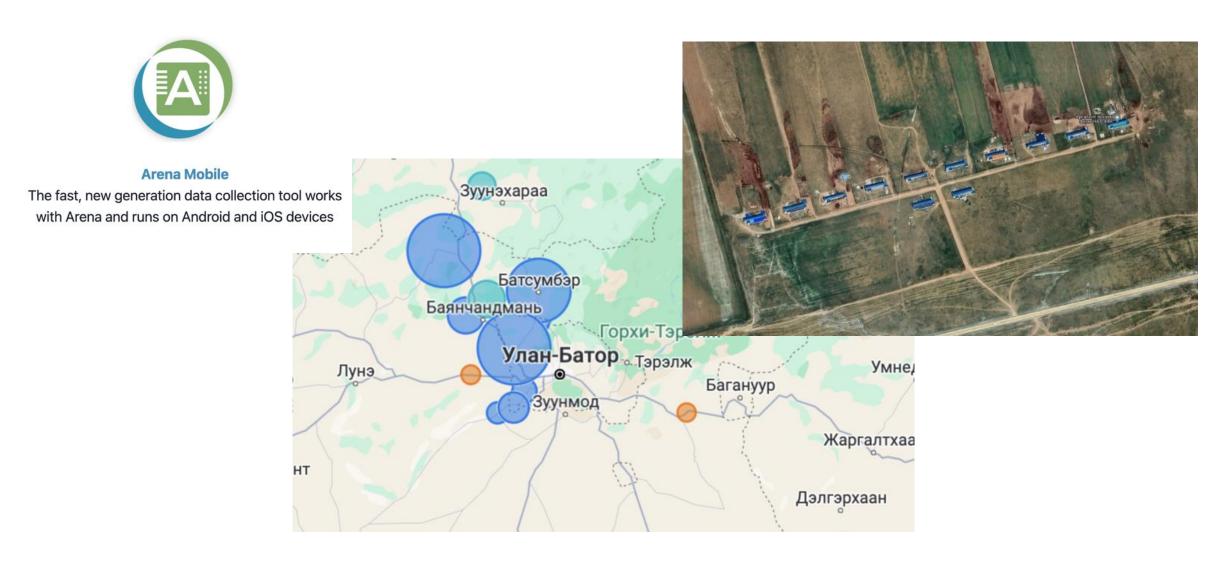
FAO & EBRD's Exit Strategy: Partnering with the Industry Associations (2/4)

Decision-support Service for an informed policy dialogue



FAO & EBRD's Exit Strategy: Partnering with the Industry Associations (3/4)

Digital farm data collection, interactive visualization dashboards



FAO & EBRD's Exit Strategy: Partnering with the Industry Associations (3/4)





Lead with Good Practices, Thrive with Biodiversity, Be the Change: Lesson of Iran



12% Arable Land: The Unseen Challenge Behind Iran's Agricultural Plans



Saraby, Sistany,
Golpaigany, Najdy >>

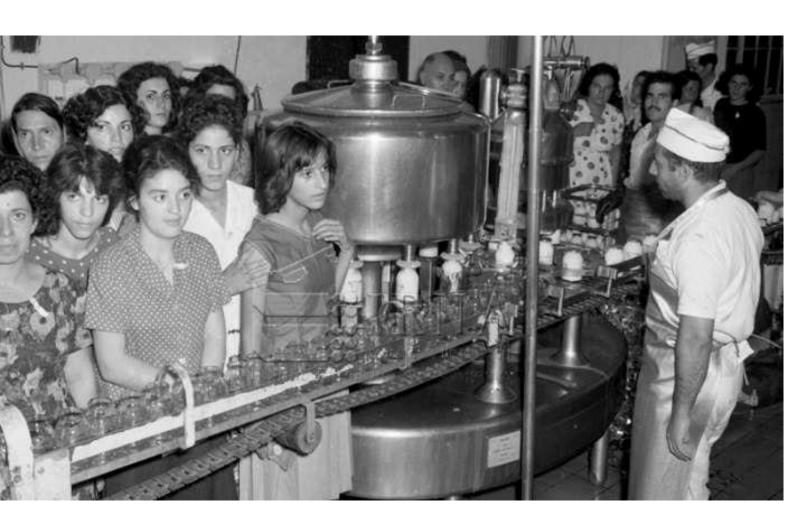
Family farms mastered local genetics

2030s - 70%

2010s - 5%



Booming Dairy Industry: Surging Demand for Raw Milk



1940s - industry boom

SME dairies: 5-15 t./day

Good profits

Pursuing Growth at Any Cost

Massive intensification of feed production in 2040s - 2070s



... And The Rise of Large-Scale Intensive Dairy Farms



10%+ farms: 2-5 k cows

Yields: 10-11 t./cow

Bulk of farms: 400 cows

Genetics - from leading US companies

treatment

Wastewater

TMR, silage is transported 400-500 km

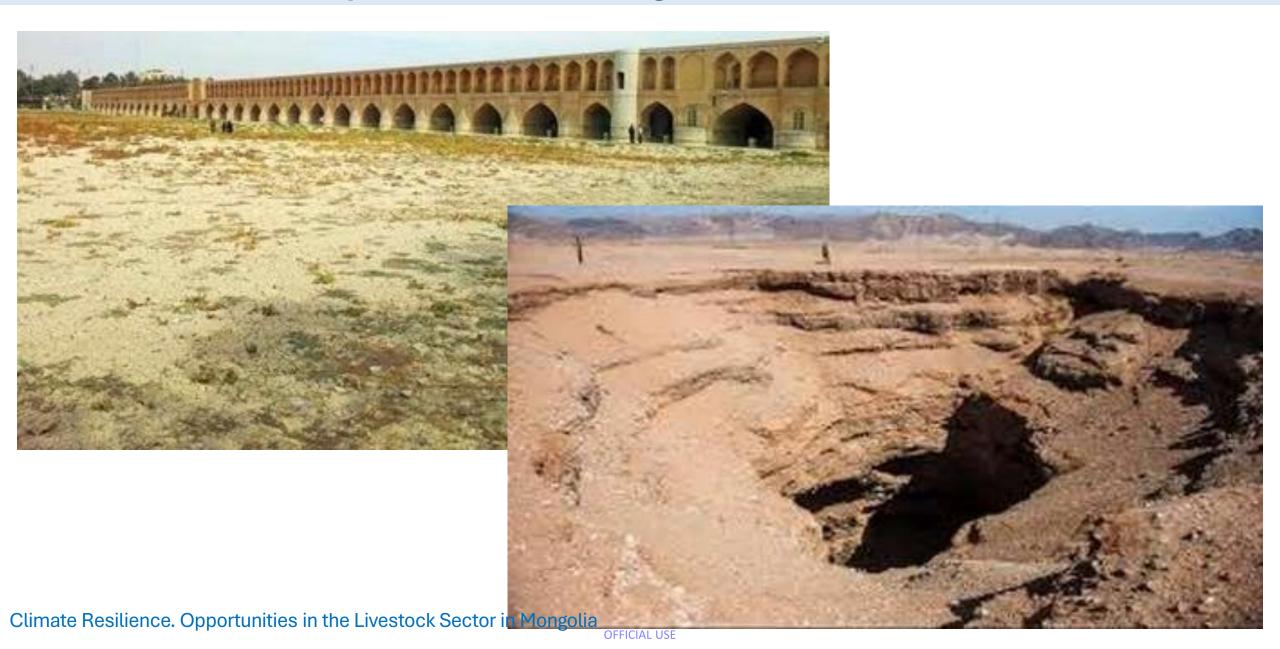
... But At a Very High Cost



Greater irrigation water needs More fields allocated to forages Massive wells drilling



The Cost of Overexploited Wells Was High



Feeding Cows from Afar: The New Reality



Climate Resilience. Opportunities in the Livestock Sector in Mongolia

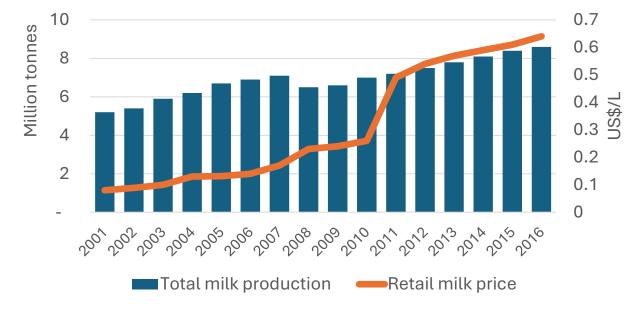
OFFICIAL USE

Unplanned Results: For Land, Water.. And Consumer



- Lost natural resource
- Spiked consumer prices > drop in consumption
- Farms face losses





(Expensive) Way Forward

- New irrigation systems & water harvesting
- Removal of unauthorized wells
- Different forage production systems
- Focus on EFFICIENCY

Evidence-based planning yielded results:

- Since 2015, Iran is self-sufficient in wheat
- Farms generated more profits, while farmgate price didn't change
- Genuine public-private dialogue made a difference



