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Cutting–Edge Technologies in Agricultural Mechanization in Mongolia

Bayartulga Lkhagvasuren,
President,
Mongolian National Farmers Association (MNFA)

25 October 2025
Wuhan, China

INTRODUCTION TO MNFA



Purpose: TO PROMOTE THE SUSTAINABLE DEVELOPMENT OF CROP FARMING THAT IS ENVIRONMENTALLY FRIENDLY AND ADAPTABLE TO CLIMATE CHANGE

Key activities: advocacy, training, partnerships, mechanization projects

Cooperation with MOFALI, FAO, ECCO-FARM, ADB etc.



OVERVIEW OF AGRICULTURAL MECHANIZATION IN MONGOLIA



National mechanization level.

- Share of mechanized crop area (60%)
- Main machinery types: tractors, combines, seeders, sprayers
- Mechanization by crop (wheat, rapeseed, forage, potatos, etc.)
- Key drivers: large-scale farms



NATIONAL POLICIES SUPPORTING MECHANIZATION

- Key government programs:

ATAR-IV, Food Revolution, White Gold, New Cooperative

- Subsidies – Wheat, Vegetable, Oil seeds, Milk, Hides & Skin, Wool
- Loans 6%, GOV – 12%
- Incentives for machinery purchase – 50%



CUTTING-EDGE TECHNOLOGIES: CURRENT STATUS

- Tractors (electric, GPS-guided, autonomous)
- Drones for spraying and mapping
- IoT-based soil and moisture monitoring
- Renewable energy-powered well (solar irrigation)





R&D AND INNOVATION LANDSCAPE



- Institute of Plant & Agricultural Science, Mongolian University of Life Sciences
- Public–private initiatives (DJI– Mongolia Partners)
- Testing and standards (MNFA promoting ANTAM collaboration & meeting with stakeholders)
- Areas for further R&D: automation, local machinery design, energy efficiency



CHALLENGES AND CONSTRAINTS



- High import dependency and spare parts cost
- Lack of testing and certification facilities
- Limited access to financing and skilled operators
- Harsh climate and short operation window

GOOD PRACTICES



Drone spraying:

- Even and precise spray coverage
- Reduced pesticide use
- Lower labor and fuel costs
- Access to wet or uneven fields
- Faster application time
- Improved crop health and higher yields
- No soil compaction compared to tractors
- Safer working conditions for farmers



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THANK YOU

“Smart Mechanization for Sustainable Agriculture”