

**ADB–Gates Foundation
Learning Week**
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**TA9100-MON: Management and Reuse of Sludge
from on-site Sanitation Facilities and Decentralized
Treatment Plants**

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ADB



Project Background

Country:	Mongolia (population 3.2 million)
Project towns:	Arvaikheer, Tsetserleg and Bulgan
Existing sanitation systems:	Over 70% population in urban settlements use simple pit latrines for sanitation
Technical Assistance Grant:	\$1.0 million
Committed:	\$0.97 million
Disbursed:	\$0.94 million

OUTPUT 1: Legislation, regulation and standards for sewage sludge management and reuse established and adopted

Success

- Draft amendments to the existing laws and regulations covering fecal sludge management
- National Contact Group
- Sludge Management and Classification Standards and Regulation

Challenges

- Prolonged review and approval by Government and stakeholders
- Lack of institutional and regulatory framework to enforce legislation

OUTPUT 2: Development and establishment of viable sludge disposal practices and reuse pathways and related technologies

Success

- New designs for improved on-site sanitation facilities
- Solutions for servicing, transportation, and treatment of fecal waste from Improved Pit Latrines (IPLs)
- Processing fecal sludge from IPLs and wastewater treatment plants for reuse
 - ✓ reuse of sludge for enhancing plant growth or as a heating fuel is technically feasible
- Preliminary financial feasibility and economic costs and benefits assessments of improved sanitation and sludge reuse

Challenges

- Lack of formal infrastructure in the ger areas, other than electrical service, limits the alternatives for on-site sanitation solutions
- Cold weather limitations on IPLs cost, installation, and pumping
- No solutions for on-site or decentralized processing of fecal waste from ger area latrines that were both for affordable and suitable for Mongolian conditions
- TA did not address disposal of greywater generated by ger area households
- Costs for large-scale implementation of IPLs cannot be directly supported by the user households or the cost recoveries from user fees—further studies and solutions are required



IMPROVED PIT LATRINES



OUTPUT 3: The design and implementation of pilot projects to establish the agricultural production value of sludge used as a soil conditioner

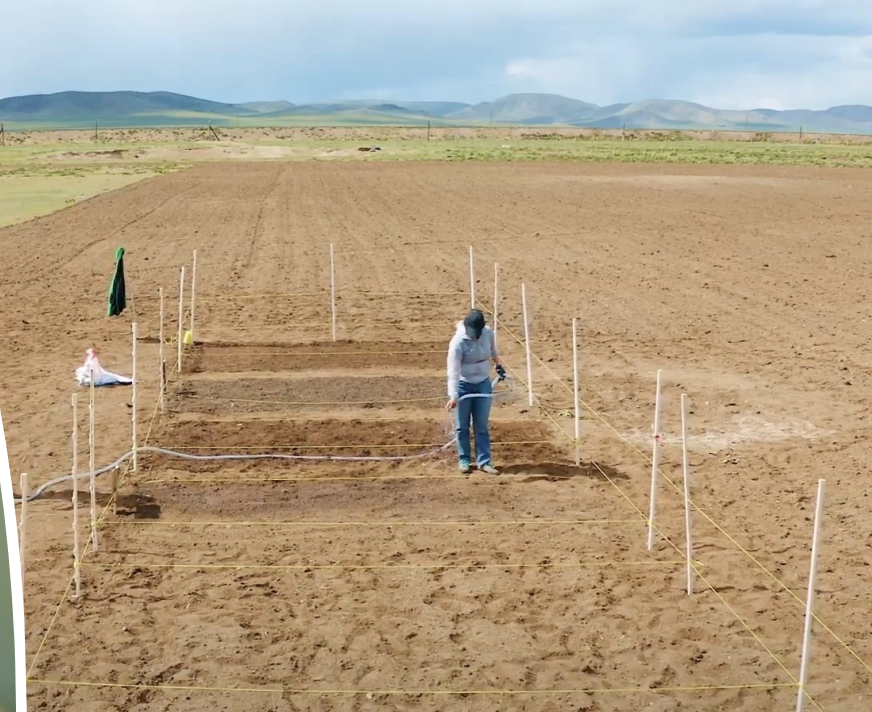
Success:

- Ger area sanitation pilots in Arvaikheer, Tsetserleg and Bulgan cities, 600 IPLs for over 3,000 residents
- Testing of fecal sludge processing for reuse:
 - Laboratory and field testing of composted sludge as a plant growth supplement
 - Fuel briquette testing
- Knowledge Products: guidelines, manuals, videos, education and information materials, ADB Policy Note
- Public awareness and engagement
 - Behavior change initiatives
 - Community's acceptance of improved sanitation solutions

Challenges

- The timing of the TA has been concurrent with the implementation of new WWTPs in Arvaikheer and Tsetserleg that has limited the availability of sludge for pilot testing
- Fuel briquettes made from sludge do not compare favorably with alternative fuels, both in cost and in energy output per kilogram, but could be used by the operator to offset internal fuel costs.
- Weather conditions
- COVID-19 impact

Testing of Fecal Sludge for Reuse



Trust Fund

Highlights of Support

- Parallel Water Operators Partnership programs
- Support in financing PPTAs for new wastewater projects
- SFPF technical support to project teams



Future Investments

- Testing BMGF-supported new sanitation technologies in Mongolia
- Support in further researches on sludge reuse solutions in cold climate conditions and in enforcement of sludge-related legislation, regulations and standards



THANK YOU

