

Capacity Development of Local Craftsmen and Institutions on biogas in Afghanistan



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CONTENT

- **Introduction to BORDA**
- **Challenges and Opportunities for promotion of Biogas**
- **Potential of Biogas in Afghanistan**
- **BORDA approaches for dissemination of Biogas**
- **Way forward**

BORDA OVERVIEW

- Not-for-profit German NGO founded in 1977
- Expert organization in the field of sanitation for the German Development Cooperation
- **Mission:** To improve the living conditions of disadvantaged communities and protect the environment through the expansion of **Basic Needs Services** in the areas of **decentralized sanitation, solid waste and solid wastewater management, water and energy supply**

WHERE WE WORK?



serving > 1 Mio. people with > 2.300 Decentralized Wastewater Treatment Systems

serving > 0.5 Mio. people with > 1.000 Decentralized Water Supply Systems

MAJOR CHALLENGES

Lack of public awareness

Weak technical capacity

Few successful pilot projects

Limited government programme

Lack of knowledge management

Cold climate

OPPORTUNITIES

Employment potential

Environmental improvements

Health benefits

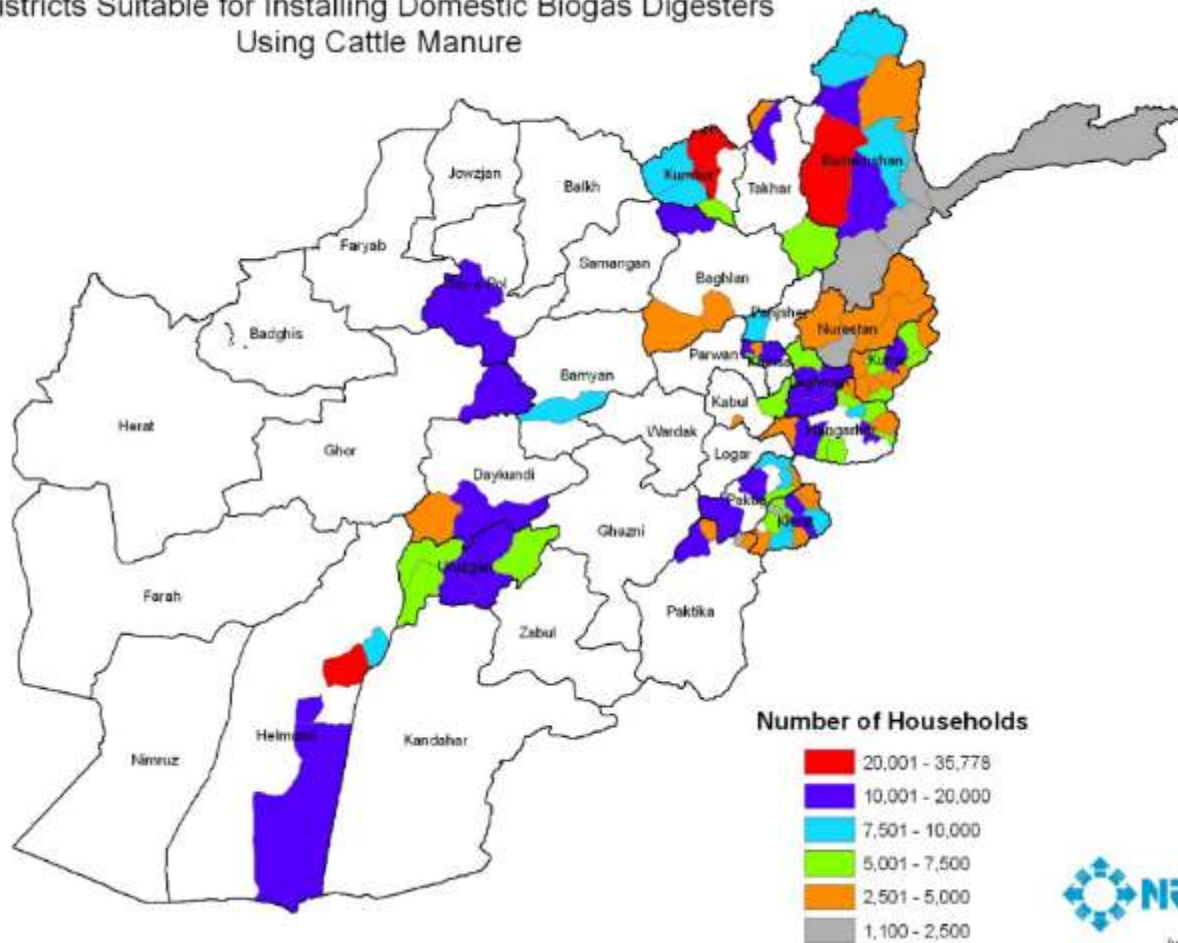
Energy needs

Requirements bio-slurry (organic matter)

Cultural acceptance

POTENTIAL OF BIOGAS IN AFGHANISTAN

Districts Suitable for Installing Domestic Biogas Digesters Using Cattle Manure



- Total animal manure produced is 39.187 MT annually.
- This volume can produce 1567 MCM of biogas.
- This is equivalent to produce 7367 Gw h of energy.

BORDA APPROACHES FOR DESSIMINATION OF BIOGAS



- Implementation of demonstration projects
- Capacity building programs on Biogas technology
- Establishment of Biogas Consortium Afghanistan
- Initiation of cold climate biogas

TRAINING OF TRAINERS



TRAINING OF CONSTRUCTION SUPERVISOR



TRAINING OF LOCAL CRAFTSMEN



CAPACITATION OF SOCIAL WORKERS



AWARENESS WORKSHOPS



BIOGAS CONSORTIUM AFGHANISTAN



Vision

- Improve livelihoods and protect the environment by providing people with access to biogas technology

Mission

- To contribute to a sustainable productive biogas sector

BIOGAS CONSORTIUM AFGHANISTAN



- Inaugurated on **13th October 2014**

Members

- GoA, UN, NGOs, Universities, Private sector

BCA MEETINGS



COLD CLIMATE BIOGAS IN AFGHANISTAN



- Long winter (up to **5 months** in some provinces)
- Low air temperatures during winter
- -20°C in the Central Highlands

COLD CLIMATE BIOGAS IN AFGHANISTAN



■ Heating

- Passive solar houses
- Thermal mass
- Pre-warmed water feeding



COLD CLIMATE BIOGAS IN AFGHANISTAN



■ Insulation

- Mud/straw insulation
- Mud/charcoal insulation

■ Research

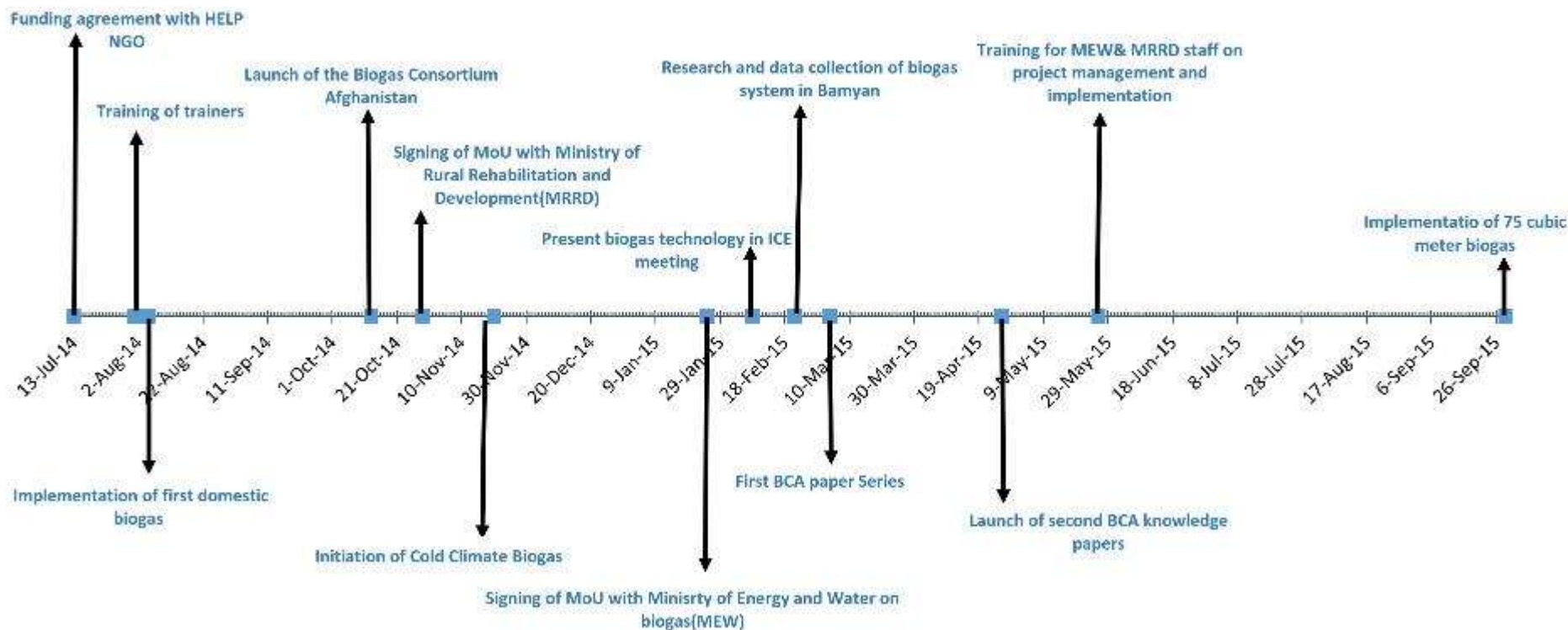
- Data loggers installed at 11 systems

BIOGAS DEMONSTRATION PROJECT



- **Productive biogas** for community dairy farm
- **Digester size** 75 m³
- **Gas storage** 8 m³

BIOGAS PROJECT TIMELINE 2014-2015



WAY FORWARD

- Integrate renewable energies (Biogas) in national policies and strategies
- Create demand by implementation of awareness programs and demonstration projects.
- Capacity building of government organizations, craftsmen and small/medium enterprises ;
- Initiate the first phase of a National Biogas Program in Afghanistan
- Commercialization of the sector
- Research on technologies
- Standardization

Thank You



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