

Biogas Pilot Project with RSPN

May
2007



Background¹

At the 19th board meeting of the Rural Support Programmes Network (RSPN), Mr. Bikash Pandey, Country Representative Winrock International, presented the concept of up-scaling biogas across Pakistan at the household level based on the model being implemented in Nepal for the past 15 years. The technology that Winrock has very successfully been using is different that what has been in use in Pakistan over the past 20 years or so. The Nepal model (based on the Chinese model) has a fixed concrete dome and a brick masonry structure; hence not requiring any maintenance for at least 20 years, This is installed at the household level and works very effectively with the manure from one or two buffaloes or three cows. In view of the Pakistan buffaloes, it can work very well with the manure of one buffalo and one calf.

Benefits of Biogas

- Replaces wood and dung cakes as fuel (2-4 tons per hh/ yr in Nepal)
- Bright light saves kerosene
- Reduces smoke inside kitchen and improves health
- Reduces work load especially of women and children (3 hours per day in Nepal)
- Bio-slurry is good organic fertilizer and increases crop production
- Reduces pressure on forests
- Reduces CO₂ emissions and mitigates climate change

Requirements for Domestic Biogas

- At least 30 KG of dung/day or
- Warm temperature
- Nearby water source
- Land with a house

Success Factors

- Standardized design/ appliances
- Strong quality control mechanism
- Proper maintenance and services
- Proper operation training to the users
- Professional company/staff mobilized
- Access of credit
- Maximization of benefits

¹ Taken from MOU between FIDA and RSPN (8 May, 2007) and Presentation to BoD RSPN by Bikash Pandey, Winrock International (16 January, 2007).

Agreement Between RSPN and FIDA

Chairman RSPN, Mr. Shoaib Sultan Khan, asked the RSPs to implement two pilot projects demonstrating this pro-poor concept. Based on the consent and enthusiasm demonstrated by the Punjab Rural Support Programme (PRSP), one pilot was decided to be implemented in PRSP, testing the viability of community and RSP co-sponsored household level biogas plants. Faiyaz Ali Khan and Thirza Ali Khan offered to identify a community serviced by FIDA for the community level plant.

RSPN and FIDA, with technical assistance from Winrock, agreed to undertake a community level biogas plant pilot project. FIDA's responsibilities are as follows:

1. Introduce the biogas initiative to the community members.
2. Through community involvement identify the land for construction of the community biogas plant.
3. Explain the process to the identified households, as described by Winrock and RSPN, and communicate the idea to the community level using standard methods of social mobilization.
4. Identify local masons who could be further trained by Nepalese consultant in constructing the biogas plant.
5. Facilitate training of household members in proper use of and functioning of biogas plant.
6. Maintain financial records and communicate them to RSPN.
7. Ensure that vulnerable groups are represented in the household selection process for the beneficiaries of the community biogas plant.
8. Assist community members if any technical issues arise with the design, etc... of the biogas plant by reporting the matter/issue to RSPN who will then contact Winrock.

Project Implementation

Work on the project began in February, 2007 with surveys of potential communities. As the training of local masons was scheduled for April and the visit of the technical consultant was scheduled for May, it was critical that community selection and mobilization be completed well in advance.

FIDA chose to work with communities located along the Indus River in the *kacha* area. These communities were chosen for a number of reasons, both social and technical:

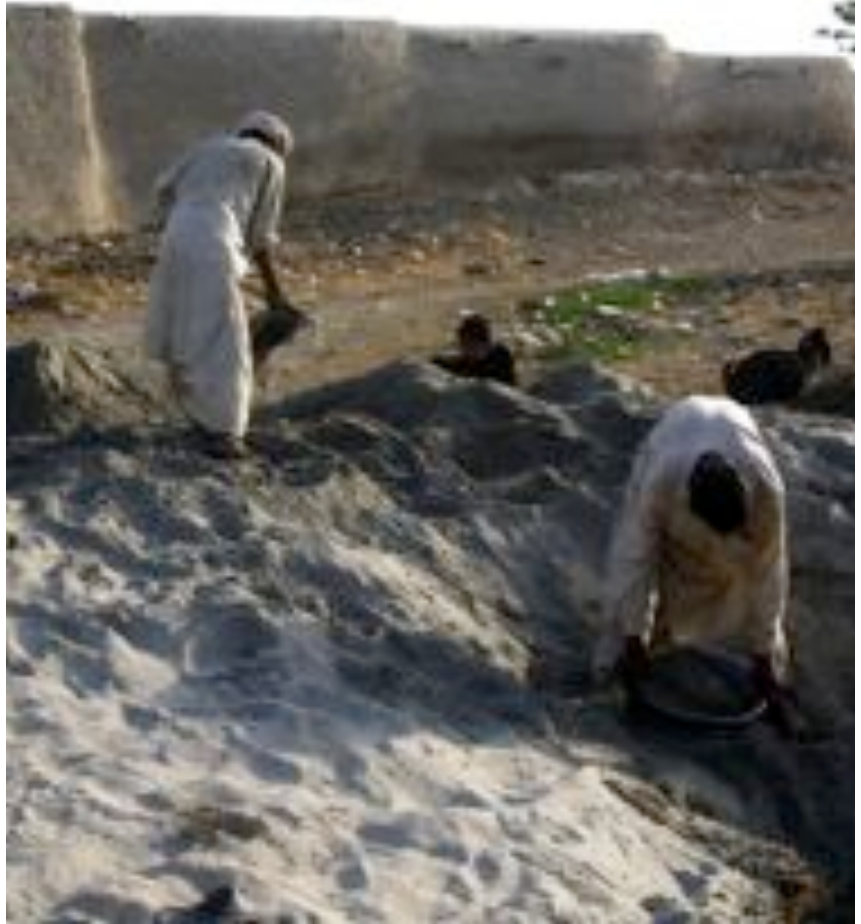
- FIDA has already established good working relationships in the area and has already formed Village Organizations in many of the communities.
- They are among the poorest of the poor in D. I. Khan.
- They own livestock and are already familiar with using dung for fuel.
- They have a nearby water source and some land attached to their homes.

Local masons were trained in Sialkot in April and construction began in May. Due to household configuration and family structure, the Nepalese consultant, Mr. Mahboob Siddiki, determined that smaller household plants were more appropriate than a community level plant. The plants are located in Union Council *Mandehran* of District *Dera Ismail Khan* in *Jhoke Mohana* and *Jhoke Obechart*. The community members contributed labor and sand as required and took part in biogas trainings. The details of the plants are as follows:

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|----|-----------------|---|
| 1. | 35 cubic meters | accommodates 70 members |
| 2. | 20 cubic meters | accommodates 35 members |
| 3. | 15 cubic meters | accommodates 25 members |
| 4. | 8 cubic meters | accommodates 15 members |
| 5. | 8 cubic meters | accommodates 15 members (contributed by FIDA) |

Conclusion

FIDA will be conducting an impact assessment survey to measure the benefits of biogas. Based on the success of this project and the positive response of the community, it is hoped that the biogas concept can be expanded and scaled up. The use of a revolving fund through which communities would receive loans for constructing new plants is being discussed.



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