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DEUTSCHE ZUSAMMENARBEIT

Implemented by
giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

GOVERNMENT OF INDIA
MINISTRY OF NEW AND RENEWABLE ENERGY

ENTERPRISE BASED PROMOTION OF WATERMILLS DEMAND DRIVEN CLUSTER BASED APPROACH

SITUATION

In Uttarakhand, watermills (Gharats) have traditionally been the lifeline of rural communities and used to provide mechanical power, primarily for grinding food grains. As access to these remote rural communities improved (improvements in road infrastructure as well as penetration of the electricity grid), the traditional water mills were also gradually replaced by diesel and electric mills. Efforts were made to improve the efficiency of the watermills and make them more competitive. In 2002-03, Ministry of New and Renewable Energy, Government of India, introduced a nation-wide scheme to offer significant subsidy for upgradation of such watermills. However, despite the availability of subsidy under this scheme, the demand for such upgradation of watermills has not been very high. This is primarily because the demand side has not been adequately addressed, which resulted in underutilization of installed capacity, leading to insufficient income generation for the watermillers. In cooperation with UREDA, GIZ has designed and developed a pilot based e-approach of demand driven cluster based up gradation of watermills.

Objective

To revive the uses of watermills on a market based approach in the state of Uttarakhand.

APPROACH

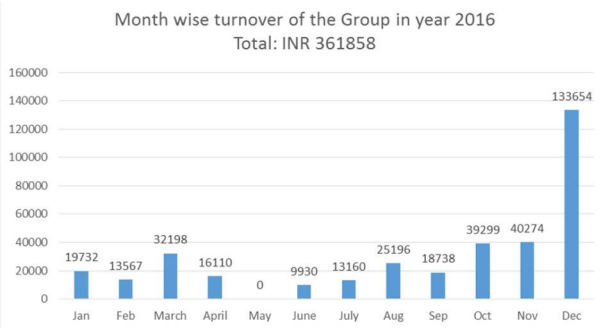
The project provides technical support to its state partner UREDA to develop business case for watermills, design and implement a pilot project based on an innovative approach, where a cluster of improved watermills owned and operated by an enterprise within the local communities, addresses a specific demand for energy for livelihood activities. The implementation of pilot project revolves around three key pillars:

- **Enterprise Development Support:** The focus was on formation of a Self Help Group and graduating them as a collective enterprise in order to carry out business on a commercial basis. The support further included capacity building of the members of the Group on technical as well as commercial aspects. With a focus on sustainable intervention, a business model was introduced within the Group.

- **Access to Finance:** Access to finance is a major barrier for any business model, especially business models that depend on traditional practices. With an aim to facilitate access to finance, Uttarakhand Gramin Bank was approached for financial linkages. The Swaraj Group was able to mobilise loan as a working capital from the bank. The working capital is being used to buy raw materials from the local communities and to meet other expenses.
- **Establishing Market Linkages:** Required market linkages were established for the Group in the markets of Dehradun and Delhi. However, more efforts are required in establishing market linkages since the products are competing with other premium products in the markets. Also, the Group has been participating in different national/regional level fairs/events to promote the model/products.

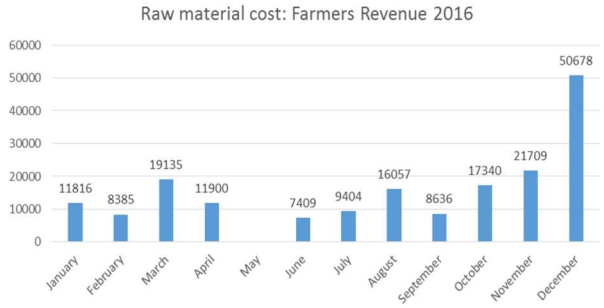
OUTPUTS

- Evidence from the operation of the Group shows increased usage of watermills due to increase in demand for processing grains, resulting in increased income of the watermill owners.



In the month of May, water was diverted for agricultural purposes and hence no business took place. The calculations/ figures/graphs are only illustrative in nature and actual figure may vary.

- Another interesting aspect was observed during the pilot was that the pilot not only helped in the revival of watermills but also encouraged local farmers to increase the productivity of traditional crops such as millets and buckwheat which are being grown in a limited quantity due to various reasons. The farmers are getting fair price for their produce without intervention of middle men.



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VALUE PROPOSITION OF THE PRODUCTS

- The products are made from clean source of energy.
- The products are made from locally available raw materials in the region.
- The nutritious value of products processed from watermills are considered superior in quality and taste.

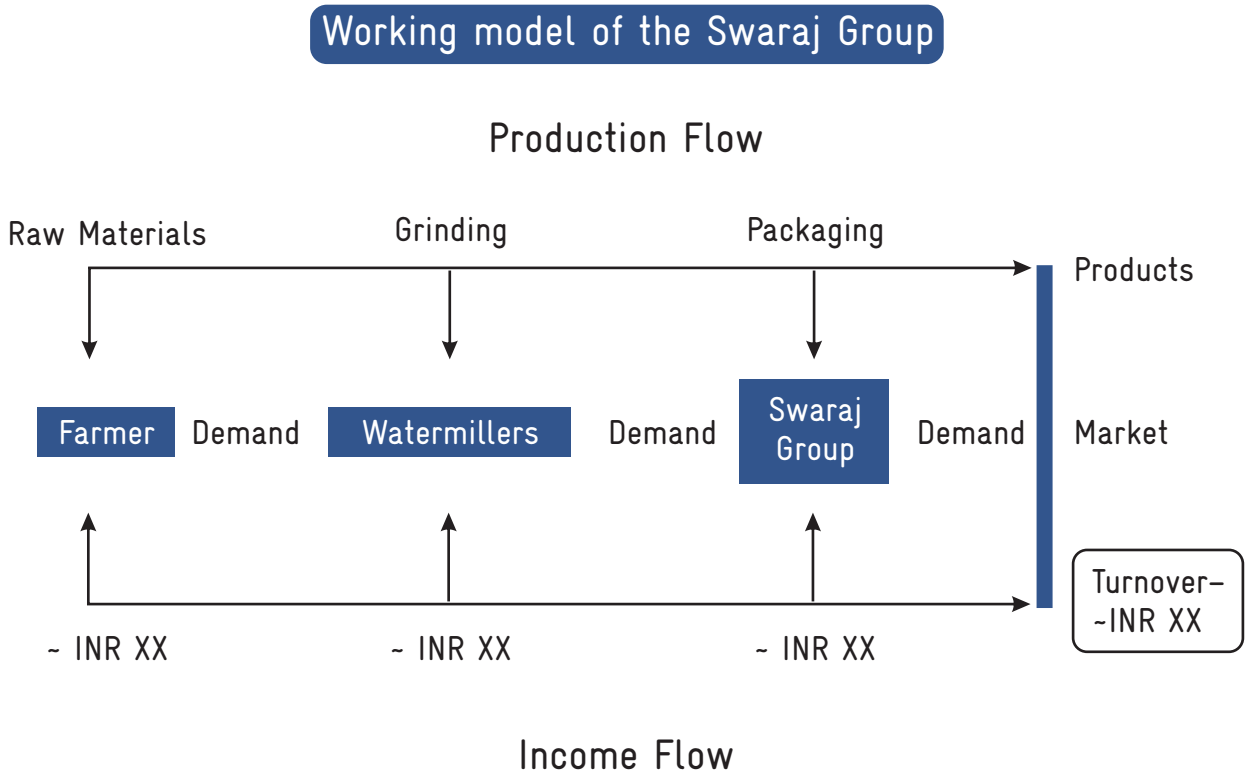
DIRECT IMPACTS

- Increased use of watermills resulted in increase in income of the watermill owners.
- Members of the groups especially women got livelihood opportunities and additional income.
- Additional revenue to local farmers by way of supplying raw materials.
- Endorsement by different actors including the government officials about the adopted approach and potential to replicate it in other parts of the state.
- Reduction in GHGs emission by way of avoiding energy generated from diesel/electric based mills to grind grains/spices. Around 24 tonnes of CO_2 emission has been avoided from the pilot projects.

Photo credit: Enrico Fabian

POTENTIAL IMPACTS

- Potentially, contributing to environmental issues because it works on clean source of energy.
- Address social issues by way of increasing employment to locals including women.
- Potential to reduce workload on women for agro-processing.
- Additional employment opportunity for locals The local manufacturing of parts of Improved Watermills provides employment to locals.
- Contribute to climate change mitigation activities such as easing burden of use fossils fuels (diesel) and also reducing burden on use of electricity for milling activities.
- Reduction in GHGs emissions linked to agricultural post-harvest processing. As per UREDA estimate, there are around 15000 watermills in the state. Potential to reduce around 36000 tons of CO2. A Clean Development Mechanism (CDM) study estimated that 1 improved watermills offset around 2.4 tons of CO2/year[1]).



1. https://www.ashden.org/files/CRT%20full.pdf

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Indo-German Energy Programme – Access to Energy in Rural Areas (IGEN-Access)

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