Empowering a Rice Mill Bhamane (India)

# Executive Summary

- Powering a rice mill in Bhamane (India). Project developed by Smart Hydro Power with local project developer Gram Oorja. Financed by WISION (Wuppertal Institute).

- Community decided to install a rice mill as up to then the local farmers had to walk 20 km to next mill.

- Community selected entrepreneur (miller) and energy committee.

- Hybrid hydro-PV installation.

- Sustainable operations financed by tariffs and run by community organization ("Social Trust").

- Supported by WISION Smart Hydro Power was looking for a site suitable for hydro-PV hybrid.

- Western Gates have strong rains from June to October.

- Bhamane (30 households, mainly farming activities) was selected based on geography and need for local food processing.

## Strong Community Support

- Agriculture Village lacking ability for food processing and commercialization.

- Community decision on "what", "how" and "who"

- Existing local structure („value chain"): Indian project developer, local „social trust" operating infra-structure.

# Demand Side Management

- Limited budget requires prioritization of demand side.

- Productive use prior to residential demand and street lighting. Street lighting prior to residential use.

- Tariff system based on kWh with free community services (light, community house).

- Possible "upgrade" if demand increases – and community decides accordingly.

## Hybrid Plant allows sustainable Supply





- Monsoon challenges any mono-source generation, hydro and PV are seasonally complimentary.

- Micro-hydro allows to reduce battery need – and thereby costs (LCOE) if energy generated can be used.

- Local servicing and maintenance by „Social Trust".

## Lessons Learnt

- Clear Business Case

- Strong community interest incl. willingness & ability to pay (at least operations and re-financing)

- Local value chain in place (Community electricity committee – „social trust" – project developer)

- Hybrid, standardized, modular technical approach