



## CASE STUDY

# The Role of Sustainability-oriented Social Enterprises in Boosting Green Livelihoods and Business Opportunities in Rural Contexts

## Background Information

The GREEN-WIN project reviewed various cases of capacity building and knowledge improvement of rural livelihood in rural communities related to sustainable and low-carbon solutions. The cases described below were carried out by the social enterprise Development Alternatives Group, comprised of the Society for Technology and Action for Rural Advancement (TARA), Society for Development Alternatives (DA), and their affiliates. TARA-DA promotes public-private-people collaborations to grow local capacities and create the conditions for greater economic inclusion. This intervention is multi-scale, ranging from local to national and transnational level. The whole philosophy of DA is that the new community projects or businesses become completely independent from DA, for which the DA will eventually only assist in counted occasions.

TARA-DA's engagement with local communities and entrepreneurs aims at developing solutions adhered to the triple bottom line principles of "people-planet-profit"<sup>1</sup>. TARA-DA's initiatives have proven to achieve significant positive impacts from implementing socio-technological innovations among others. One example was a model of green building aimed at reducing the waste stream and fertile soil extraction, which supported local employment and generated a low-cost alternative to the building materials<sup>2</sup>, highlighting the key role played by vision-led intermediary agents in implementing the Sustainable Development Goals (SDGs).

Several TARA-DA's projects have already been replicated in other locations in India. DA keeps a yearly record of their achievements, which played an important role in demonstrating their added value and engaging with new local agents and international donors. Among the metrics used include the number of women given livelihood opportunities and provided access to education literacy, or the number of communities in which green energy services, clean water and local irrigation infrastructures (e.g., check dams) have been provided.

<sup>1</sup> For more information, see: <https://www.devalt.org/>

<sup>2</sup> For more information, see: <https://sdghelpdesk.unescap.org/technical-assistance/best-practices/fly-ash-bricks-brick-production-using-fly-ash-thermal-power>



## Approach, Delivery, & Challenges

The presented cases are in an advanced stage of implementation. They are oriented towards improving rural livelihoods through the development and implementation at community levels of innovative, integrated and feasible green technologies and services.

### Community-owned and operated renewable energy-based drinking water system

DA played a role in developing and implementing a sustainable community-run business model in three villages located in the Bundelkhand, India, namely Pipra, Govindnagar and Chandrabhan. The aim was to address the urgent need for clean water as villagers would previously travel long distances to fetch water. DA incorporated a drinking water supply that is now owned and operated by the community. DA helped to initiate the process and to promote networks and capacity building activities at the community level to enable the communities to operate the business independently.

DA facilitated the provisioning of solar panels, which were connected to the water pipelines. This system subsequently distributed the drinking water supply to the surrounding households. This model has helped the community meet their water needs without having to fully rely on the fossil energy. As a result, the system remains functional with relatively lower carbon footprint and considerable reduction in drudgery. Additionally, water sourced through this system is clean and safe to drink, providing further health benefit to the villagers.



Figure 1. Sustainable access to water for agriculture, health and social development in a poor community of Govindnagar, using renewable energies in Bundelkhand, Madhya Pradesh (Images sources: J. David Tàbara, April 2016)

The model is able to achieve operational break-even. The monthly charge collected in Govindnagar accumulate to a fund with enough money to cover annual maintenance and repair expenditures. An independent fund from the local community ensures the model to be sustainable over time. This is achieved via a representative village-level committee, the Samagra Jal Vikas Samiti, whose members consist of those chosen based on community consensus.

Nevertheless, the capital expenditure involved is too high for a poor village community to be independently self-funded. Therefore, the initial capital expenditure in such a model must be partially or fully funded by an external agency or donor organization in the form of cash or labor, which is also facilitated by TARA-DA. The 'profits' remaining after all operational expenditure is taken care of are too low to allow substantial economic



returns on the investment. Economic benefits include, among others, an average of 1.5 hours saved daily per household from as a result of drudgery. In fact, this also allows women to redirect their time and energy to other economically productive activities, such as working on poultry farms or rearing animals.

In addition, the use of solar energy reduces the dependence on fossil fuels for the pumping and transportation of water, allowing the system to function with minimal greenhouse gas (GHG) emissions. Water is now cleaner with improved taste than it was previously when drawn from hand-pumps or wells. A reduced incidence of illnesses, particularly stomach-related ones, has also been noticed.

### **Bhaldi Renewable energy electrification to support local resilience livelihoods**

In order to deliver clean energy for business purposes, TARA-DA supported the combined installation of solar photovoltaic system (PV) with a biogas mini grid. These two interventions were supported by a local green entrepreneur for a solar pico grid, namely TARA Urja at Katsa. Similar to the previous sub-case, it is an example of a green business model where an entity is selling a service to the local community. While the previous subcase used renewable energy for water distribution, this model provided a solar-biogas installation to meet the energy needs of the local community businesses in Bhaldi, India.

This model presents the opportunity to benefit from a waste product such as local cow manure. This strategy puts into use at least three energy products generated by waste: biogas, solids and heat. Besides producing energy, it also acts as a part of the waste stream in the treatment of cow waste. Methane, a major component of the biogas, is converted to electricity to provide a sustainable source of power to the grid. Capturing methane contributes to climate change mitigation while the sludge or digestate can be applied as fertilizer or soil amendment. The waste heat is then used to desiccate vegetables.



*Figure 2. Combined solar –biogas installation at Beldi, Bihar (State of Bihar, Images sources: J. David Tàbara, April 2017).*

The entire process provides benefits at two levels. Firstly, it addresses the waste management issues where the cow manure can be found in the water streams. Applying this system can thus reduce the environmental and health risks by means of the pollution reduction and methane emission management. The second is to create an economic value by turning the cow manure into more useful products, such as for cooking or fertilizer. Making use of the hybrid renewable products can help the local community gain the economic and climate benefits, hence achieving the goal of win-win strategy. An important task of TARA was to create a market for such energy, e.g. by supplying loans to local entrepreneurs to buy machinery powered by electricity (e.g. an electric saw for producing furniture). Through its business capacity building program,



TARA supported, among others, a local entrepreneur who now develops and manages a solar mini grid installation. The owner of this installation combined this activity with an additional source of income from a sweet shop.

The primary current threat to this installation is the main national electricity grid which has already reached this community, given that it can provide electricity at 4-5 rupee per unit while green energy still provides it at 18-19 rupee per unit. Nevertheless, this hybrid system is said to be more reliable, despite the entrepreneur claiming that 'customers are not interested whether the electricity is green or not. They only want electricity'.

## Benefits & Lessons Learned

### Contributions to Sustainable Development Goals

This case study has shown how social enterprises and local communities work together with the support of international partners. For example, the main partner, TARA-DA, has a goal to promote collaborations for local communities and economic inclusion. It facilitated sustainable business establishment, international and local partner connecting, as well as fundraising. Its partner, TARA Urja, also acts locally with green business concept through the use of solar energy, thus could support the business model. Committing local systems can support social mobilization, institutional innovation, and social learning by building trust with local actors and can ensure their involvement in the long term. Such processes and systems (e.g., pay as you go services) could take many years to achieve, so a long perspective and vision for social transformation is needed. For this reason, this case has proven a contribution to SDG17 – *Partnerships for the goals*.

When institutions, agencies, and system are strengthened, the expected outcomes and co-benefits gained during the implementation of these sub-cases are indeed achieved and impactful to the targeted beneficiaries. In India, a strong partnership has resulted in energy access provisioning (SDG 7) through the use of hybrid renewables for local community businesses in Bheldi, as well as through solar energy for clean water access (SDG 6) in Pipra, Govindnagar and Chandraban. Having reduced the dependence on fossil fuels and increased the resilience of the rural communities, this case contributes to climate change mitigation and adaptation actions (SDG 13). Both sub-cases also showed responsible consumption and production (SDG 12) by means of local-based and community-owned business implementation.

### Lesson learnt and key takes

The reviewed sub-cases show that implementation of local integrated systems of solutions addressing energy, water, shelter and other livelihood needs at community level require paying major attention to **enabling social processes and organisational capacities** rather than only focusing on a given technological innovation. Such intermediary agents connect networks of action at different levels, support the emergence of appropriate cleaner technologies, and help their transfer and use in society. Training in leadership, integration of diverse perspectives and the ability to communicate with various cultural backgrounds—so to understand how local populations frame their demands—is of paramount importance. In addition, observing how local power distribution structures and traditions operate, e.g. related to gender or the traditional use of resources and how potential sustainable development interventions could affect these, is also key for success.

Thus, before such projects on community capacity building and green entrepreneurship can start, a very careful screening of the local conditions is required. This entails the identification of the agents, non-governmental organizations (NGOs), institutional actors or local champions most able to lead and secure long-term involvement in the various projects. This also means the examination of right economic circumstances which can secure a potential market and demand for green products and services. In addition, such interventions also need to offer and deliver a number of clear social and economic gains, often starting at the very short term, to the various cooperating actors. These short-term benefits do not



only need to take monetary forms, but can be provided in the form of access to education, improved welfare conditions and basic community services.

A key condition for transferring the sustainability-oriented models and innovations carried out by Development Alternatives to other contexts is to ensure that they adhere to the triple-bottom line principles of “people-planet-profit”. Hence, ensuring economic feasibility and the market demand for green products and services provided, while being able to mobilise many actors working different levels of action, including those from national and transnational networks is essential.

## References

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## Case study author

Joan David Tàbara, Autonomous University of Barcelona, [jdt@sustainability.eu](mailto:jdt@sustainability.eu)

Manisha Mishra, Development Alternatives, [mmishra@devalt.org](mailto:mmishra@devalt.org)

Emily Benson, Green Economy Coalition, [emily.benson@greeneconomycoalition.org](mailto:emily.benson@greeneconomycoalition.org)