

Access to Safe Water for Bottom of Pyramid

Addressing the twin challenge of 'ACCESS TO SAFE WATER' and 'HUMAN HEALTH IMPROVEMENT' through affordable service delivery model

37.7 million Indians are affected by waterborne diseases annually

1.5 million children are estimated to die of diarrhoea alone

1,95,813 habitations are affected by chemical contamination in water

73 million working days are lost due to waterborne diseases each year

\$600 million is the resulting economic burden every year



Despite various technological interventions in the water industry, the situation has remain unchanged. Along with the affordability, it is very essential to frame our outreach to Bottom of the Pyramid (BoP) customers. This can be strategized through appropriate service delivery models, developed considering socio-economic and market scenarios of the subserved areas. Technology and Action for Rural Advancement (TARA) and Development Alternatives aimed at ensuring access to safe water to the BoP through testing innovative delivery models. The action research looked into testing the scalability potential of these models in wider dissemination of these products in BoP market.

TARA decided to introduce TATA chemical's product the TATA swach filter at the rate of INR 999. Through design a sustainable supply chain mechanism, the demand for TARA's product is increasing so much that people are making upfront payments to obtain their units at the earliest.

Piloting the Bacteria Free Safe Water Delivery Models to the BOP Market

- A peer influence based Lead Experience User (LEU) model was adopted in two urban slums in Delhi and fifteen villages in Chhattarpur (Madhya Pradesh) and Hamirpur (Uttar Pradesh) districts in Central India. Community leaders and housewives and SHGs people interested in becoming entrepreneurs were chosen as LEUs and trained to orient them to the water filter.
- Financial incentives of purchasing the filters at discounted prices were offered to the LEUs so they could create a sustainable business.
- Sumitra Samajik Kalyan Sansthan (SSKS) in central India, and Bottom Up consulting in Delhi enhanced the outreach of services to the communities and provided technical and institutional support to the SHGs in the villages or LEUs.
- Promotional activities were arranged like street plays and door-to-door visits, Leaflets, wall paintings and banners that contained information about the impacts of drinking contaminated water and highlighted key features of the product to create demand.
- Micro-financing options provided to the BoP target population helped overcome financial barriers of buying the water filters upfront. Interested individuals were provided with loans to cover the initial instalment of Rs. 500. This amount was either leverage through SHG funds or "Rashtriya Mahila Kosh" fund at the rate of 18%. This afforded Rs 60 profit to the SHG and Rs. 100 profit to the Local Shop keeper.

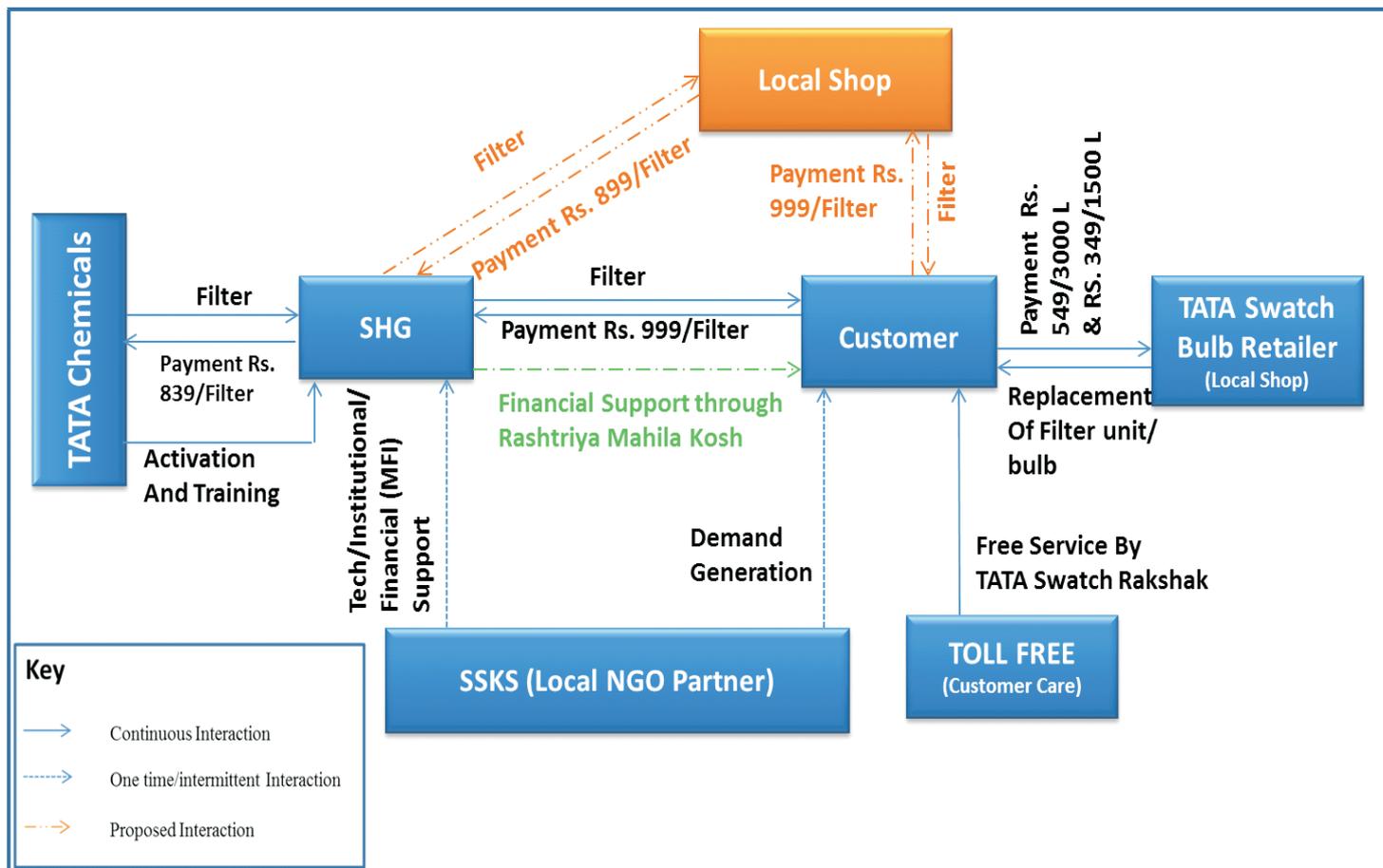


Figure 1: Micro Financed LEU Model Schematic for TATA Swach

Affordable Household Water Purification Solution: Jal-TARA Arsenic Filter

Impact numbers

- Arsenic contamination of groundwater and related health hazards are becoming a high-profile problems throughout the world
- 50 million people of India at risk of drinking arsenic contaminated water above 10 µg/L
- 10.6 million people of India at risk of drinking arsenic contaminated water above 50 µg/L
- 4.6 million people at risk of drinking arsenic contaminated water above 300 µg/L
- Long term oral exposure via drinking water can cause cancer of the skin, lungs, urinary bladder and kidneys

Piloting the Arsenic Free Safe Water Delivery Models to the BOP Market

- DA involved a local NGO (Megh Pyne Aviyan) to enhanced outreach to the communities through promotional activities like street plays, wall paintings, Leaflets and banners that contained information about the impacts of drinking arsenic contaminated water and highlighted key features were carried out to create demand.
- A local entrepreneur was identified at Patna as the manufacturer of the filter body and assembly. Media was produced by TEMF (TARA Environment Monitoring Facility).
- These assembled Jal – Tara Arsenic filter was sold to different set of purchaser like, women SHGs, any local entrepreneur at village level (shop keepers etc.) at the rate of Rs. 699.
- Local SHG and entrepreneur at the field level were connected to the manufacturer

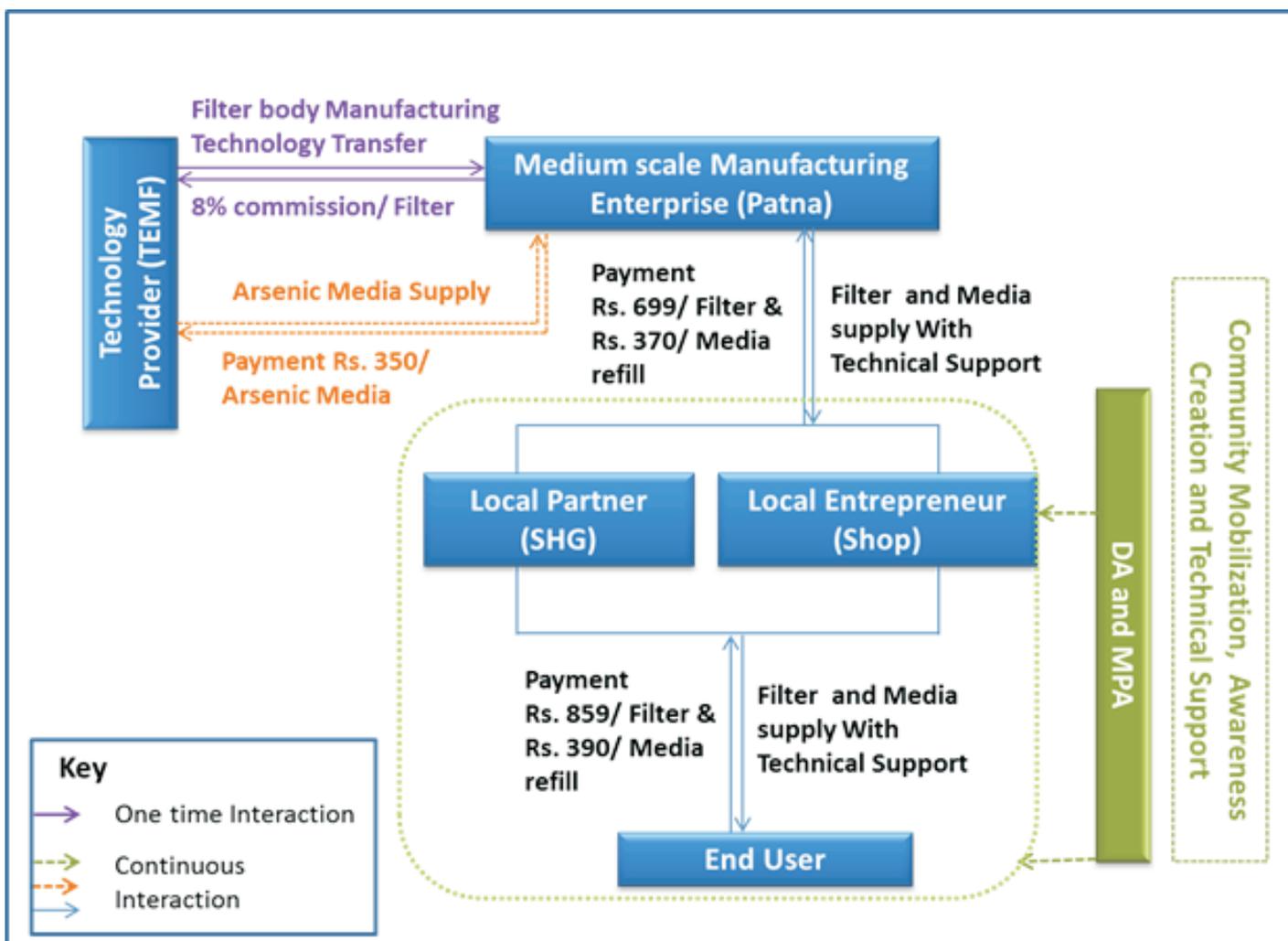


Figure 2 : Schematic diagram depicting Bihar Delivery Model for Jal-TARA Arsenic filter

Key Lessons

- Street play and Awareness generation campaign can play a very vital role in creating awareness and behaviour changes amongst the public at large scale. It was observed that the best method to change people's mind set is "Wall painting and street play".
- Engaging with local NGO/SHGs can better facilitate service delivery mechanisms through their understanding on the needs of the community and the confidence community have on them
- Aesthetic aspects are a value add to enhance product acceptability - Aesthetics are an important decision making factor and should not be neglected in favour of affordability

In the course of discussion the Khagaria people clearly said that they wanted to get rid of arsenic from their drinking water and they wanted a speedy and effective solution of this problem at the earliest. They complained of government and non-government organisations coming, doing water testing's and going back without providing any solution whatsoever. The people wanted something practical, effective and affordable.

TARA decided to introduce their product the Jal-TARArsenic Filter at the rate of INR 899. The people were so happy to have a product that works that after discussing the matter among themselves they offered to pay more and fixed the price at INR 899. The demand for TARA's product is increasing so much that people are making upfront payments to obtain their units at the earliest.

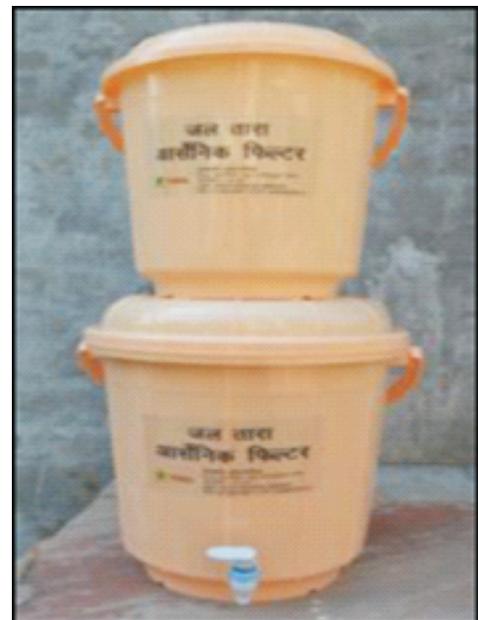


Description of Jal-TARA Arsenic Filter

Development Alternatives is attempting to provide solutions to enable access to safe drinking water. One of them Jal-TARA Arsenic Filter, is an innovative point of Use water purification system for removing Arsenic, pathogens, Iron and Turbidity, from raw water.

Salient features:

- Filtration capacity: Can provide approximately 7 liters per hour of arsenic free water (in safe limits less than 50 ppb from 400 ppb).
- Filter media life: Can purify about 2000 liters of water from each lot of media
- System is capable of removing pathogens, turbidity along with Arsenic.



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