

Purifying Water at Point of Use

Deepak Saksena, Country Director, AED (Academy for Educational Development) India, in conversation with Rakesh K. Singh on 'Point-of-Use water disinfection and zinc treatment (POUZN) project, a PPP Initiative of USAID in India.

First of all, please tell us what POUZN is and what is the basic rationale behind this intervention?

POUZN stands for point-of-use water disinfection and zinc treatment. This AED demonstration project will assist USAID in reducing child mortality from diarrhea disease among vulnerable populations by increasing the use of POU products in India. POUZN will be working with the commercial sector and micro-finance institutions to establish commercially viable and scalable models for sustainable penetration of low-cost, high quality water purifiers among lower-income people. So basically, it will be a Public Private Initiative (PPP).

Several studies have shown that individual sanitation and hygiene interventions (hand washing with soap, safe disposal of excreta and point-of-use water disinfection) reduce the incidence of diarrhea by 30-50%. Moreover, the National Institute of Epidemiology (NIE) has recently concluded and will soon publish the results of a one-year field trial in a peri-urban area in Chennai that showed 49.7 % reduction in total diarrhea episodes in families using POU devices when compared to the control group.

The National Family Health Survey (NFHS) II conducted in 1998 showed that 97.5 % rural and 85.4% urban households in Uttar Pradesh (UP) did not purify their water. This data has been anecdotally confirmed by POUZN during recent interaction with 50 low-income women in four women's groups in villages of Faizabad district. During this visit, only one woman mentioned that she purified drinking water at home, despite the fact that most women said diarrhea was very common in their homes and was caused by "dirty water" and "bad food." A need exists to educate the women about available methods of purification. The project will also give messages of hygiene improvement.

Low awareness exists concerning water purification in general and about POU devices in particular. Most poor people do not have access to running water or electricity. Moreover, most consumers lack the capital to pay the device's high initial cost, despite the increasingly low cost, approximately 1600-1800 Rs (or 36-41 USD), for effective devices. Several POU manufacturers understood these barriers and introduced tabletop POU devices that do not require running water or electricity to deliver pure water. The



manufacturers and their distributors also introduced installment plans to address the third barrier, though consumers require proof of identity, residence and income and a post-dated check to use these plans, which effectively excludes the vast majority of low-income consumers in both urban and rural areas.

So can we say that POUZEN intends to address barriers to rapid penetration of existing POU devices among the underprivileged rural and urban masses?

Well, the objectives are many. Learning from other public-private partnership (PPP) experiences, POUZN will focus on providing low-income groups with a choice of POU methods by using exist-

ing products. It will work with committed private sector partners to develop and implement carefully reasoned, joint marketing plans, which will increase overall sales and provide an exit strategy for USAID. Based on existing and potentially stronger platforms, in India POUZN will sure create scalable demonstration models with private sector partners to address the barriers to rapid penetration of existing suitable POU devices among SEC C and D populations in urban and semi-urban areas. In addition, it would also develop specific product delivery methods for POU to rural households; and create mutually beneficial and sustainable partnerships between POU devices manufacturers, micro-finance organizations (MFIs) and NGOs working on grassroots inter-personal communication (IPC) and other behavior change communication (BCC) activities.

What are the main barriers to water purification in India?

Low awareness exists concerning water purification in general and about specific POU devices in particular. Some of the key indicators towards low awareness of POU are low awareness, lack of enabling environment; and lack of POU manufacturers towards the low end consumers who are the most vulnerable group and interestingly hold the key to largest market base.

Could you briefly explain the overall implementation mechanism of this project?

In this demonstration project, POUZN is trying to create a public-private partnership (PPP) to promote suitable low cost POU devices to low-income households. Awareness of the devices will



be created in SHGs meetings held by POUZN partners. Loans will be provided by the SHGs, MFIs, lending banks or the commercial partners with the SHGs savings guaranteeing the loans. POUZN will assist the NGOs to generate awareness on the importance of clean drinking water and to create linkages between the NGOs, their SHGs and POU manufacturers. POUZN will work with MFIs to create specific credit products to facilitate the POU device acquisition. Leading Bank will work closely with NGO partners to provide MF to the group members and will help in wider penetration of POU devices.

How has the project progressed so far?

As the project is unique with active Public Private Partnership towards promotion of safe drinking water, ensuring health and their by reducing Childhood diarrhea death, several partners have been identified with finalization of project implementation sites. We have finalized our NGO partners, and we have also decided who would be our commercial partners. The project is being implemented in five districts of Uttar Pradesh - Faizabad, Ambedkarnagar, Sultanpur, Barabanki, and Lucknow, covering around 200 villages, more than 1500 SHGs and 15,000 families.

The project has been distinctively divided into two separate phases with first phase being focused upon the water and its quality as well as water borne diseases. The communities members will be sensitized towards safe drinking water and will be made aware about water quality through water testing kits at the village level. Several initial stage IEC materials have also been generated regarding safe drinking water which will be utilized along with other relevant tools to awareness generation.

Do you have any economic argument to promote POU devices among the poor?

POUZN reviewed the existing published data and interacted with several women's SHGs in Lucknow and Faizabad districts of UP to understand the economic burden of diarrhea on a low-income household. A combination of studies and anecdotal evidence suggests a strong economic argument in favor of suitable low cost POU devices. First of all, poor families report at least one diarrhea episode every fortnight. Each episode conservatively costs at least Rs 200 in direct expenses and wages lost. The nutritional loss and long term impact on health and growth is not quantified here. This indicates a poor family spending more than Rs 4500 (103 USD) per year on diarrhea treatment. Secondly, effective table top devices produced by Hindustan Lever and Eureka Forbes cost about Rs 1600. The chemical cartridge, which is the only consumable part, costs 250 Rs and for a family using 10 liters per day needs to be changed every five months. If the device cost is amortized over the average product life, which producers estimate to be five years, the cost of the cartridge is added the total is 320 + 600 or 920 Rs per year. Again, the families will save at least Rs 3500, which are funds that can be used to improve nutrition, education and/or income generation.

As a matter of fact, through this demonstration, POUZN anticipates influencing the market trend towards low-cost, effective and convenient POU devices. These devices will ensure sustainable use and reduce unnecessary expenses related to alternative methods and more importantly treatment of water-borne diseases.

— As told to Dr. Rakesh K Singh, Executive Editor, CSV