

INFLUENCING RESULTS IN FOUR TARGET AREAS OF SWEDEN'S DEVELOPMENT COOPERATION WITH BANGLADESH: OPPORTUNITIES FOR PRIVATE SECTOR COLLABORATION

Final report for mapping the role of private sector in Sweden's new results strategy for Bangladesh and opportunities for Private Sector Collaboration (PSC)

SIPU - Swedish institute for Public Administration, September 2014

Framework Agreement on Market Development

Contract no C61157/F61021

Framework consortium led by SIPU International AB-

<http://www.sipu.se/international>

Consortium partners:

Adam Smith International - <http://www.adamsmithinternational.com/>

ORGUT - <http://www.orgut.se/>

Excerpt from report (page 24)

“Arsenic-free drinking water for rural children and mothers

The discovery a quarter century ago that millions of Bangladeshis were drinking arsenic contaminated water came as a chock and constituted an acute disaster situation. To this day the problem has not been solved and it is still a daily disaster for the many millions who are forced to drink the contaminated water for lack of alternatives.

As often seems to be the case, it is the most vulnerable who suffer most. This is for two reasons:

Firstly, research has shown that people who otherwise eat a nutritious diet of food, will be affected much less from arsenic poisoning. Thus it is the poorest that presumably do not have very nutritious intake of food, who will be hit hardest.

Secondly, the more well off a family is, the greater the chance to avail of arsenic-free water from other sources than the contaminated deep tube wells. Again, it is the poorest who are hit hardest.

A Swedish research-based company has invented and developed a method that can remove not only arsenic but also bacteria and saline content, and it has produced several prototypes that have been tested. From what can be understood from documentation - including independent sources - this is a unique method, based on membrane technology, to produce clean water, which has not been doubted nor contested. What has so far prevented it from being successfully marketed is apparently the question of how cheaply it can be produced.

A key question is whether it may be possible to develop a low-cost model which would be affordable for individual family units to purchase, or will the focus be on bigger units that can be purchased at community level? This question is currently being investigated in a research project at the Royal Institute of Technology (KTH) in Stockholm, part-financed by a Sida research grant.

Also Grameen Shakti (a subsidiary of the Grameen Bank), participates in this study, having expressed its interest to market the equipment in the future. Their business idea is to develop community size equipment that would produce biogas and fertilizer from manure and other biomass. The biogas would be used to run an engine, which runs a generator to make electricity. The coolant from the engine runs a membrane distillation module which produces arsenic free water.

If the KTH research proves that it is possible to run the distillation membrane equipment by relying entirely on excess heat produced by the engine running the generator, this would make the running costs very low, and therefore possibly make it a commercially viable product.

Based on a finding that in water treatment, the investment cost is typically only 20 % of the total lifetime cost, while the operation, user and maintenance costs account for as much as 80%, the NGO Wateraid has come forward with a call to the private sector to develop more efficient water purification equipment.

Wateraid points out that also rainwater is an important drinking source for which one needs to develop catchment devices. However, rainwater can serve people only for the three to four months while it is raining. It is still not known for how long rainwater can safely be stored. Denmark has recently started a large project which will use surface water for drinking instead of groundwater from tube wells.

This area would seem to be very attractive to explore for a possible Sida PSC, as it contains not only the production of arsenic-free water, but also development and commercial marketing of affordable biomass digesters and/or inexpensive solar heaters to run the engines producing electricity as well as to produce excess heat for the water purification process. In terms of potentially responding to the Sida result area 3 regarding improved access to drinking water and sanitation for vulnerable groups, this project seems to be a particularly strong candidate for a Sida PSC.”

PSC = Private Sector Collaboration

This opportunity got a total mark of 19 out of 20. (Page 44)