

1. Concept Title/Name

Improve tribal and village populations health & hygiene through provision of ecological sanitation and safe drinking water in delta villages, West Bengal

2. Problem statement

The proposed project area has various water access issues: shortage of potable water, low water pressure at booster stations, polluted/high arsenic and saline content of water, poorly maintained, rarely cleaned and potentially disease carrying or faulty water facilities or access points. It also faces regular floods arising from cyclones and rainfall fluctuations. Out of 100 bore wells in the Gram Panchayats 28 are defunct due to technical problems. This means that on average there are 57 families per tube well (4093 families/72 tube wells) and women may walk 2/3 hours a day to collect water.

The entire population faces long term health problems resulting from continued consumption of water which is contaminated with arsenic, saline and other chemicals as well as raw sewage. The World Health Organization states long term health effects of consuming water high in arsenic content include cancer, skin lesions, developmental effects, cardiovascular disease, neurotoxicity and diabetes. Arsenic's greatest threat to public health is through prolonged use of contaminated drinking water, using contaminated water in food preparation and crop irrigation. Living near the bottom of the delta system these people are reliant on water which has had all the effluent and waste dumped into it from further up the rivers – the Ganges, which feeds into their local rivers has over 1.1 million litres of raw sewage dumped into it every minute - a startling figure considering that one gram of faeces may contain 10 million viruses, one million bacteria, 1000 parasite cysts and 100 worm eggs.

Surveys of the project area indicate that 35% of the population in the areas do not have a toilet and 46% have a poor toilet which they do not use – effectively 75% of the local population practise open defecation. Those who do have toilets have leach pits or short depth open pit provision; in a high water table zone such as the Sundarbans this means that water contamination from human waste is likely and possible.

3 Aim of proposed project:

- a) Provision of safe drinking water to a tribal community by building Horizontal Roughing Filter and Slow Sand Filter
- b) Reduce water contamination (through open defecation in a high water table zone) and associated health hazards through provision of ecological sanitation compost toilets
- c) Provide Community Sanitary block; 4 ecosan toilets, 2 wash areas and 2 hand pumps (fitted with community pond)
- d) Provide School sanitation block for over 210 high school girls
- e) Introduce long term behavior change around sanitation and water usage through ongoing

community based participative training· Advocacy Initiatives with State government officials

4. Location Village(s) Samsernagar village, Melkanghumti Village
Taluk(s) Kalitala and Gobindakati Gram Panchayats in Hingalganj Block, North 24
Paraganas.State, West Bengal Lying in a delta region the project area is effectively an island; 3
rivers Kalindi, Raimangal and Gomati surround it: the Bangladesh border is to the north east
and the Sundarbans to the south.

5 .Beneficiary Description

The population are mainly ST, SC and Muslim with most people engaged in fishing, single crop
agriculture or small shops as employment. Unemployment levels are high with 35% of Kalitala's
population and 42% of Gobindakati's population are BPL families.

6. Describe main activities that will be undertaken

1. Construction of 100 family ecosan; 60 in Gobindakati Gram Panchayet and 40 in Kalitala
Gram Panchayet
2. Construction of 1 Community Rain Water Harvesting Structure by Rejuvenation of SSF using
HRF technique
3. Construction of Community Sanitary block; 4 ecosan toilets, 2 wash areas and 2 hand pumps
(fitted with community pond)
4. Construction of School sanitation block for over 210 high school girls
5. Change behaviour programme – Sanitation & Water Usage; spread over the 18 month to
include:
 - Self help groups to maximize community involvement
 - Community participative workshops on Eco Sanitation and its effect on health and hygiene,
including school workshops
 - Promoting safe water uses - rainwater storage, better management & effective use to include
waste water management at home and in kitchen gardens.

Provision of IEC materials.

What impacts do you hope to have?

Environmental impact:

- a) Reduction in contamination of land, water table and local environment through safe
capture and containing of human waste in a compost toilet (Family Ecosan, Community Block,
School toilet)

- Elimination of the risk of human waste leaching through the soil to contaminate the water table
- By project end more than 63,000Kg of human waste per year will be safely, appropriately and effectively disposed of
- By project end over 34,000Kg of organic manure will be available to villagers to improve their land or gardens, generating an average increased yield of 23%; improving income, nutrition and soil quality
- Organic compost improves soil structure over time, with increased water retention and increased agro-diversity
- Self contained low water usage and no power design of compost toilet means that almost no energy is required for usage. In contrast a traditional flush toilet for each of the 100 families would require, annually, 5,475,000 litres of water and 1,314,000Kw of power to pump the water, in addition to infrastructure development and maintenance. These villages are so remote that it's unlikely infrastructure would be permanent or long lasting in reaching them

Social impact:

- Improved school attendance of boys and girls – previous school sanitation projects show an average of 4% attendance increase for boys and 15% attendance increase for girls. In the long term this results in better education, lower dropout rates and improved ability to earn income
- Improved quality of life, health and welfare for those using filtered rain water for drinking; reduction in short term, midterm and long term health problems related to poor water quality
- Reduction in transmission of water borne diseases - improved health and well being for the community arising from reduction in contaminated ground water, soil and environment as a result of proper, safe and effective disposal of human waste through compost toilets

Technical Impact:

- Low technology solutions such as rain water harvesting, horizontal and sand filter technology and compost toilets mean that local communities are able to maintain and manage infrastructure without ongoing help.

Financial Impact:

- Improved knowledge concerning grey water usage and compost techniques results in improved kitchen garden usage, less money spent on food and improved economic situation

Less time spent collecting water enables women to spend more time on livelihood activity, girls

are less likely to leave school early and are better educated, resulting in lifetime benefits for themselves and their children

Total Duration of the project : 18 months.