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SUSTAINABLE DEVELOPMENT OF WATER RESOURCES, WATER SUPPLY AND ENVIRONMENTAL SANITATION

**A Case Study on reaching the Poorest & Vulnerable**

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*Bangladesh is the most densely populated country in South Asia. It has a population of 144 million, 21% living in urban centres. The rate of population increase has reduced from 2.5 in 1997 to 1.6 in 2001 while the urban population has increased from 6% in 1961 to 21% in 2001 of the total. The World Bank estimates the country population at 181 million by 2025 with 41% i.e. 73 million, living in the urban areas. Nearly half of the urban population will be living in slums and squatter settlements with little or no services. Bangladesh Bureau of Statistics carried out Households Income and Expenditure Survey (HIES) in 2000 and the report has been published in 2003. The survey divided the poor people in two categories; **absolute poor & hard core poor**. HIES defines **absolute** poor as a person who consume less than 2122 k.cal/day, and **hard core poor** a person who consume less than 1805 k.cal/day. According to HIES 44.33% people are absolute poor & 19.98 % people are hardcore poor. In rural area hard-core poverty is sharply decreasing whereas in urban area, opposite picture is noticed in respect of absolute and hard core poverty situations. In 2004-2005 WaterAid Bangladesh carried out an independent base line survey. According to that 30.6% slum dwellers are hardcore poor and 44.5% are absolute poor.*

At present more than 9 million people are living in Dhaka city, 30% of them living in slums/squatter settlements. In the slums of Dhaka city the average user to water point ratio is 1,000:1 and only 20% people have some form of sanitary latrine<sup>1</sup>. Lack of sanitation, long queuing times for water and unclean surroundings as the most important environmental concerns in the slums of Dhaka, Chittagong & Narayangonj.

There is no policy for public agencies to deliver water and sanitation services to the poor, who live in informal settlements, mainly in slums. Land tenure issues and the absence of a legal and regulatory environment **mean slum dwellers have no right to water & sanitation services**. In Bangladesh NGOs mainly work in rural areas; it is only recently that a few NGOs have turned towards the urban poor.

WaterAid is an independent British charity working with people in developing countries to improve their quality of life through lasting improvements to water, sanitation and hygiene promotion in collaboration with local partner organizations. WaterAid has been working in Bangladesh since 1986 but until 1996 was confined to working in rural areas. In 1997 WaterAid Bangladesh (WAB) started funding seven NGOs; DSK, PSTC, Prodipan, Phulki, ASD, ARBAN and BAWPA to implement water and sanitation projects in 150 different slums in the cities of Dhaka, Narayangonj and



Chittagong. The total population of these slums was over 400,000 and the number of direct beneficiaries were 110,000 (21,000 households).

From 1997 to 2001 WaterAid supported urban programme considered as pilot phase. In 2001 & 2002 WaterAid carried out different studies & evaluation to synthesize learning & design a new programme named “Advancing Sustainable Environmental Health (ASEH)”, which started in late 2003 and will run until March 2009. The UK’s Department for International Development (DFID) provided more than 80% financial support for ASEH.

<sup>1</sup> The position paper of Bangladesh Urban Round Table.

<sup>2</sup> The Urban Programme Evaluation of WaterAid Bangladesh - Suzanne Hanchett

In Bangladesh, the WaterAid supported urban programme has been recognized by different national & international agencies as a 'model' to provide water & sanitation services to the slum dwellers. However by 2000 it became clear to WAB and partner NGOs that a section of the poor and marginalised were being excluded because of their inability to pay which was confirmed by urban evaluation team. In 2001 WaterAid Bangladesh urban evaluation team reported:

*"One thing, however is clear: because the programme was to require people to pay for the water and sanitation facilities provided, most partner NGOs selected as working areas places that were relatively stable, and whose populations seemed economically strong enough to pay for the facilities. The cost-recovery expectation thus has limited the ability of the programme to provide water and sanitation services to the very poorest people or even to work in places where the majorities are extremely poor."*<sup>2</sup>

In the Pilot phase all the partners practised cost recovery approach for water & sanitation services based on recognizing that cost sharing by the community contributes to building ownership of hardware components. Capital, operation and maintenance costs were almost 100% recovered from the community. The recovered fund was managed by partner NGOs as a revolving fund for further instalment of water & sanitation related hardware components

The current programme ASEH focuses on the provision of basic watsan services using empowering approaches and is guided by core principles of participation, equity, gender sensitivity and a livelihoods approach to poverty reduction. It specifically seeks to target the poorest and least well-served residents in poor communities including the most vulnerable, women and children.

In Bangladesh, the poorest face severe difficulties in gaining access to the resources needed to substantially improve their livelihoods. The prevailing highly stratified, hierarchical and patriarchal social system systematically marginalizes the poorest and especially poor women and girls who are ascribed low social status.

Certain trade-offs were needed while ASEH's approach promoting 100% coverage with special focus on poorest & marginalized. It has been identified that unless the 100% cost recovery approach is refined to accommodate the capabilities of the poorest, such an approach may actually further marginalize the poorest by excluding them or causing them to self exclude.

WaterAid Bangladesh also believes that free services some times disempowered community people and a barrier for sustainability.

Under ASEH a heightened emphasis has therefore been placed on pro-poor refinements including an equitable cost sharing approach being followed by all WaterAid Bangladesh partner NGOs (Cost Sharing and Recovery Strategy, April 2005). This involves:

- i) Charging better-off users the full cost of supplying hardware and a disproportionately high share of total O&M costs,

Under ASEH, WAB and partners are applying some key guiding principles and strategies. The following are the principles being followed for poverty reduction, equity and gender:

#### Poverty reduction

- Affirmative Action (principle-1)
- Priority to be given to the poorest and most vulnerable groups for providing services and strengthening livelihoods' capital.
- Pro-poor Pricing Strategies: Positive discrimination in tariff setting and cost recovery mechanisms so that the poorest can afford to use and maintain services (strategy 1.7).
- Technology Choice (principle-5)
- Promotion of a wide range of safe, affordable, appropriate, context specific, gender and environmentally friendly technical interventions from which households may choose.

#### Equity and gender

- Equitable access to basic services and project benefits (principle-1).
- Programme specifically designed against social exclusion for both facilities and project interventions (strategy 1.3).
- Pricing and cost recovery schemes to ensure that the poorest can afford to use watsan facilities (strategy 1.4).

- ii) Subsidising poor and marginalized groups for their percentage of the capital cost, from ASEH

- iii) Cross subsidisation for O&M costs.

Experience has shown that although a large percentage of the poor, especially women, are **willing to pay** they are actually **unable to pay** when the time comes<sup>3</sup>. The people who have ability to pay are motivated so that they are willing to pay. On the other hand ASEH needs to ensure that the extreme poor and vulnerable (including socially vulnerable) have both access to and ownership over the facility/benefit. Community ownership, sustainability and equity issues are both related to and dependent upon such outcomes.

In the first year of ASEH implementation, several case studies have documented how partners are reaching the poorest through the effective application of the ASEH guiding principles & Cost Sharing and Recovery Strategy. Here we present profile of a slum; Chon Para Bashtohara Punorbashon Kendro

### Description of the slum

Chon Para Bashtohara Punorbashon Kendro (generally known as Chanpara slum) is one of the largest urban slums in Rupgonj Thana under Narayangonj District. The slum is 6 km from Dhaka city, and covers an area of 1 km<sup>2</sup>. The government established it in 1975 to rehabilitate landless people from Dhaka city.

Approximately 5,000 families were settled there at that time. According to PSTC, (the partner NGO of WaterAid Bangladesh) the number of households has now increased to 7,766 and more than 38,000 people live in the slum. Most

<sup>3</sup> Lack of ability to pay may arise from seasonal variations in their available disposable income, household shocks and crises, lack of control over resources etc.

of the inhabitants of Chon Para slum are day labourers, rickshaw pullers, small business owners, garment and factory workers, transport drivers, and helpers. A few people are employed in government and private sectors. Almost all the residents live in their own 24 x 18 foot houses allocated by the government and mostly made of C.I. sheet on a clay or concrete floor.

But with the passage of time Chanpara's facilities have not increased, and its residents are deprived of all urban facilities except electricity and some concrete road. Although different NGOs like BRAC, Proshika, Manobik Unnayan Shangstha, ASA (mainly implementing a microfinance programme) work here, sanitary latrine coverage is only 40%, including community and single-pit latrines.

Furthermore, these people are partially deprived of their democratic rights. Inhabitants of Chanpara slum cannot participate in local elections at the pourashava or union levels, and are allowed only to cast their votes in parliamentary elections.

### **PSTC support in Chanpara Slum during Pilot phase**

PSTC started their water supply and sanitation programme in 2000 but by June 2003 only 10% of Chanpara's population had been covered by the 38 tube wells and 114 pit latrines provided.

In that period the capital cost recovery of sanitary latrines and hand tube wells was 100%, excluding O&M cost. It was observed however that the hardcore poor and the vulnerable groups were ultimately excluded as service recipients. Several reasons for this exclusion were identified:

- PSTC considered the slum dwellers as poor & homogeneous, and followed the same approach in providing services everywhere.
- In meetings, and in the community baseline survey, relatively vocal and well-off people tended to dominate. Among the poorest section of the community, most family members tend to work outside of the home during the day, and therefore tended not to participate in meetings in the absence of special efforts to ensure their participation.
- The hardcore poor and members of vulnerable groups did not come forward to be included in the recipient group as they thought they were not able to pay for services.
- Members of the hardcore poor and vulnerable groups who were initially included as service recipients ultimately became excluded from these services as they failed to maintain contributions after giving the first 2-3 instalments. This occurred mostly for hand tube-well services.
- Some of the hardcore poor and members of vulnerable groups were included initially as their contributions had been paid by other well-off members, but were excluded later as they failed to establish ownership of the hardware component.

## **Methodology for reaching the poor**

### **Community Situation Analysis**

Implementation of the ASEH programme began in Chanpara in January 2005 with collecting geophysical information about the slum through a transact walk. The next step included several activities: informal discussion, household visits for rapport building with special attention to the poorest, and so on. The purpose was to create a congenial atmosphere among the slum dwellers so that the vulnerable and hardcore poor would feel able to participate in the community baseline survey that would analyze their socioeconomic situation. With the active participation of the community the entire slum was divided into 9 blocks and 36 clusters (120 to 150 households per cluster).

Community situation analysis (community baseline) was done by community people in each cluster separately using PRA tools; the data collected from secondary sources and individual households also validated during community situation analysis. The situation analysis described the current water, sanitation facilities; hygiene practices, existing resources in the community, common diseases with special focus on water born diseases and provided poverty mapping (economic status of each household using PRA tools).

The inhabitants of Chanpara themselves applied some PRA tools such as wealth ranking, focus group discussion (FGD) and observation for poverty mapping of the slum dwellers; PSTC staff facilitated this process. During categorization of households, PSTC staff and community members jointly determined the indicators based on the socioeconomic status of families. Generally the following indicators were used for categorization: type of occupation; income; tenancy; household assets (TV & freeze, land outside of the slum, schooling, etc.); purchasing capacity for rice, meat, fish, and vegetables; number of meals taken per day. Any confusing cases were validated by observation at household level. All households were categorized as **better off (not poor), middle class (Poor but relatively better off), poor (moderately poor) and hardcore poor**.

#### **Economic Categories:**

- A. Not poor, have some savings after having three meals, housing, cloths, expenses of education & treatment for the common diseases, can afford the cost of water and sanitation services without any subsidy.
- B. Poor but relatively better off: Through average monthly income it is possible to fulfill basic needs but no savings.
- C. Moderately poor: Have a single earning member in the family, remain jobless at least one third of the year, half of the year does not have three square meals.
- D. Hardcore poor/vulnerable/extreme poor: Almost round the year do not have three meals. Can not meet the other basic needs e.g. children are not able to go to school.

A mass gathering was organized to present all the data gathered in CSA. Visualizing their water, sanitation situation and its impact and their socio-economic status which indicate their ability/inability to solve the problem ignited the slum dwellers to action. After the presentation, the community formed an action plan for each cluster and a Community Management Committee (CMC) of nine to eleven members to lead implementation of the action plan.

### Identifying beneficiaries

Considering community demand and the water, sanitation situation of the slum, in February 2005 PSTC & the CMC decided to provide hardware services to the poorest section of the community first. 12 households belonging to the poorest cluster (identified by poverty mapping) was the first batch of recipients of individual latrines.

### Determination of cost sharing percentages

After identifying the beneficiaries, each family's contribution for capital cost, the number of instalments, and the payment schedule of instalments was determined primarily from economic categorization during community situation analysis. PSTC staff further conducted in depth analysis among the user groups to finalize the economic category. First they analyzed the data gathered during poverty mapping. Then facilitated a process in which the beneficiaries detailed their number of family members, earning members, household expenditures, major areas of expenditure, and sources of income, savings, and loans. During the in depth analysis the economic categories of 12% beneficiaries have been changed. The total process required two-three hour session for each group of 12 to 20 people.

### Case studies of selected residents

Sixty-year-old **Harun-Ur-Rashid** (Block: 08 Cluster: 01) has been blind since birth, and has been a beggar since early childhood. Now because of his age he cannot go out every day to beg. Still he earns on an average Tk 1000 per month. His situation became more desperate a few years ago, when his elder son died of jaundice at the age of 22; since then he has been very much helpless. His other two sons of 15 and 12 years were then bound to take any jobs they could get, and joined a nearby cotton mill as shifting labourers earning Tk 300 a week.

In the near past Harun-Ur-Rashid used a community latrine 60 feet from his house along with another 170 families of the area. As a blind person it was very difficult for him to go to the latrine; Harun always needed someone's help to use the latrine. He had to depend on other family members, who sometimes became irritated especially at night. The children of Chan Para used to defecate all over the street, so when he went to the latrine without anyone's help, most of the time his feet were soiled with the faeces of the children.

At the beginning of 2005 he got acquainted with the field workers of PSTC and participated in their awareness programme, where he learned about the use of hygienic latrine

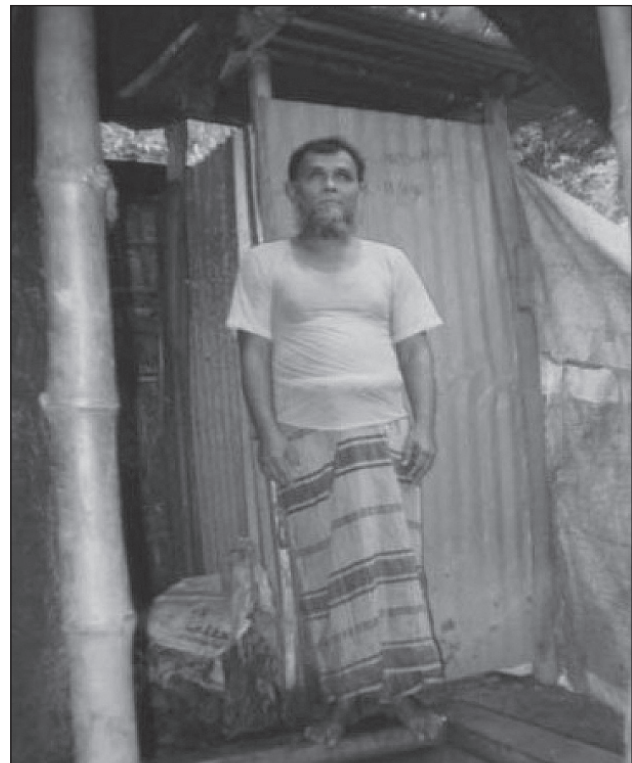
**Table 1. Cost sharing percentages**

Poverty category		Water supply	Household atrine
A	Not poor	100%	100%
B	Poor but relatively better off household	50%	75%
C	Moderate poor household	25%	60%
D	Hard core poor	10%	20%

and importance of cleanliness. He also got information on how to purchase a hygienic latrine at low cost. After participating in the situation analysis and awareness programme, Harun began to organize the people of his community, who formed a committee, and installed a latrine at a subsidized rate from PSTC. The total price of the latrine was Tk 2108, of which he has to pay 20% (Tk 422) in monthly instalments of Tk 21. He is spending 1.3% of his total annual income, and managed this by reducing the cost of taking tea, bittle leaf, etc. He does not feel that repayment will be any burden.

"If PSTC did not provide the opportunity of installing latrine at a subsidized rate, it would never have been possible for me to install the latrine. Now I can use the latrine without any help from others at any time of day or night and don't face any trouble to use latrine like before" answered Harun when asked his impression.

Harun is also a member of CMC. He now motivates other slum dwellers to use hygienic latrine, use slippers while using latrine, and wash hands with soap after defecation and before taking meals. The overall environment of this area is now improving.



70-year-old **Joynab Bibi** (Block: 8 Cluster: 1) came to the Chan Para slum with her husband 34 years ago. But after 6 months she lost her husband in a tragedy and became helpless with her small children. She survived by working as a maidservant. She is now very old and doesn't have enough strength to work. Eventually she started begging. Her sons live separately with their wives and don't care for their aged mother. Joynab Bibi has a divorced daughter who works as a maidservant and stays with her. Both the mother and daughter earn very little, and their income is too meagre to survive. Sometimes they must go without food.

They used the community latrine in Chan Para slum, but it was too far for them to reach and they had to cross a big ditch to go there. Though in dry season they had no difficulty using the latrine, in rainy season it was almost impossible to use it. As a result sometimes they defecated in the open beside their house.

But 6 – 7 months ago with the assistance of PSTC she installed a hygienic latrine through CMC in her own house. Now Joynab Bibi doesn't need to suffer for using latrine and also doesn't face any trouble for defecating at open places. Classified in the hardcore poor group, she had to pay 10% (Tk 211) of latrine's total Tk 2108 cost in 20 instalments of Tk 11 per month. She is spending 2.1% of her total annual income and saves 50 paise daily to pay the monthly instalment. Earlier she had paid Tk 10 per month to use the community latrine.

Now Joynab Bibi is the owner of a latrine and does not feel any problem in using it. Despite her great poverty installing a latrine in her house has given Joynab Bibi her confidence and she feels inspired to struggle for existence. She said, "Though I take scanty food, I do have a latrine in my house so that I do not suffer like before and never fall in any shameful condition". She feels that without PSTC's arranging for the subsidized latrine and instalment scheme she would never have been able to get it.

**"Now we are not doing daily household works only with three containers of water but with sufficient water as per our need" – said Majeda Begum who is one of the owners of a hand pump.**

As a result of community mobilization activities of PSTC, a group of 20 households demanded for a water source mostly came from poor and hard-core poor families who were suffering from water crisis in their slum areas. The committee jointly with those 20 households assessed their income and expenditure in order to set the cost sharing amount of the water supply option i.e. the hand pump tube well. The total cost of hand pump was TK 22000/-. It was agreed that the families would share the cost of the tube well according to their financial condition while the remaining portion would be shared by project fund. Then the cost sharing percentage was determined as per the group members categories of moderate poor (B) 60%, poor(C) 40% and hardcore poor/vulnerable (D) H/H 30% respectively which were Tk.649/-, Tk.432/- and Tk.324/- of the each share. The monthly installment of which were Tk.40/-,30/- and 20/-respectively.



Among the 20 families three members belong to category "B", eight members category "C" and nine members belong to category "D"

The distance of the Tube well has now been reduced. Previously they used to collect/purchase drinking water from water vendor or from river which is far from their house. They had to spend Tk.50 to 100 per month only for drinking water, but at present they are spending Tk.20/- to 50/- for repayment the installment amount of the tube well. They can collect water as much as they need for all household purposes. They also mentioned that the health problem of the children has been reduces rapidly in the slum which has indirectly reduced their expenditure regarding treatment.

## Impacts

Using wealth ranking to categorize households' ability to pay, using poverty mapping to identify the poorest, and implementing the new cost sharing strategy to set the amount of contribution against hardware components, have increased access to services in hand tube wells and sanitary latrines. Because:

- The community people were able to contribute money for hardware as per their ability, which also increased their access to and ownership of the hardware components.
- They can now decide themselves about the number of instalments and the duration of payments.
- Poverty mapping helps to give priority to the hardcore poor and vulnerable groups and also their inclusion in the CMC.
- Increasing the coverage of sanitary latrines has reduced open defecation practices among the poor, ultimately reducing health risks.
- By applying wealth ranking tools and FGDs during situation analysis and also evaluating ability to pay before getting services, the community people understand their economic and social position in their community, identify their minimum needs for survival as well as prioritized needs, and also create awareness on hygiene issues, community mobilization, and motivational work.
- Participation of the poor and women in the CMC has increased because PSTC motivated slum dwellers to

include CMC members from all socioeconomic categories, with special emphasis on women. They are now represented in the CMC and also in the purchases committee. Their voice has been heard in the decision making process. Alienation between the well-off families and the vulnerable, poor families has been reduced as they get the services jointly as a user group. Domination of established services by the well-off families has decreased due to the programme's special focus on the poorest, women, marginalized, and vulnerable.

Analyzing 63 sanitary latrine user households' data revealed that 38 households belong to hard core poor, 20 household moderate poor and 5 households poor but relatively well off.

## Learning

Some conflict arose during calculating cost sharing percentages for moderate poor and hardcore poor households. For sanitary latrines these were 60% and 20%, respectively. According to the community people, this variation is very high relative to the small socioeconomic gap between families in the slum regarding occupancy, income, and assets. CMC members ultimately managed the situation through motivation with the help of PSTC staff.

The whole process is time consuming and complex task.

The facilitation skill of each field staff were not up to the mark.

## Conclusion

In Bangladesh there is consensus that even well respected programmes failed to reach the hard core poor. Government failure came as no surprise. In 1996 The Dutch aid agency NOVIB reported that the NGOs have not yet taken a pro-extreme poor approach to poverty alleviation. A nationally representative survey found that 41% of eligible household did not have any contact with the NGOs operating in their localities<sup>4</sup>.

WaterAid Bangladesh's programme experience also indicates that while most partner NGOs appreciate the need to target the poorest, diversity among the poor make this particularly elusive challenge. The promotion of demand-led processes which is necessary for community participation and ownership even can militate against the poorest who frequently struggle to find a voice loud enough to articulate their demands. Even when poor communities are successfully identified, failures to understand and cater to the specialist needs of various sub-groups can lead to only muted benefits for those in greatest need. An underlying problem here was

that prior to ASEH, WAB and partners tended to view communities as relatively homogeneous settlements and applied broad-brush approaches to project implementation rather than tailoring inputs to meet the specific needs and capacities.

The institutions are interested to provide services to the poorest must undergo an attitudinal transformation to benefit the poorest with special focus on women. It requires staff capacity building & motivational work from senior to the grassroots level. Such training and capacity building of a large number of staff and also facilitation in the community are time consuming and resource demanding and therefore many organisations are unwilling to do so.

**Acknowledgement:** Mr. Rafiqul Islam Khan of PMID and PSTC staff supported to document the case study.

## Acronyms

ASEH	Advancing Sustainable Environmental Health
ARBAN	Association for Realisation of Basic Needs
ASD	Assistance for Slum Dwellers
CBOs	Community Based Organization
DSK	Dushtha Shasthya Kendra (DSK)
GOB	Government of Bangladesh
NGO	Non Governmental Organization
O&M	Operation and maintenance
POs	Partner Organizations of WaterAid Bangladesh
PSTC	Population Services and Training Centre
WAB	WaterAid Bangladesh
WATSAN	Water supply and sanitation
DFID	Department for International Development
HIES	Households Income and Expenditure Survey
FGD	Focus Group Discussion
CMC	Community Management Committee
ASA	Association for Social Advancement
CSA	Community Situation Analysis

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<sup>4</sup> Combining Methodologies for Better Targeting of the Extreme Poor: Lessons from BRAC's CFPR/TUP Programme – Imran Matin & Shantana R Halder

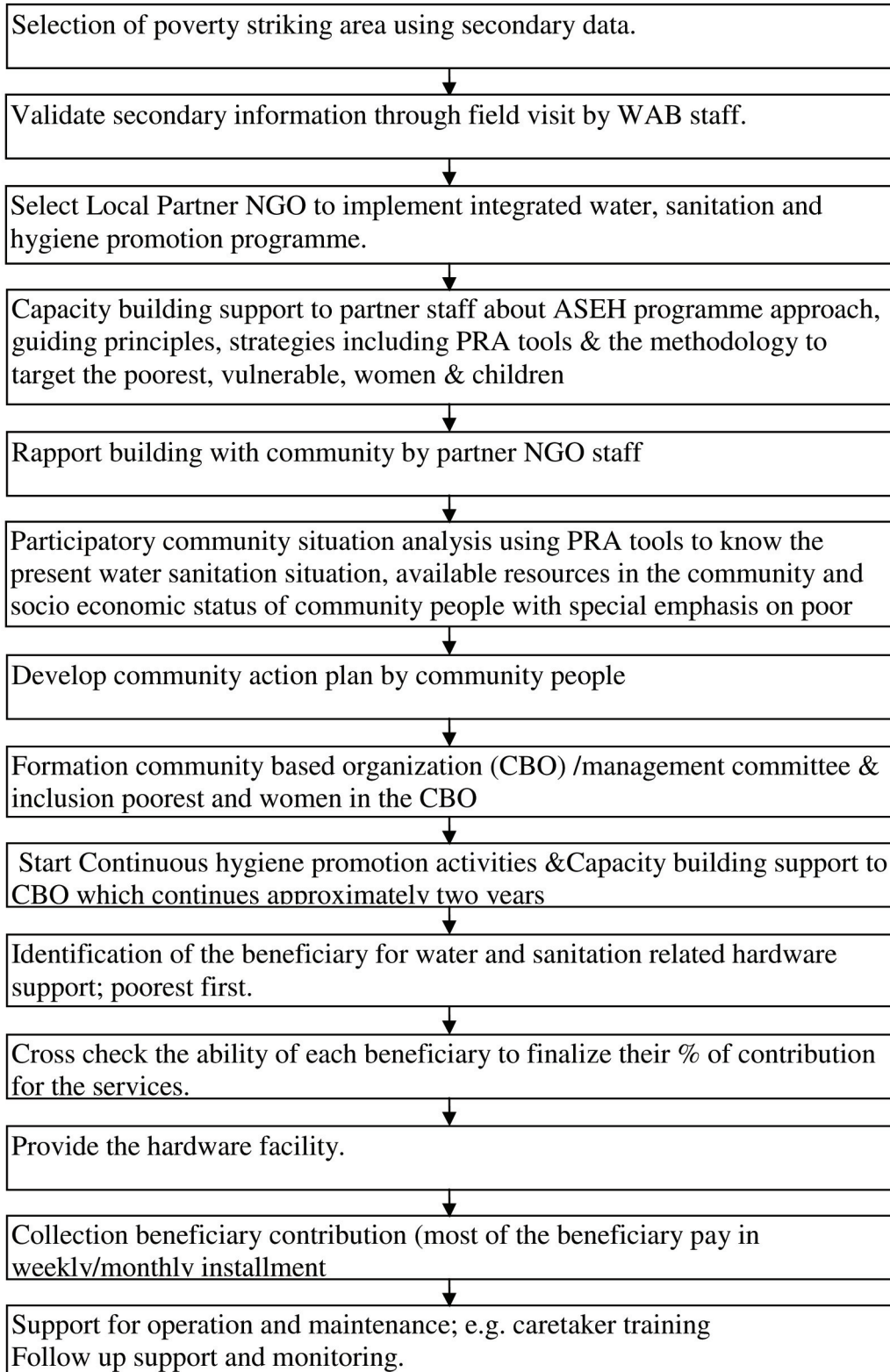


Figure 4. Steps of implementation