

## WATER AND SANITATION SYSTEM AS PART OF RURAL HOUSING : ETHNOGRAPHIC DATA FROM BANGLADESH

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### Background

Ideally all *baries* (houses) are constructed on the basis of some vital demands of the dwellers including resting and shelter, maintaining status and *parda*, logistics, child birth and nurturing, economic activities and other subsistence, water and sanitation (WatSan). But the existing situation shows the contrast phenomena in rural Bangladesh. Only 40.40% people use sanitary latrine for defecation, 43% people have access to adequate sanitation, 18% rural people don't own spaces for constructing latrine [UNICEF, 2000 and NGO-Forum, 1998], 22.44% rural *baries* don't include internal facilities on water [BBS,1999].

The paper argues - firstly, that in Bangladesh the rural community has its own pattern of WatSan system in terms of sources of water, means of collecting and preserving water, hygienic place of defecation, etc. as a component of constructing *bari*; Secondly, all *baries* of rural Bangladesh don't include infrastructure and space and other facilities for WatSan due to some factors. Supporting these arguments an ethnographic study has been conducted in Bangladesh in the light of three specific objectives which are - to identify the people's view about inclusion of WatSan system in housing, to find out the factors related to the inclusion of WatSan, and to identify local technologies for use in WatSan system of a house.

### Methodology

Base data concerning objectives were collected through using some anthropological tools and approach, which are participant observation, focus group discussion, semi structured interview, participatory mapping, holistic approach and emic strategy. The study was undertaken in four ecological zones of Bangladesh-plain (Chouddagram of Comilla), coastal (Sudharam of Noakhali), flood prone (Sadullah Pur of Gaibandha) and hill (Porapara of Bandarban) during August 1999- February 2000. A team of locally recruited associates completed fieldwork after one-month orientation period. Data were collected in respondent's first language whenever possible. Sample was 60 households and their dwellers.

### Watsan in Rural Houses

The core portion of a rural *bari* (house) is the space of shelter, which is able to protect the dwellers from social insecurity, natural calamities and other hazards. WatSan is a marginal issue in almost all *baries*. In this context one question is raised- do the dwellers of a *bari* defecate or use water? Yes they defecate and use water but in their own pattern. With in a house this pattern of WatSan system could be drawn into 3 forms-

**Place of defecation:** In the study area dwellers of a *bari* generally defecate in open space which is in the adjacent area of homestead. Locally this place is named by various terms - *pung* (hill or hill steps), *chara bari* (barren house), *jongol* (woods), *kheter ail* (edge of garden), *gach tala* (under the trees), etc. As a result of recent development interventions some house owners are making low cost hygienic latrines e.g, *garta paikhana* (hole latrine) *jolabadda paikhana* (water sealed latrines), etc.

**Waste management:** Cleansing houses and disposing waste are fixed works in the daily routine of a *bari*. Dwellers of rural community dispose the waste in deserted relinquished space of the *bari* generally which is in the backside. The study identified various types of waste (solid & liquid) are - cow dung, ashes, unutilized portions of vegetables and fishes, bits of grass, leaves or straw, spoiled foods, faeces of children and cattle, etc. After stagnating these wastes become fertilizers. Dwellers wash *bari-ghor* for 2/3 times per day. Women mainly perform all purification.

**Source of water:** Only 10% of total studied *baries* contains tube well as the source of safe water and 5% have *kua* (small ponds). The dwellers of 85% *baries* have to collect water from the outer sources e.g. like *jhiri*, *khal* (canal), river and Government installed tube well, etc. There is no system for collecting and preserving rainwater. All water related works e.g. bathing, cleansing, washing, rituals/rites are completed at the adjacent area of water source. As per gender system women do water related works in *ondor mohol* (inner side or domestic sphere) of the *bari*.

### Peoples' Viewpoints about Inclusion of WatSan with the House :

Viewpoint is the position from which a person considers a situation or phenomena or object. The study identified six different points from which rural people (as house dwellers) view the WatSan as a part of housing. These viewpoints are developed with the integration of their knowledge and perception, experience and rationality, norms and values, beliefs, ideology and social system. By analysing opinions and expression their viewpoints could be detailed as follows [Islam, 2000].

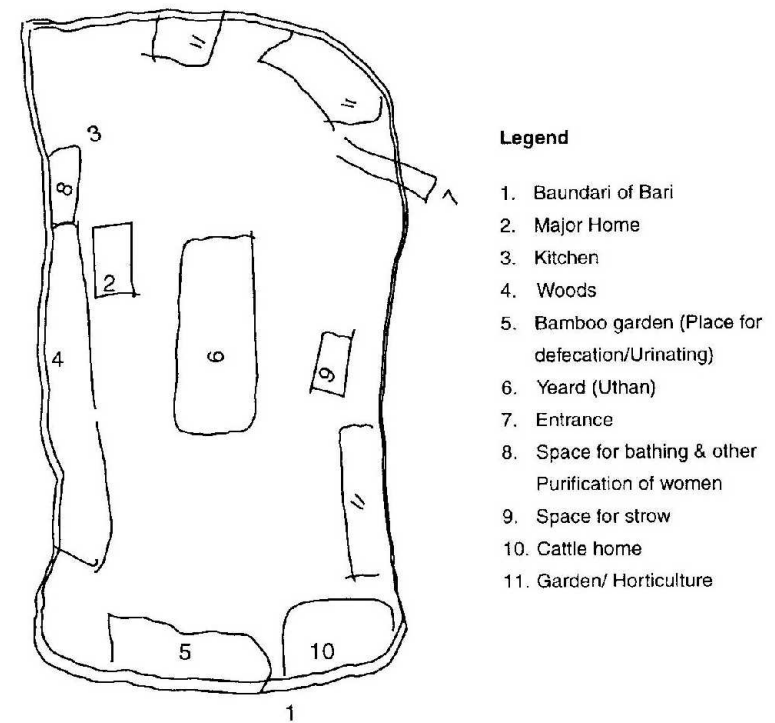


Figure 1 : Existing structure of a rural *bari* that doesn' t include the facilities for WatSan.

**Social prestige:** WatSan is related with social status in rural Bangladesh. Among elements of the house that increase the status of dwellers, WatSan is one. For this reason traditionally a *paka paikhana* (offset latrine) and *panir kol* (tube well) belong to the front side of the *bari* specially in a *swacchal grihostha bari* (house of rich peasant) it is a common scene.

**Keeping of Shame:** Especially in the context of women, in a *bari* of rural Bangladesh the place of defecation, urinating and bathing is covered with *parda* (purdah). The objective of the *parda* of WatSan is to keep off shame.

**Economic Rationality:** Inclusion of WatSan with a *bari* depends mainly on the financial ability of the owners. Dwellers of *bari* viewed that *kol basano o paikhana toiri holo dhoni loker kaj* (Installing tube well and making latrine are possible for rich). So a poor person generally does not feel the need of installing tube well and making 'latrine' in his *bari*.

**Hygienic Aspects:** Persons having awareness and sense of health and diseases consider that tube well and sanitary latrine are essential part of *bari* to ensure hygienic environment.

**Aesthetics:** On basis of beauty and common sense rural people practice sanitation and include infrastructure of WatSan with a *bari*. They view that including WatSan increases the beauty of living.

**Spiritual Aspects:** The central theme of this viewpoint consists of beliefs and sacred feelings on supernatural beings and mythic values of rural people. To please spiritual being they include the WatSan with their *bari*. Worldwide, water is a source of spiritual nourishment. Frequently used in rituals it is endowed with a range of mythic and symbolic properties [Graves, 1993]

### Technology and Resource in Including Wastan with House

Technology -i.e., the ways in which tools are used to teach goals of subsistence- is the realm of culture that most importantly defines the conditions to which individuals and social units adapt. Technologies link individuals and social units to the physical environment, and individuals and social units are linked to technologies through the activities by which they produce or acquire "income".

Once rural people in Bangladesh had the knowledge about water and sanitation system. They dug the ponds in the front side of houses. Rich people did that. Poor and rich people both used pond water. Than surface water was used for drinking. It was their traditional system. In 1960 s as a 'new technology' tube well penetrated in Bangladesh for collection of underground water. Since 2/3 generation rural people use the technology of tube well. Now it has become their own knowledge and local technology. Department of Public Health Engineering and UNICEF and NGOs are trying to introduce some technologies on the basis of underground water. This study identified following technologies which are already included and used in *bari*-

- Installing tube well, tara pump to collect ground water;
- Digging *indira* and *pukur /kua* (masonry-well and ponds) to collect surface water;
- Using *kalash* (earthenware jar) and *tui a-u* (hollow water pot) for collecting water ;
- Using covered earthenware jar for preserving water;
- Using *nim pata* (margosh leaves) and tablets, *tabiz- montra* (amulet and incantation), and alum for water purification;
- Boiling and tranquilizing for water purification;

To act on sanitation for adapting in inimical environment rural dweller use techniques that are indigenous and locally originated, also some are recently

introduced by development workers. Identified techniques by the study are as follows-

- Using ashes, mud or sand for hand washing after cleansing anus;
- Using *dhila* (mud or cloth pieces) for cleansing anus;
- Burning incense at evening to kill germs of *bari*;
- Entering and burning faces and other dusts.

Most of above techniques don't negatively affect the internal dynamism of *bari* and threaten its environment.

### Factor in Inclusion of WatSan in House

Just feeling the demands of water, sanitation and hygiene is not enough to include WatSan system with *bari*. Like all human behaviour/ view and socio cultural aspects, what dwellers do for ensuring water and sanitation for their *baries* (and why, how, with whom, etc.) are influenced by a number of factors. This study identified some factors, which may positively or negatively influence the decision-making of individuals for including WatSan with *bari*. These factors direct the pattern of housing. Receiving (+) or rejecting (-) anything depend on these factors. The identified factors are as follows-

- **Viewpoints** : Discussed in previous page
- **Socio-cultural aspects:** Power structure, factors, conflict, stratification, kinship, gender system, etc. play strong role in receiving, accepting and adopting any technology. We also learnt from previous experience of implementing some programmes. Yet most national health programmes fail in this respect mainly because of the local socio-cultural factors. National primary health programmes in other Asian countries have made similar mistakes. Till now villages of Bangladesh are characterized as the peasant society. Various types of stratification, social hierarchy, interpersonal discriminatory relations belong here. These characters affect the accessibility of all members to WatSan programme for receiving facilities.
- **Economic conditions:** Through this study some aspects were identified as the influencing factors related with resources and economic conditions. These aspects are entitlement, ownership, market value, land system, distribution system, etc. These aspects determine position and ability of individual/s in community through which s/he can invest money in including WatSan. Economic conditions influence the interpersonal hierarchy among the owners of the *bari* which may affect participation of the poor in including WatSan.
- **Ecological and natural environment:** Geographic (also natural) condition shapes ecological setting. Ecology indicates the inter-relationship of an organism and its environment, including both the physical environment

and other living organisms. Human adaptation to the environment involves the sphere of culture e.g. technology, patterns of social organisation which may facilitate or inhibit economic cooperation, community size and the spacing of social units. Water and sanitation are not on the outside of the boundary of ecology. Ecology determines how WatSan system exists and is developed in a particular geographic condition. The study identified types of ecological and natural condition which affect the inclusion of WatSan. These are -

- **Water table** which determines the installing tube well;
- **Raining and long term *khora*** which ensure the availability of water for surface water bodies e.g. *pukur, khal, dighi*
- **Flood** which affect the physical infrastructure of *bari* including water source and pollutes the environment
- **Surface water channels**, which provide water from internal source to *pukur* or *kua*.

### Conclusions

Simultaneously WatSan is vital issue of development public health and environment in Bangladesh. Till now as a peasant society in Bangladesh peoples' thoughts and dynamism revolve on the basis of *bari*. Recently Government of Bangladesh has started a development programme on constructing *khamar*, which is synonym of *bari*. With special attention on people's view, concerned sectors should take *bari*-based initiatives to promote WatSan status in rural Bangladesh.

### References

- Bangladesh Bureau of Statistics (BBS), 1999, Data on Distribution of Households by Source of Water, Dhaka.
- Graves, W, (ed.), 1993, National Geographic Special Edition: Water, Journal, The National Geographic Society, Washington DC.
- Islam, Zahirul, 2000, Women Approach to Rural Sanitation, Presented in 26<sup>th</sup> WEDC Conference, 5-9 November 2000, Dhaka.
- NGO-Forum Drinking Water Supply and Sanitation, 1998, WatSan Booklet, NGO-Forum, Dhaka.
- UNICEF, 2000, The State of the Worlds Children: 2000, UNICEF, UN Plaza, New York.