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03

DEVELOPMENT OF COMMUNICATION MATERIALS

Rural Water Supply and Sanitation Programme



ITN-BANGLADESH

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DEVELOPMENT OF COMMUNICATION MATERIALS
Rural Water and Sanitation Programme

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DEVELOPMENT OF COMMUNICATION MATERIALS

Rural Water Supply and Sanitation Programme

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DEVELOPMENT OF COMMUNICATION MATERIALS
Rural Water Supply and Sanitation Programme

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ABBREVIATIONS AND ACRONYMS

BARD	Bangladesh Academy for Rural Development
BRAC	Bangladesh Rural Advancement Committee
CR	Co-Researcher
CARE	Co-operative for American Relief Everywhere
CM	Communication Materials
DCC	Development Communication Cell
DWSS	Drinking Water Supply and Sanitation
DW	Development Workers
DPHE	Department of Public Health Engineering
DUM	Development and Use of Materials
DW	Development Worker
ECM	Effective Communication Materials
FGD	Focus Group Discussion
FPAB	Family Planning Association of Bangladesh
FW	Field Workers
GO	Governmental Organisation
GoB	Government of Bangladesh
IEC	Information, Education and Communication
ITN	International Training Network
KAP	Knowledge, Attitude and Practice
MoHFW	Ministry of Health and Family Welfare
NGO	Non Governmental Organisation
PMUK	Proshika Manobik Unnayan Kendra
PR	Principal Researcher
PRA	Participatory Rural Appraisal
SAE	Sub Assistant Engineer
RA	Research Associate
SP	Structural Pattern
SL	Sanitary Latrine
TA	Target Audience
TBA	Traditional Birth Attendant
UN	United Nations
UP	Union Parishad
UNICEF	United Nations Children's Emergency Fund
UNESCO	United Nations Educational, Scientific and Cultural Organization
VHSS	Voluntary Health Services Society
WatSan	Water Supply and Sanitation
WSH	Water, Sanitation and Hygiene
XEN	Executive Engineer

FOREWORD

Communication materials play an important role in conveying messages to the end users on water supply, sanitation (WSS) and hygienic practices. Although the importance of communication materials has been well understood in the recent years, yet the presence of effective materials is not quite common in the sector. Overcoming the issue of conveying appropriate messages to the respective target group still remains as a challenge. A lot more efforts need to be put here to ensure that communication materials that are developed and deployed help bring sustainable development of WSS.

It this backdrop an action research based on a learning process has been undertaken by the ITN Centre to come out with a set of recommendations towards development of effective communication materials to address the need of the sector in this area.

This report is the outcome of the above research. The methodology of the research and the cultural setting of the study area have been discussed at the outset. Peoples' perception about the existing materials has been examined wherefrom the factors influencing the effectiveness of materials have been identified. Finally, a set of recommendations has been made towards development of effective communication materials.

As the development of communication materials is based on a learning process there is no end to it. It is to be seen as a continuous process as well. I hope this report will be useful also a reference for further development in this arena.

M. Feroze Ahmed
Centre Director

PREFACE

This report is the output of an action research, which was based on a learning process with the participation of community people. In the synthesizing process, no major change of community input was made. Personal values and attitudes of the researchers were not imposed on to the findings. No attempt was made to check whether people's views were right or wrong. Efforts were given to learn from what people think or view about the communication materials used in water, sanitation and hygiene (WSH) in Bangladesh

WSH is not only the technical or an engineering issue, it demands attention from the social and behavioural sciences. Therefore, from the beginning of the present research, WSH was considered as a social system. From this viewpoint, the link between communication and WSH was identified.

This monograph consists of six chapters, namely introduction, methodology, culture of research area, effectiveness of the materials, factors behind the materials and recommendations.

It is not claimed that this research has shown the complete or perfect situation of society with reference to the context of WSH related communication. But it is expected that the findings of this research will be able to provide inputs in WSH related material development and inspire further research in this sector.

Nazmul Ahsan Kalimullah Ph.D.
Principal Investigator

GLOSSARY OF TERMS

Communication: Exchanging views, opinions and message between two or more persons who act as message sender and receiver.

Emic Approach: The research strategy that focuses on native explanations and criteria of significance.

Holistic Approach: Viewing any part or component of community as a whole.

Hygiene: The practices of keeping oneself and one's living and working areas clean in order to prevent illness and diseases.

Interview: Face to face meeting between two or more persons for gathering data on particular problem.

Key-informants: Members of research community the researcher works in who help interpret what she or he sees taking place.

Observation: A data collection tool through seeing, listening and feeling the practices or activities of daily life of community people on particular problems.

PRA: A pattern of qualitative research used for gaining in-depth understanding of particular situation/problem in the community.

1. INTRODUCTION

1.1 PERSPECTIVES

Communication is a recent but widely used issue and method in development. Water and sanitation (WatSan) is an important sector of development in which several types of communication materials are used as tools [13], because providing and disseminating WatSan message among the target community basically depend upon communication. In this context, communication is important for changing behaviour of target audience in favour of safe water, sanitation and hygiene. Various types of materials such as poster, booklet, flipchart, pamphlet, leaflet, sticker, cartoon, newsletter, calendar, flash card, school routine, audio and visual aids etc. are used as tools for communication with the target group about WatSan. These materials are easier to use, cost effective and familiar to the general people than other development methods. Department of Public Health Engineering (DPHE) and various NGOs produce materials on WatSan and disseminate and demonstrate these materials among the target group under the community based WatSan programmes [26,29].

Effectiveness of communication materials indicates a key problem that relates to many questions regarding perception of message by the community and its impacts on their daily life in changing behaviour about WatSan.

Often all communication materials focus on providing information and encouraging individuals to change behaviour. But just knowing the facts is not enough. Like all human behaviour WatSan related activities are influenced by a number of factors namely knowledge, thoughts, feeling, beliefs, attitudes, self-esteem, skill, culture, economy and other social influences.

In Bangladesh, as far as known, no in-depth study or action oriented research has been carried out on WatSan materials in the past. However, some research works on communication development mainly focussing on agricultural activities have been conducted by Bangladesh Academy for Rural Development (BARD). Some other organisations such as Johns Hopkins University of USA in collaboration with the Ministry of Health and Family Welfare (MoHFW), DPHE-UNICEF, OSDAA-Bangladesh, WaterAid and NGO Forum have been conducting research works on development of WatSan communication materials in the recent times.

But these studies neither assessed the effectiveness of the existing material nor indicated forms of effective communication materials.

Lately, in some meetings and workshops recommendations have been made for conducting research on communication strategies and materials in WatSan sector

2 *Development of Communication Materials*

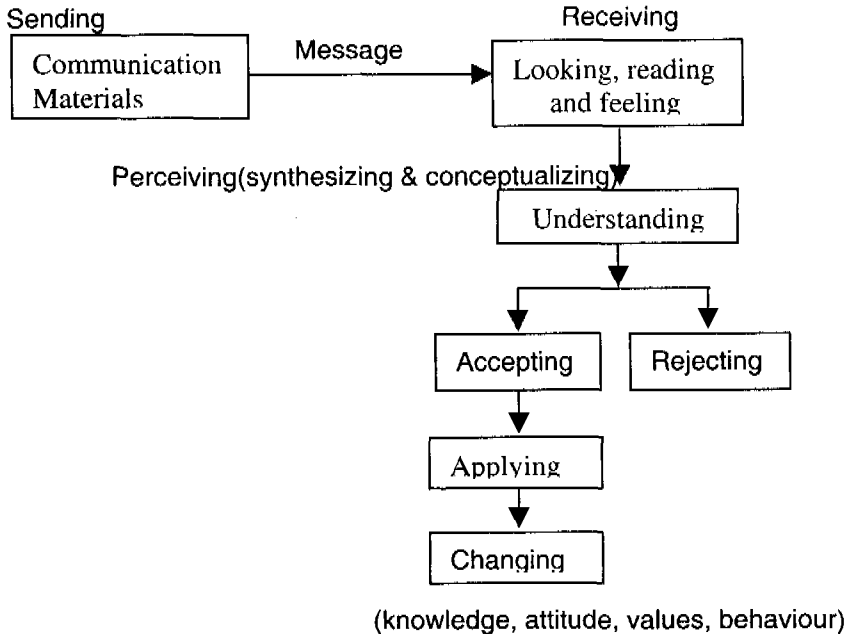
on a priority basis. A three-day retreat recommended research on key message and media of WatSan as a priority task [24]. Research was also identified as a significant part of the communication planning process in a DPHE/UNICEF organised stakeholders' workshop [11]. A coordination meeting of NGO Forum has emphasized on the identification of the effective materials by analysing situation of target audience and studying impact of materials [26].

The above findings of literature review and recommendations basically indicate the demand of conducting an action-oriented research through which ideal models of effective materials on WatSan can be developed. This action research is a response to the above mentioned demands.

1.2 **CONCEPTUAL FRAMEWORK**

The research theme was analyzed from three conceptual viewpoints, which are:

- Communication materials (CM) as a medium of message which acts to make relation between 'source of WatSan message' and 'user of message' (target audience). In the community level, CM play the role of a message sender and the TA acts as the message receiver. For disseminating WatSan message through CM only one type of communication system is maintained which is unilineal.
- WatSan as a subject of message could be conceptualized from three different viewpoints - as a social system, as a health component and as a development issue. But these different viewpoints are within three common issues, which are as follows-
 - Safe water : sources, importance, usage, purification, preservation, collection, maintaining water sources such as ponds, cannel, tube well, etc.
 - Sanitary latrine : making, maintenance, proper usage and reconstruction, etc
 - Hygiene : Cleanness of the surroundings, hand washing after defecation and before preparing food or before taking food, body washing and bathing,
- Effectiveness: It indicates quality of communication materials and message in terms of visibility, perceptibility, acceptability, applicability, aesthetic aspect and sustainability, etc. The conceptual viewpoints are interrelated and can be framed as shown in Flow Chart 1.

Flowchart 1: Conceptual Framework of the Researcher

1.3 OBJECTIVES OF THE RESEARCH

The research was undertaken for achieving the following specific objectives:

- To assess the effectiveness of print communication materials which are being used in rural WatSan Programme;
- To identify the factors related to effectiveness of existing print materials;
- To find out the pattern of effective materials as per peoples' points of view;
- To make ideal models of effective print materials for rural WatSan programme;
- To prepare a set of recommendations as per peoples' points of view for developing and using print materials in rural WatSan Programme.

1.4 COUNTRY PROFILE OF WATSAN IN BANGLADESH

In Bangladesh water and sanitation is an important sector of development. Access to safe water, sanitary latrine and ensuring hygienic environment are some of the

4 Development of Communication Materials

development and public health challenges in Bangladesh. No reliable and correct information and data are readily available to assess the nature and extent of these problems. Based on available information, the WatSan Country Profile has been formulated. Some of the main features of the WatSan profile are as follows:

1. Source of water: tube well, tap, ring well, marsh, pond, river, spring, lake, canal, rain;
2. Place of defecation: open space, woods, canal side, bank of river, water sealed latrine, pit latrine, hanging latrine and home-made latrine, etc;
3. Population with access to safe water (Urban and rural): 95%; 105 persons use one tube-well on an average in the country;
4. Population with access to adequate sanitation (Urban and rural): 43%; 40.4% people use sanitary latrine for defecation in which 11.4% is water sealed and 29% is pit latrine.
5. Means of anal washing: water (with or without soap/ash/soil), leaf of trees, napkin, *dhila* (mud /soil) and other indigenous methods;
6. Means of hand washing after defecation: water, water with soap, water with ash / soil and other indigenous methods; 3% people use soap and 97% use only water for hand washing before food making, child feeding and food taking; 9.4% people use water and soap for hand washing after defecation. 47.8% people use water, ash and soil for hand washing after defecation and 6.1% people use only water for hand washing after defecation;
7. 18% rural and 38% urban people don't own spaces at home for constructing latrine;
8. 55% of total Government and registered primary schools do not have any provision for safe water and sanitation;
9. In the whole country, DPHE has 900 and private sectors/NGOs together have 4,150 sanitary latrine production centres;
10. 90% of rural women suffer from diarrhoea. Per year 1,10,000 people suffer due to water borne diseases such as diarrhoea. Every child is affected four-times per year from diarrhoea.

1.5 OVERVIEW OF WATSAN COMMUNICATION MATERIALS IN BANGLADESH

As part of the research, an exploration was made to find out WatSan communication materials, their pattern, messages and purpose. On the basis of this exploration, this Section presents an approximate overview of current WatSan communication activities. Under the exploration, research team tried to collect the sample of existing materials. The team interviewed concerned staff and reviewed relevant reports and literatures.

Types of Materials

The following types of materials are being used in WatSan programmes to disseminate WatSan related message among the target audience:

- **Print:** Newsletter, booklet, pamphlet, poster, leaflet, handout, sticker (cartoon/comic), flipchart, calendar, class routine, news and advertisement, etc.;
- **Electronic Broadcast:** Radio, TV, film, video, audio lingual cassette, etc.,
- **Others:** Sign board, billboard, wall writing, neon sign and T-shirt, etc.

Themes of Message

WatSan communication materials carry the messages related to three broad themes- namely safe water, sanitation and hygiene as discussed in conceptual framework.

Implementing Agency

The research team identified different agencies, as shown in Table 2, concerned with the implementation of communication development project in Bangladesh.

Table 2 Various agencies concerned with the development of Communication Materials

Sl. No.	Organisations
A. Government Departments	
1.	Department of Public Health Engineering (DPHE)
2.	Bureau of Health Education
B. International Agencies	
3.	UNICEF
C. NGOs	
4.	NGO Forum for Drinking Water Supply and Sanitation (DWSS)
5.	Voluntary Health Services Society (VHSS)
6.	PRISM Bangladesh
7.	Proshika Manobik Unnayon Kendra (PMUK)
8.	Concern Bangladesh
9.	WaterAid
10.	CARE Bangladesh
11.	Dhaka Ahsania Mission
12.	BRAC
13.	Family Planning Association of Bangladesh (FPAB)
14.	Grameen Bank

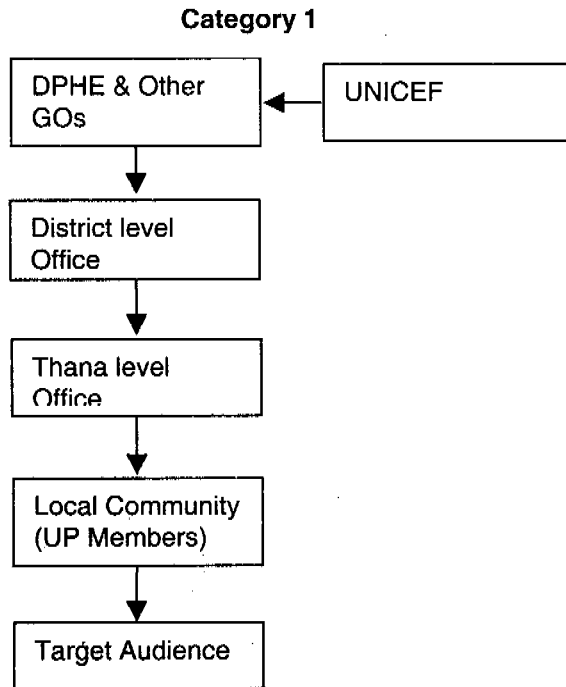
Patterns of Target Audience

- Children and their parents;
- Rural women;
- School students and teachers;
- Local leaders, opinion makers, religious leaders;
- Village physicians, health workers, TBAs;
- NGO workers.

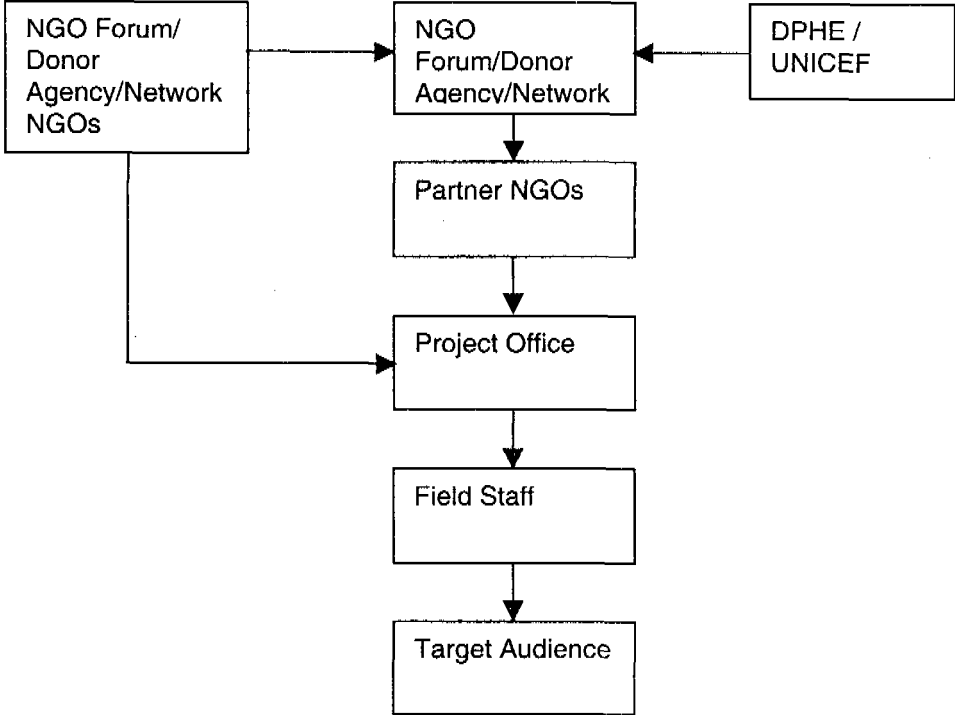
Routes of Dissemination of Materials to the Target Audience

Research team identified two major categories, as shown in Flow Chart 2, by which communication materials are disseminated or demonstrated among the target audience.

Flowchart 2: Dissemination of WatSan Materials to the Audience



Category 2



2. METHODOLOGY

2.1 PROJECT AREAS

WatSan system is determined by the natural and physical condition of an area and it is equipped with cultural means to cope with the natural conditions. Considering the physical condition of Bangladesh and the relevant cultural issues, four areas as shown below were selected for field investigation under the framework of the present research project.

Plain land	: Sonakatia, Chouddagram, Comilla;
Flood prone area	: Idilpur, Sadullahpur, Gaibandha;
Coastal area	: Dharmapur, Sudharam (Sadar), Noakhali;
Hilly area	: Porapara, Sualok, Banderban;

One suburban area located at Gawair, Dakkhin Khan, Uttara, Dhaka was also selected as study area to cross check the data collected from the above four project areas.

2.2 RESPONDENT GROUPS

The following groups were selected as the respondent groups of this research to assess the effectiveness of communication materials:

- School students;
- Adolescents (non school going);
- Mothers of infants;
- Community leaders;
- Teachers;
- Traditional healers;
- Indigenous organisations.

2.3 TOOLS AND TECHNIQUES OF COLLECTING FIELD DATA

In order to collect baseline data concerning objectives through an action-oriented process the research team followed 'feed in' and 'feed back' mechanism.

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The research team was vigilant in order to ensuring proper participation of the respondent groups in the data collection process.

In order to ensure the collection of relevant data as list of the 'feed back' process in the field level, RT proceeded with some steps. In every step specific methods and tools were used which are as follows-

- Penetrating research area and rapport building with local people using *participant observation* method;
- Selecting some *key-informants*;
- Collecting general information about culture, society and ecology and identifying traditional means of communication such as channels, path and points of research area using *direct observation*, *conversation* and *key-informant* methods;
- Collecting numerical data concerning population, literacy, development activities, existing practices and facilities about WatSan, etc. using *interview* and *survey* methods;
- Demonstrating and disseminating communication print materials on WatSan and related issues identified by traditional means of communication with the assistance of *key-informants*;
- Assessing impact (response and reaction of people to the materials, change in KAP and behaviour of people and effect in the daily life activities of people including WatSan) of message in materials among the community, limitations, weakness and strength of materials using *FGD*, *participant observation* and *key-informant* methods and *anthropological (holistic and emic)* approach;
- Identifying factors related with the effectiveness of the demonstrated materials by using *intensive* and *informal interview* method;
- Patterning effective communication materials as per people's points of view using *PRA* tools and techniques ;
- Preparing ideal models of effective print materials using *PRA* tools and techniques.

Interview and FGD were conducted in the respondent's language whenever possible and these were documented with confidentiality. Field investigation took place up to 24 hours and several revisits were also conducted.

Literature review is an important method in the research right from the preparatory phase. We reviewed relevant literatures of Bangladesh and other countries, which focus on:

- Development communication;
- Information , education and communication (IEC) of primary health care and hygiene;
- Studying IEC materials and activities related to WatSan;
- Print Communication Materials on WatSan;
- Reports of research, program, evaluation of GO and NGOs on WatSan IEC activities.

It is basically a qualitative research. In a qualitative study sampling is used purposively but not as an unavoidable method. In the present research work, sampling method was used for selecting respondents in the field level for collecting some quantitative/numerical data.

2.4 DATA PROCESSING TECHNIQUES

After collection, all field data were processed in three basic functional stages - data editing, data documentation and data analysis.

- Data Editing: *Firstly* the collected data were edited by the Field Workers (FW) on a daily basis. *Secondly*, a Research Associate (RA) further edited these. The Principal Researcher (PR) and the Co Researcher (CR) edited the field data finally. In data editing phase some issues were focused, these were - inconsistencies, errors, incompleteness, indistinctness, dissimilarity, irrelevance, etc.
- Data Documentation: At the field level, FW recorded the data in the record files and notebooks. Centrally collected data of all the areas were recorded and preserved in the computer, data sheets and record files whenever possible by Research Associate under the guidance and supervision of the Principal Researcher and Co Researcher.
- Data Analysis: The main method of research in analysing the data was 'spot analysis' which ensures respondents' full participation with extended inputs.

2.5 DEVELOPMENT OF PATTERNS OF EFFECTIVE COMMUNICATIPON MATERIALS

One of objectives of this research was to develop a pattern of effective communication materials. Making universal standard form of any material is not possible. In developing a model of WatSan communication materials, cultural

living quarter, cow shed, latrine, tube-well, etc. Central path of the village is connected with Dhaka-Chittagong Highway.

Idilpur

The village Idilpur was selected as a flood-prone area, which is under Mohipur union of Sadullahpur thana of Gaibandha District. Each year Idilpur is flooded. The tributary 'Nalia' of the river Karotowa is flown through the village. Habitation growth is concentrated in the middle point of agrofarm [3] of the area. Due to increase in family size, habitation is characterised as dispersed.

Dharmapur

Dharmapur is located on the east of Noakhali district in a coastal area of Bangladesh. This village is located at Madhyam Dharmapur union (No. 6) of Sudharam thana under District Noakhali, 12 km. far from the district town. About 3000 people live in this village in 1000 households. Fifty years ago, the village was charland of the river Meghna. About 95% of the total population are farmers and 5% are fishermen. About 8-10 canals flow through the village. Most of the houses are built with *bas* (bamboo), *khar* (Straw) and *tin* (corrugated sheet).

Porapara

Murongs ethnic group are the dwellers of Porapara. Porapara is located at a distance of 15 km. from Banderban District head quarters under No 4 Sualok union of Sadar Thana. About 100 people live in this *ku-aa* (village) in 20 households. It is an ancestral home for the villagers. The settlement pattern in Porapara is characterised by extreme agglomeration and a clear preference for high ground location, especially the *pung* (hilltops). They use land of precipices and foothills for *jhum* cultivation. Their *kim* (house) is made on wooden stage. All *kims* are inter linked through *racha* (paths), which reaches to the pakka roads towards Banderban. The house settlements do not include the source of *tui* (water). Under the adaptive value of this pattern, ecology is linked to water and sanitation system of the Murongs. On the contrary, the water and sanitation of the social system of the Murung community is laid out on this ecological system [16].

Gawair

Gowair is located at a distance of 1 km. from Zia International Airport, Dhaka under Dokkhin Khan union of Ultra thana. Although Gawair is a village, the area is characterised as a suburb because of its location close to the city.

This village is a crowded area with unplanned 'Ginjee' (congested) habitation. Only one main road is used for coming and going. This is connected with every

home through 'chipa goli' (narrow street). Land is used for habitation, business and small factories. There is no permanent and complete settlement in Gawair.

3.2 SOCIAL ORGANISATION

Analysis of the traditional social organization may enhance the understanding of the diffusion of WatSan message. Culture determines the daily behavioral pattern for different social groups [7]. The analysis focuses on four aspects of social organization - *firstly* cultural rules influence the geographical mobility of particular social groups regarding WatSan; *secondly* various social institutions determine in the decision making of the individuals; *thirdly* cultural process plays a role in transferring WatSan message from men to men and generation to generation; *fourthly* rites of passage related to WatSan. The third aspect is illustrated as the communication system in Section 3.4.

Cultural Norms and Social Institution

Culture determines access of the community members to WatSan activities. Cultural norms influence the geographical mobility of women especially with reference to pregnant, newly married women and mature adolescent girls. In Sonakatia, Idilpur and Dharmapur women are not permitted to leave their *bari* during most of their lives. These norms are also applied in Gowair. Limited geographical movement of women is a cultural norm, which corresponds to a pattern of sexual segregation, where men participate in public sphere and women look after the domestic sphere. The women's world is her *bari* and the immediate neighborhood. This world also includes WatSan facilities and its related activities. Except certain circumstance, women of Idilpur, Sonakatia and Dharmapur are not allowed to do activities related to agriculture, labor, business, market, etc. From an emic viewpoint, such activities reduce the social prestige of the family.

In *ku-aa* (village) of Porapara there is no social restriction on women to move. Women have access to every sphere of the society. They lead the family and they take role in '*Jhum*' cultivation, cleanliness, water collection from *chong* (fountain), cooking, marketing, childcare, etc. Murong family is basically patrilineal but the major portions of domestic works are done by *sattar* (women). The Murongs rare *pok* (pig) as an economic out let. The adaptive value of this system from the Murong point of view is that *pok* is important for their subsistence and source of nutrition. It is a symbol of status. So, every Murong family rare *pok*. From WatSan point of view *pok* plays a role in the community and *pok* is found in the community as the agent of cleansing faeces. There is no latrine in Porapara. Every person defecates in the jungle. Flock of *pok* eats the faeces by capping. As a result the surroundings always look clean.

At Present, Gawair village is not tradition bound one. Almost all of the families migrated from various parts of the rural area of Bangladesh. No traditional social norms exist in these areas. It is a suburb area adjacent to the Dhaka City. In various types of social system, urbanisation process doesn't influence the mobility of women. Women perform domestic activities and simultaneously play role in income generation.

Rites of Passage

The phenomena 'rites of passage' refers to social institutions and rituals through which the social position of an individual is determined [2]. Various types of rites are found in the culture of Bangladesh [5]. In the research area some rites of passage were found in which water and sanitation are important ingredients. This importance is seen throughout the world. Water is a source of spiritual nourishment. Frequently used in rituals, it is endowed with a range of mythical and symbolic properties [28].

In the cultural setting of the research areas the following rites related to the use and practice of water and sanitation were found:

Sonakatia, Edilpur, Dharmapur and Gawair:

faraj gosai (compulsory bath),
Removing *antur ghar*,
telai and *gaye holud* (premarital rituals),
khatna/ musalmani/ (circumcision),
dhila and *kuluk* (washing anus and penis with soil/ napkin),
garbha phul ((placenta) and *nari* (umbilical cord) removing,
daphon (bath of dead body) etc.

Porapara:

woreng puja,
sungthaing puja,
kumlang puja,
preparing *nappi* (Shrimp paste)

3.3 STATUS OF THE EXISTING WATSAN SITUATION

The following table shows the status of the existing situation of water and sanitation in the research areas:

Table 3: Existing WatSan Situation in Research Area

Indicators	Existing Situation by Area				
	Sonakatia	Idilpur	Dharmapur	Poraprara	Gawair
Source of water	Tube-well, Pond, rain.	River, pond, tube-well, rain.	River, pond, canal, rain, tube-well.	Fountain, rain.	Tube-well, tap water, rain.
Usage of water	Drinking, cultivation, cleansing, cooking, caring of cattle, rituals, domestic works, cleaning the body.	Cultivation, drinking, cleansing, cooking, caring of cattle, rituals, domestic works, cleaning body.	Cultivation, cleaning, cooking, caring cattle, rituals, daily activities, washing hands and body.	Cleansing, cooking, ritual, domestic works washing body.	Cleansing, cooking, domestic works, washing hands, bathing.
Place of defecation	Open latrine, water sealed latrine, open space, bushes, pond side, edge of crop land, road side, barren house, bridge shed, under big trees.	Riverside, open latrine, open space, bushes, pond's sides, edge of croplands, roadsides, barren house.	Riverside, Open latrine, open space, pond's sides, edge of croplands, roadsides, barren house.	Bushes, steeps of hills and surroundings of homes-teads.	Open latrine, water sealed latrine, drain side.
Means of preserving water	Using pitcher, pail, jug, and drum.	Using pitcher, pot, <i>patil</i> and jug.	Using pitcher and jug.	Using <i>tui-aa</i> [shell of bottle-gourd].	Pail and jug
Means of hand washing before cooking, child feeding and after defecation	Using only water, using water with soap, ash, mud and soil.	Using only water, using water with soap, ash, mud and soil.	Using only water, using water with soap.	Using only water.	Using only water, Using water with soap.
Key Player for water and sanitation	Women.	Women .	Women.	Women and men both.	Women.

Status of Arsenic Contamination of Groundwater in the Project Areas

Following table shows the situation of arsenic contamination of the research area

Table 4: Situation of Arsenic Contamination

Research area	Max As mg/l	Tube wells		Deep wells	
		No.	Contaminated	No	Contaminated
Sonakatia	0.545	28	12(43%)	0	0
Idilpur	0.059	61	3(5%)	0	0
Dharmapur	0.813	640	396(62%)	3	0
Pora Para	0	0	0	0	0
Gawair	0.095	62	2%	0	0

Source: Summary of Existing Field and Laboratory based Arsenic Surveys (UNICEF)

3.4 COMMUNICATION SYSTEM

"Into the community of Bangladesh, modern knowledge, science and technology can't penetrate"[19]. Communication system belongs to the main stream of the community. This communication system is composed of all necessary components, which are source/sender, message, medium and receiver. In all research areas communication system is very 'traditional'. Community member and social institution develop the communication system and determine effectiveness of communication system. The study identified the existing communication system of the research areas. This discussion divides the whole communication system into two major parts -*firstly*, Means of message dissemination and diffusion that is generally invisible; *secondly*, Infrastructure which functions for continuation of communication system

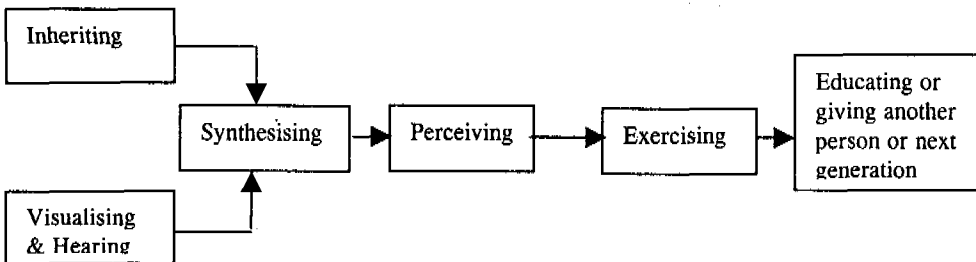
Means of Message Dissemination

Types of Message: Various types of messages related to WatSan are disseminated in the research area [19]. The messages are - drinking water, hand washing, use of water, cleansing anus, water purification by using *nim pata*, *tabiz - montro*, *swarna-rupa*, boiling, collecting water, using water for ritual, bathing, washing, cleansing latrine, preserving water, supernatural and indigenous practices for cleansing and purification.

Source of Message: Grand parents, peers, kin persons, folk tells, religious version and text, myth, TV, radio, cinema, school teachers, religious persons, health workers, NGO workers, etc.

Distributing Mechanism: The present research project areas are characterised as 'traditional' community. Till date, 'modern' communication and information flow system has not been developed in these areas. Though another research identified a kind of traditional process, as shown in Flowchart 3 through which community members learn sanitation from an early stage of life [19].

Flowchart 3 : Traditional Communication Process of Research Area



It has been identified that the communication system is maintained in the research areas by applying the following approaches-

- Person to person
- Generation to generation
- Aged to child
- Family to family
- Teachers to students
- Patron to client
- Child to child
- Opinion makers to villagers
(Opinion makers are Community leaders, Religious persons, Social workers, Artists)
- Healers / doctors to patients
- Peer group
- NGO workers to target group
- Seller to buyer
- Radio, TV, Cinema to audience, etc.

The main technique of the above approaches is oral communication.

Communication Infrastructure: Infrastructure setting plays a vital role in maintaining communication system in the research area. Basically all persons are under a network of infrastructure. In this perspective social infrastructure can be termed as communication infrastructure. In research area different types of communication infrastructures were found which consist of three elements namely

- spots of people gathering, social points, connecting points/junctions of paths. The pattern of communication infrastructure in the research areas is indicated in Table 5.

Table 5 **Pattern of Communication System in Research Area**

Research Area	Identified Communication Channels and Quantity
Sonakatia	<i>Dactar khana-1, masjid - 4 , cha dokan-8, play ground-1, maktab-3, madrasha-1, primary school-1, club-1, shomiti-3, ukil bari, member bar2 , choumuhani-2, temuhani-1, kalpar, pukurpar</i>
Idilpur	<i>Cha dokan-1, mudidokan-10, primary school-1, madrasha-1, mosjeed-2, mondir-2, play ground, chowrasta, goror deals, etc, kalpar, pukarpar.</i>
Pora para	<i>Tetul tala, jheerir ghat, bat tala, keany, karoari, cha dokan, temuhani, etc.</i>
Dharma pur	<i>Dactar khana-1, masjid-4, cha dokan-8, play ground-1, makteb-3, madrasa-1, primary school 2, club-1, shomiti-3, ukil bari, member bari-2, choumuhani-4, temuhani-5, kalpar, pukurpar</i>
Gawair	<i>Dokan-100, club-2, school-5, restaurant-3</i>

4. EFFECTIVENESS OF EXISTING WATSAN COMMUNICATION MATERIALS

One of the major objectives of this research was to assess the effectiveness of the existing WatSan communication print materials. The concept 'effectiveness' refers to the 'quality' of things, which is expressed through indicators. The research tested five indicators, which are related to the two major qualities of WatSan materials – (i) instinct traits of materials and message; and (ii) impacts of the message in the target audience.

The tested indicators were visibility of materials, perceptibility of the message, acceptability of the message, applicability of the message and aesthetics of the materials. This chapter presents the results of the tests of these indicators.

4.1 VISIBILITY

Generally visibility means " the fact or state of being visible" and "the extent to which the light or weather enables one to see things at a distance" [9]. In this research visibility indicates the character of materials (poster, sticker and flip chart), which enable the audience to visualise looks of the materials. In fact, visibility is an ability of materials for attraction of sight by which materials come into the sight of the target audience. The research tested the visibility with reference to five aspects of sight attraction capacity: color of materials, font of letter, size of materials, placing of materials and pattern of picture. People were interviewed about the visibility of the communication materials and direct observations were also made to test the aspects of sight attraction capacity.

Quantitative Measurement of Visibility of the Materials

Table 6 presents the results of the visibility tests, which indicate how people look at the posters. The people are those who regularly walk and pass on the side of the selected points.

Qualitative Measurement of the Visibility of the Materials

The research qualitatively measured the visibility of the materials as per people's viewpoints, which are as follows:

- Posters were visible from a distance not more than 60 feet, stickers were visible from a distance not more than 15 feet and flipcharts were visible not more than 25 feet.
- To attract the sight of audience, the materials were placed on walls, trees

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and flipchart stand so that the positions were within the range of visibility of the materials.

- Pictures were more attractive than letters
- Black, red and blue color easily attracted the sight.

All colored posters were faded in 20 days that were placed in the open space. It means Demonstrated posters had the proper color for a maximum of 20 days.

Table 6 **Visibility of the Materials**

Project Areas	No. of demonstrated materials	No. of persons interviewed	No. of persons looked at the materials		Comments
			Total	Percentage (%)	
Sonakatia	100	200	120	60	-
Idilpur	100	200	150	75	-
Dharmapur	150	250	180	72	-
Porapara	30	25	20	80	Population size is small
Gawair	150	200	84	42	-
Total	530	875	554	63.32	-

4.2 PERCEPTIBILITY OF THE MESSAGE

The concept 'perceptibility' has originated from the term 'perception' which is used in behavioral sciences e.g. anthropology and psychology. Perception indicates knowledge and idea about any object, which are obtained by the sense organs [23]. Sensation is the previous stage of perception. Perception consists of three ingredients such as object (sensitive material), sense organs and brain. Basically perception is a summation of sensation and thinking. In this research, WatSan communication materials are considered as the objects. Every object has to contain a main quality, which is perceptibility. One of the objectives of the research was to assess the perceptibility of the message of WatSan materials by separating the message from other objects and comparing the materials with other objects of their daily life.

Quantifying the Perceptibility

The research quantified the level of perceptibility of the materials on the basis of numerical and ranking in terms of the meaning of the picture and message of the materials. Table 7 shows the numerical status of perceptibility of the messages.

Respondent groups expressed four viewpoints about the overall status of perceptibility of the message, which have been ranked as follows:

Language of the materials are hard to understand for *kam shikkhita/ashikkhita lok* (less educated /uneducated people)

Some pictures are not familiar to the villagers and in Porapara the pictures were fully unknown.

The main subjects of the messages are similar to the daily activities of the villagers.

Water, sanitation and hygiene related many uncommon issues are included but essential issues of their life are not included in the materials e.g. spiritual aspects.

Table 7 Perceptibility of the Messages

Research Area	No of persons who looked at the materials	Persons who could perceive the meaning of the message	
		Total No.	Percentage (%)
Sonakatia	120	75	62.5
Idilpur	150	50	33.34
Dharmapur	180	65	36.11
Porapara	20	8	40
Gawair	84	50	59.53
Total	554	248	44.77

4.3 ACCEPTABILITY OF THE MESSAGE

Etymologically, acceptability is originated from the term 'accept'. Everybody has the value through which she/he accepts or rejects any thing. On the contrary, any material owns a quality of acceptance or rejection. It indicates that every thing is considered in two measurements i.e. accept (positive) and reject (negative) [8]. Acceptability is viewed as a vital part of the WatSan message. Assessing the acceptability of message is one of the major objectives of this research. In this research, acceptability has been measured from the two aspects - *firstly*, identifying how many people accept the message and *secondly*, views of people about the acceptability or non-acceptability of the message. The following aspects were considered as the standards to measure the acceptability of the message from peoples' point of view:

- Usefulness of the message
- Exactness of the message
- Reliability of the message
- Synonymous with their own WatSan related terms

Quantifying the Acceptability of the Message

Table 8 shows the number of people accepted the message after perception.

Table 8 **Acceptability of the Messages**

Research Area	No. of persons who could perceive the message	Persons who accepted the message	
		Total No.	Percentage (%)
Sonakatia	75	50	66.67
Edilpur	50	29	58
Dharmapur	65	24	36.93
Porapara	8	6	75
Gawair	50	40	80
Total	248	149	60.08

Peoples' View about the Acceptability of the Message

Respondent groups expressed their views about the acceptability of the message. Their views were conceptualised with their life experiences, knowledge, formal/informal education, ideology, norms and values. Analysing their opinions, thoughts and views about acceptability, the following are found:

- The message is helpful to their life and daily activities.
- The message is included in their books in school and they regularly read this message at the school. As per their opinion only literate persons talk about sanitation, pure water, hygiene, etc.
- If anybody exercises this message she/he will not become ill. All healthy men use sanitary latrine, drink pure water, wash body and hands. Through these practices, anybody can be a *vadra lok*
- In the Holy Quraan and Hadith cleanliness is included. Water is related to soul. So slogans and pictures in the posters are not *mithya* (false).
- Some words and terms in the posters are synonymous of some common words used by the villagers. Like *nirapad jal* is synonym of *bhalo pani*.

4.4 APPLICABILITY OF THE MESSAGE

Applicability is a major quality of the materials. If people do not use and apply the learning and messages of the materials then it can be said that materials do not contain the quality of effectiveness. One of the objectives of this research was to measure the effectiveness of the message through quantifying the applicability of the message. Every WatSan material contains characters, which can be viewed. But this research raised a vital question whether these materials are useable or

applicable at user or community level and how. The research team acquired the information on the applicability of message through direct observation. Applicability was measured by quantifying the rate of users of the message and identifying the sectors of daily life in which the messages were being used. Table 9 shows the results of applicability test of the messages.

Table 9 Applicability of the Messages

Research Area	No. of persons who accepted the message	Persons who applied the message in their daily life		Comments
		Total No.	Percentage (%)	
Sonakatia	50	25	50	An intensive WatSan programme was implemented before.
Idilpur	29	11	37.93	-
Dharmapur	24	9	37.50	-
Porapara	6	0	0	-
Gawair	40	13	32.50	-
Total	149	58	38.93	-

The daily activities of the villagers were directly observed. The following activities followed by the villagers were found during observation. But in the Murong society, the experience was different. Table 10 shows various WatSan activities followed by different groups of users.

Table 10 Usage of WatSan Messages

Name of users	Activities in which WatSan lessons were followed
Women, Mothers and Housewives	<i>Aju</i> (abolition), <i>gosal</i> (bath), <i>puja</i> (pray), child bathing, hand washing, <i>patil dhoa</i> (washing utensils), kitchen cleansing, <i>plates</i> , <i>peala</i> and cup etc. <i>dhoa</i> (cleaning), cloth cleansing, <i>ghar parisker</i> (room cleaning).

4.5 AESTHETICS OF THE MATERIALS

Aesthetic of the materials is a philosophical concept and an essential part of communication system. It is concerned with the beauty, artistic, taste and the feeling of pleasure [25]. In this research aesthetic standards of the materials were assessed in terms of color, rhythm, fancy, pleasantry and rhetoric.

Aesthetic aspects of the materials were traced as per people's viewpoint in the following manner:

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- Color (red, black, blue and their combination) is very common but these are not similar to their own environment.
- The expression of message is in the form of prose, there are no rhymes in the materials.
- The presentation of message doesn't stir up the sweet feelings.
- Some materials are offensive to them.
- Decoration of the materials is not rhythmic.
- There is no attractive scenery in the materials.
- The message doesn't generate rhythm in the mind of people.
- Through reading / looking in to the material, the feeling of *shukh* (happiness) is not raised.

5. FACTORS BEHIND THE EFFECTIVENESS OF EXISTING WATSAN COMMUNICATION MATERIALS

The effectiveness of WatSan materials in context to the research areas has been discussed in previous chapter. The impacts of disseminating communication materials in the society have also been discussed. WatSan communication materials used by the development agencies (GOs, NGOs) are external and adventitious things in the context of rural and traditional society of Bangladesh. Many organisations and planned initiatives belonging to the development sector of the country are involved with the interventions for the promotion of WatSan situation. Using communication materials is one of the major components of these interventions. The objective of using WatSan communication materials is to bring a positive change in peoples' attitude and behaviour about the water, sanitation and hygiene (WSH). Till to date, WatSan messages have not become ones' own aspect and thereby a component of the culture of Bangladesh. The messages do not have access to the intellectual world of the local people. On the contrary, by any means, local people, their activities and thinking are not fully able in transferring and enduring the message of materials. This situation refers to two problems:

A gap exists between the culture and WatSan materials in the domain of rural society of Bangladesh.

As a part of social system, traditional communication process is not able to fill that gap and transform WatSan message into a common aspect of local people.

Till now, using of communication materials is being considered as the main process to deliver and disseminate the WatSan message. WatSan message penetrates into the social process through using of communication materials. It functions with various social institutions and plays the role to activate and continue the social process. On the contrary, social process, institutions, existing social norms, values and behavior determines the penetration of message. Dissemination of communication materials in the society can be divided into two major parts - 'roles of message' and 'roles of message receiver' which are not isolated from other aspects. Other aspects exist in society, individual minds and in culture etc. and may be visible/ perceptible in normal understanding level. This aspect conditions the achievement of the objectives of materials. The research identified some types of these factors which are- structural pattern of the materials, conventional approach to development and use of the materials, view points and perception level of community people, socio-cultural institutions, and linguistic and symbolic aspects.

5.1 STRUCTURAL PATTERN OF THE MATERIALS

Structural pattern (SP) of the materials consists of three elements - paper, text (message) and picture. Due to the climatic condition of Bangladesh, these elements may be damaged. Most of the posters and other materials are generally produced in white paper. After few days of placing these materials, paper, color of text and picture get decayed. It was observed that the posters and other materials, which were placed in open space, were unblemished up to fifteen days. The decaying character decreases the longevity of the materials. Due to the decreased longevity, local people lose the opportunity of looking for an extended period. This character also decreases the quality of attractiveness and visibility of the materials.

5.2 APPROACHES TO DEVELOPMENT AND USE OF THE MATERIALS

Approach to the development and use of the materials integrates all functional stages of the whole process which need assessment of the target community, message selection, field test, dissemination and channels for disseminating the materials etc. The process may be developed in three levels -

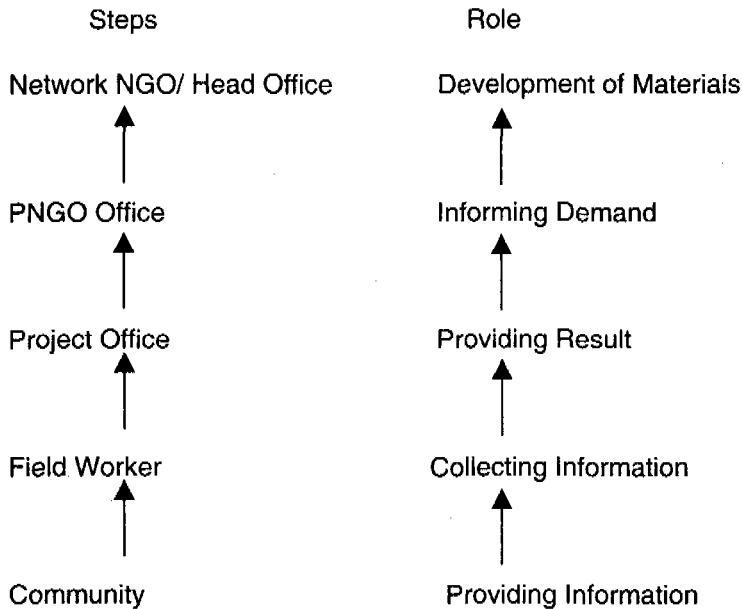
Firstly, Community, which are the target audience of the materials; *secondly*, Project office of development agency, which is responsible for disseminating the materials among the target audience. *Thirdly*, Central/head office of development agencies, which mainly leads the whole process.

The research explored the full participation of target audience in the process of development and the use of the materials (DUM). Individual organisation considers the DUM as a part of community based project [14]. DUM does not get more preference than other components of the project. For DUM they depend upon need assessment of development organisation that are mainly traditional e.g. survey based, numerical, 'top-down' processes etc. This type of need assessment can not reflect the real situation of community. It was also understood that, no in-depth data about WatSan materials was collocated exclusively through the conventional need assessment process.

On the contrary, coordinating or apex NGO produces various types of materials [10]. It is recognized that the communication materials should be appropriate and acceptable to the target audience for ensuring the effective communication. To assess the demand of target audience, the roles of partner NGOs is important.

Existing approach to communication materials development is shown in Flowchart 4.

Flowchart 4: Existing Approach to Materials Development

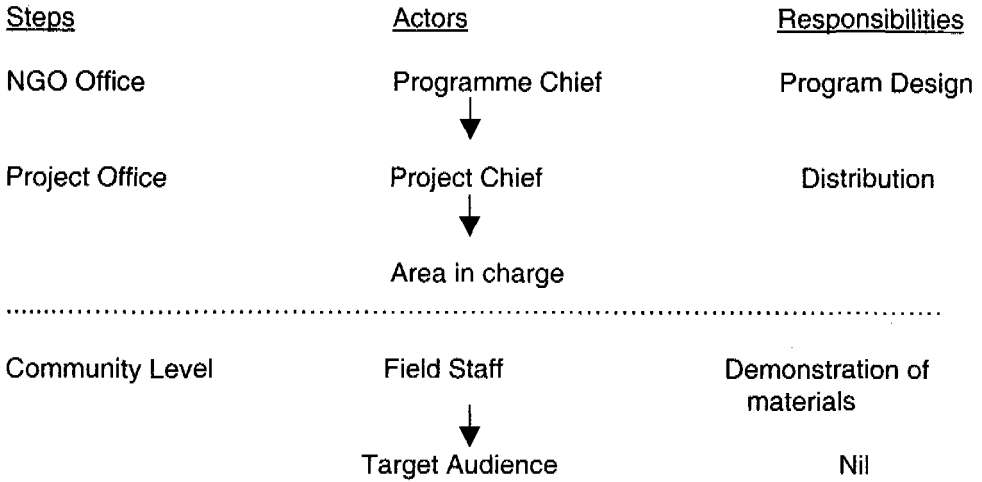


All NGOs use their own setup, which consists of some hierarchy namely, programme chief, project chief, area in-charge and field workers. In all stages staffs are paid. They are playing their role as their official assignment in using materials. They maintain this assignment through a speed, which is not continued at beneficiary level. Beneficiary means target audience of the materials. In disseminating and demonstrating materials among the community, people don't play any role. Existing approach to using of materials is shown in Flowchart 5.

The existing pattern of approach to DUM can be delineated as follows:

- No participatory and methodological assessment on development of communication materials is undertaken at community level through which the level of knowledge and awareness about WatSan could be defined.
- Field data which are used in developing materials are basically based on secondary sources, the idea of the mid level field staff and pre project needs assessment report, conventional or numerical survey, etc.
- DUM approach is basically Unilineal.

Flowchart 5 : Existing Approach to Using Materials



Consequently, the following situations prevail:

- A gap between actual field demands and disseminated materials exists due to the conventional approach of DUM.
- Actual situation and voices of target audience are not reflected in the communication materials.
- Target groups cannot realise that the message of communication materials is prepared for them.

From the above learning it is understood that existing approach is not favorable with the effectiveness of communication materials.

5.3 VIEWPOINTS AND PERCEPTION LEVEL OF THE TARGET AUDIENCE

Target audience (TA) have their own view points which are based on knowledge, norms, values, life experience, beliefs, ideologies, social taboos, rationality, perception, etc. These are determined by other social factors and influence the life style of the audience. Adaptability depends on individual's perception [8] and receiving of WatSan message from the communication materials is based on this perception. By analysing their opinions, thoughts and expressions, materials can be diversified as follows:

- Messages of communication materials are not easy and simple to learn,

follow and practice as other rules of their life.

- Aesthetically, materials do not express the beautiful and humor sense of people. It is a vapid thing.
- Spiritual aspects are not expressed through the materials.
- Messages of materials are synonyms of 'modernism' and 'development'. These are voices of *vodra lok*
- Learning the WatSan message is not important for their livelihood.
- Using sanitary latrine and owning a Tube-well are the symbols of social status, prestige and power.
- Village people asked 'Why do we follow the WatSan message? What is the application of WatSan message in our daily life? Is the message of WatSan essential for our family and social life? These questions indicate their perception and thinking about the messages.

Sometimes, the learning and practice of hygiene and sanitation are neglected due to the traditional habits. Because practice is not an isolated process in their lives from other social aspects "...from the individual as learner to learning as participation in the social world and from the concept of cognitive process to the more encompassing view of social activity" [22].

Perception level of the target audience is one of issues that have been considered in this research. "Perception means acquiring knowledge about any subject through sense organ" [31]. Message reaches to the audience through communication process. The research has made an attempt to study the perception capacity of the target audience, which has developed through life experience, social learning, cultural sharing and views etc. The messages of materials have not influenced their perception. They do not perceive these messages.

The existing WatSan materials do not match with the viewpoints and perception level of the target audience. As a result, there is a gap between the audience and the message of the communication materials. Community members view the messages of the materials as new things and the themes of the message are not their own thinking. This view of the community members may hamper the effectiveness of the materials.

5.4 ROLES OF THE SOCIO-CULTURAL INSTITUTIONS

There are various types of socio-cultural institutions in the society. The target audience is traditionally originated from these institutions, for example, enculturation, rituals, religious events, social festivals and social customs, etc. These institutions play a strong role in learning and sharing social behavior, individual roles, and traditional knowledge, coping with and adapting to inimical

environment [12] and also acquiring new messages. Such as "enculturation is the process of conscious and unconscious, formal and informal, cultural conditioning, exercised always within the boundaries sanctioned by given body of custom " [15]. Enculturation is used for nurturing children and includes learning by educating children. The learning process of a child includes regular sequence of events. Demonstrating WatSan materials and providing message to the society are not the parts of any regular sequence of events. The WatSan materials were newly introduced subjects for their life. In all the ritual and events, water and sanitation are included in their own traditional form. These practices differ from the themes of WatSan message. In all the rituals, religious events, social tests, values and customs traditional water and sanitation system is the essential part but their setting does not contribute in learning WatSan message.

5.5 LINGUISTIC AND SYMBOLIC ASPECTS

Language and symbols are the two major methods for expressing message among the audience. Method of expressing message is one of the major factors relating to the effectiveness of the materials. In the research areas, local people have their own vocabulary and phonemic system, they are habituated with this system. Each area is different from the other. Every research area except Porapara owns unified vocabulary system based on local Bangla dialect. Vocabulary is mixed because people of these areas are heterogeneous group. Murong people of Porapara speak their own language, which differs from Bangla. In the existing WatSan materials 'modern' and 'literate' *cholita* (colloq) form of Bangla used as a language the form is different from the language of the 'illiterate' and 'native' people in terms of vocabulary, phoneme, syntax, semantics.

The language structure of materials can be characterised as follows -

- Long sentences
- *Shudwa* (Formal original) Bangla
- Scientific expression
- Imperative, complex or compound form of sentence
- Using prose form, etc.

In the materials maximum messages are written in the form of compound and complex sentence. But the use of this sort of language is very rare among the local people. The interpretation of the materials is difficult to understand for the local people. The local people do not follow syntax and semantic system of *shudwa* Bangla. They use their own metaphors, which are originated from their worldview. One singular Bangla word does not express the same Bangla meaning all the time. As for example, the Bangla words *sustha jebon* (healthy life) are such terms. Local people of Sonakatia think that *sustha jebon* means *sukhi jebon* and *jebon* means *auykal* or *hayat* (existence). The term *paykhana* (latrine) indicates

two meanings one is faeces and another one denotes place of defecation.

Local people link sanitation program with spiritual or sacred aspect, they do not conceptualise sanitation in scientific or hygienic forms. In symbolic and metaphoric context, all materials indicate symbols of materialistic life. But local people compare sanitation and water with sacred and taste aspects. *Pani / jal* is very *pabitra* (sacred) so it is synonym of purification and related with spiritual being. But the materials indicate that water can be a carrier of germs.

"Language not only consists of some words and sentences; simultaneously it contains values of individuals and cultures" [20]. An interaction between two languages ('languages of materials' and 'language of audience') happens in communication process. The exact message and the hidden meanings of the materials cannot be transformed into the language of the audience. So a gap exists between the two languages ('language of materials' and 'language of audience') in the communication process. This gap is a problem and creates complexities to learners who want to acquire knowledge and message from WatSan materials.

6. RECOMMENDATIONS FOR DEVELOPING EFFECTIVE COMMUNICATION MATERIALS

Finding of methods for effective communication materials from peoples' point of view is one of the major objectives of this research study. The effectiveness of communication materials and the related factors were analysed and discussed in the previous chapters of this report. This chapter measures specifically the effectiveness of materials. On the basis of this measurement, it can be concluded that most of the existing WatSan materials cannot bring positive change in peoples' attitude and behavior about safe water, sanitary latrine and hygiene.

The present research have identified some learning points which are very significant and effective for the development of WatSan materials. The identified learning points are as follows-

- Structural pattern of the materials: message, paper for materials, color of materials, paper size
- People's participation in using materials, including responsibilities, contributions, roles etc.
- Contents and themes of message as per need of the target community
- Using traditional communication system
- Adjustment with socio-cultural setting
- Highlighting the threats of arsenic contamination.

Based on the above-mentioned points, this chapter presents what should be the effective method for achieving the objectives of communication materials. Participatory Rural Appraisal (PRA) tools, focus group discussion (FGD), participatory modeling, village transact, ranking etc. were used to ensure the full participation of the respondent groups,

6.1 PROCEDURE AND GUIDELINE FOR DEVELOPMENT AND USE OF MATERIALS

In the context of this research, development procedure is conceptualised as a series of actions for developing and using printed communication material that need to be completed in order to disseminate WatSan message.

Villagers actively and enthusiastically gave inputs to enrich this procedure. The procedure consists of five functional steps. The steps are as follows -

- Assessing the needs and defining message in the context of a particular audience
- Setting presentation style and laying out materials

- Producing materials
- Disseminating materials
- Evaluating the impacts of materials

Each spot consists of many activities and persons who are responsible for completing these activities. Flowchart 6 shows the procedure, which was developed, in the field.

Guideline of WatSan Materials

Local people gave their options about the need of WatSan communication. They felt that materials are important and should be more effective in explaining the present status of water, sanitation and hygiene (WSH) in Bangladesh. Through PRA sessions this guideline was adopted. This can be applied in the community managed rural WatSan program. The guideline may also be useful for other types of development program such as health, primary health care etc. The guideline provides inputs on how to develop and disseminate WatSan materials and evaluate the quality of the materials.

Defining Communication Materials (Print)

Communication materials on WatSan are defined as the materials which influence the following:

- acquiring knowledge about safe water, sanitation and hygiene
- choice the practice for individual, family and community
- change the behavior and attitude of the target audience regarding the promotion of the importance of safe water, sanitation and hygiene

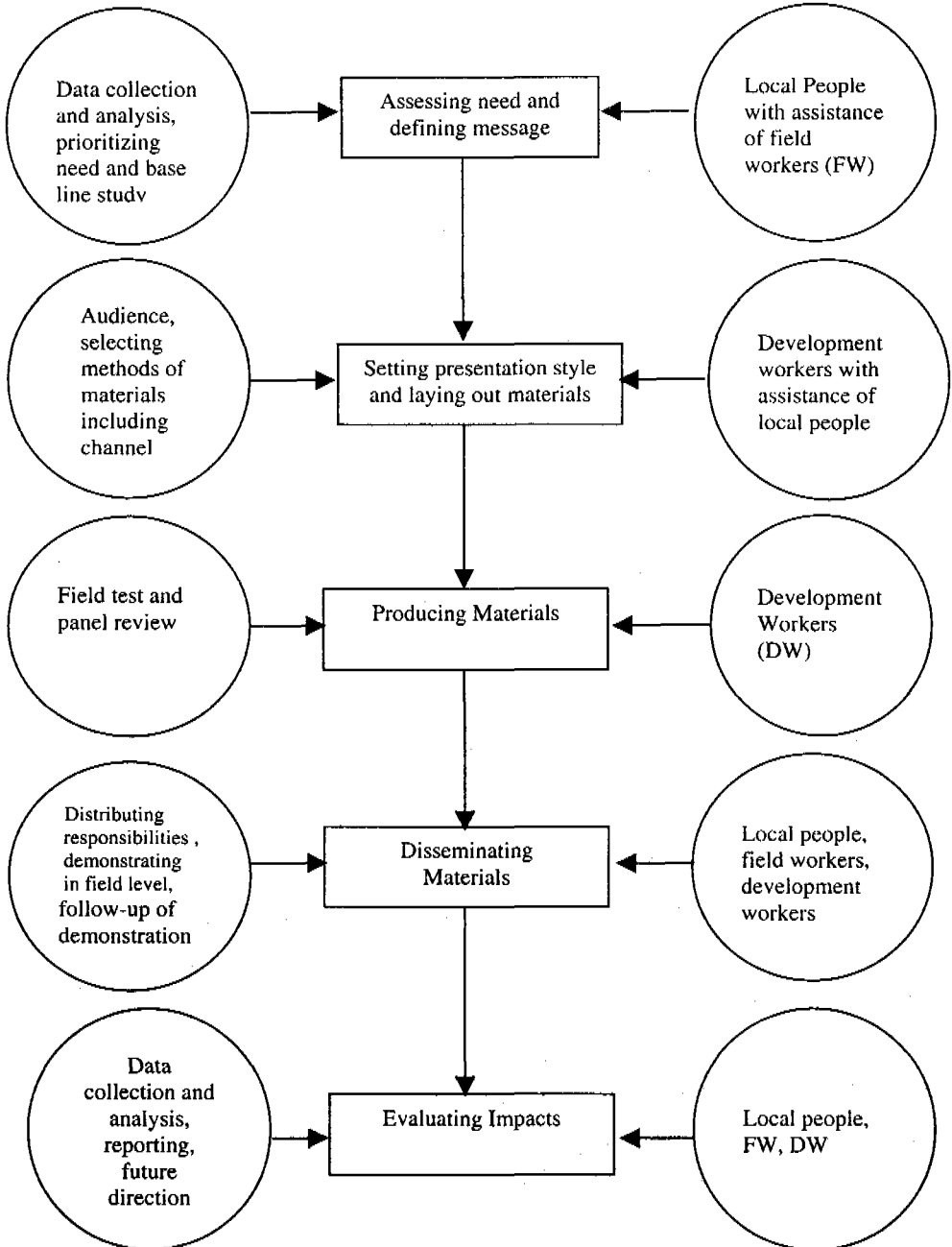
Effective communication materials (ECM) on WatSan should contain essential messages regarding water, sanitation and hygiene. In context to the local demands it should not be against positive practices on WSH but should be against the risk practices and attitude. ECM should promote the conditions of safe water, sanitation and hygiene and encourage fractional practice, social norms and rituals, which are in favor of WSH.

Selecting Effective Communication Materials (ECM)

The guideline suggests that the following materials should be used as appropriate communication materials on WatSan programme. Local people drew sequence of these materials as per the ranking shown below:

- Poster
- Leaflet
- Sticker, cartoon, comic
- Flash card

Flowchart 6: What should be Effective Approach to Development and Use of Materials



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- Flip chart
- Pamphlet
- Booklet
- Newsletter.

Using Folk Communication Channel

To disseminate communication materials and design the messages, the following folk communication channel can be used:

- Rhyme
- Popular songs
- Popular theaters
- Play-let
- *kobigan* (debate through songs)
- *punthi* (indigeneous style to tell stories/ legends)
- *jarigan* (sufi songs)
- *jatra* (rural theater)
- Puppet show
- Folk song
- Folk stories
- *Utshab / Parbon* (Social festivals).

Evidence of Message in ECM

Message on water, sanitation and hygiene mentioned in the materials, is technically, scientifically and sensitively significant. So this should be consistent with the empirical evidence of the concerned department of Government, UN system, international declarations, institutions, recognized scientific bodies and research organisations.

Aesthetics of Communication Materials (CM)

Communication materials (CM) should not carry offensive meanings or be less appealing to the target audience. CM should be aesthetically crafted according to the audience in terms of color, language, designing, rhythm, decoration and presentation. Aesthetics must be a considering factor according to the audience's point of view

Social Context of the Communication Materials (CM)

CM should not be indiscrete and against social norms, values, beliefs and ethics of the culture of the target audience. In the view of the target audience, it must not be absent and distasteful.

Characteristics of Message in Communication Materials (CM)

Message in CM should be accurate and not confusing, clear and not illusive/complex, concrete and not abstract, it must be familiar and not unknown, affirmative and not negative, easy and not coercive, indicating solution not only identifying problems.

Back Translation

This process is essential to ensure that the message of materials are not inadvertently misinterpreted or distorted in translation process.

Distribution Mechanism

Distribution of materials should be completed by responsible persons (staff / community people). Before distributing the materials the target audience must be identified. Materials demonstration must be presented in such a place that largest audience can easily visualise them.

Monitoring and Evaluating Materials and Related Activities

An effective monitoring program should be conducted for collecting information, keeping records about materials related activities to check whether the work is being carried out as planned and to assess reactions of audience after receiving the message.

Evaluation should be conducted by using qualitative methods and participatory process to measure impact on condition of water, sanitation and hygiene of audience community and compare the present situation with the past in order to find out to what extent original objectives have been achieved after distributing materials.

6.2 LINGUISTIC ASPECT OF COMMUNICATION MATERIALS

The mode of using language creates relation between the materials and audience closely or distantly. So language should be used as a significant and technical issue of WatSan materials. The success of any effective communication depends on appropriate use of language. The guideline indicates following rules on language that should be followed for developing WatSan materials:

- a) Language should be perceptible and thinkable to the target audience. So some contents should be considered e.g. native language, education, age, experience and social position of audience.
- b) Language should be value neutral, confusing terms should be avoided which may create any kind of confusion, weakness, and limitation among the audience.

- c) Sentence should be simple, not complex or compound. Form of sentence should be in poetry not prose.
- d) Language should be concrete, complete and clear in terms of text, message, theme and doctrine.
- e) Language should be empowering, wiped honorable and polite. It must be determined in 'emic point of view' and socio-cultural context of audience.
- f) The terms should not be used which create or encourage distance between the message sender and receiver and create "I/you" "we/you", "we/they" mentality.
- g) The terms should not be used which offend the sacred feelings, values, customs and mass sentiment in the target audience.
- h) Taboos, attributed local terms, should not be used which are usually prohibited in the local areas for particular time being e.g. evil and sexual terms.

6.3 USING TRADITIONAL COMMUNICATION CHANNEL

Mechanism of disseminating messages on water, sanitation and hygiene among the community is divided into two parts - 'Roles of Development Agencies (GO, NGO etc)' and 'Roles of Community People'. This mechanism is not isolated from other aspects of the community. This chapter concentrates on how the role of community people could be ensured for effective communication for disseminating message on water, sanitation and hygiene. This chapter argues that traditional communication channel could be used for both ensuring peoples' participation and effective communication. The findings of this chapter were formulated on the basis of peoples' view.

Every community contains its own communication system [19]. This system relates every person with others, individual with social institutions, one social institution with another, etc. It has the source of information, some institutes function for disseminating the message. The communication system is very traditional and an ancient part of the community. In Chapter 3, the communication system of the research area was introduced, detailed analysis is as follows:

Usefulness of the Traditional Communication Channel

Community people view that this channel could be used for the following purposes:

- Receiving WatSan message completely
- Transferring WatSan message among the community people
- Ensuring the proper dissemination of message
- Continuing the message
- Lasting and sustaining the message
- Ensuring cost effectiveness

Source of Information and Knowledge

Community people identified the following core sources of information in research areas:

- Grand Parents
- People and Kin persons
- Folk tale
- Religious Version and Text
- Myth
- TV, Radio and Cinema
- Religious persons
- School teachers
- Health and NGO workers

Effective Mechanism of Disseminating WatSan Message is shown in Flowchart 7.

Media for Providing Information

Traditional Resource Persons: Community leaders, religious persons, folk artists, traditional healers, village doctors, traditional birth attendants, shopkeepers, teachers, etc.

Social points and spots: Tea stalls, big trees, village shops, walls of schools and houses, bridge;

Social Institutions: Schools, *madrassa*, *mosjeeds*, *maktab*, market, village health centres, union parishad offices, NGO offices, clubs, indigenous organisations;

Social and Interaction and Interpersonal dialogues: Teaching, *waz- mahfil*, *adda*, *shalish* and *baithak*, meetings;

Social events and rituals: Marriage, social festivals, *eid* and *puja*, *anna prashanna*, *oreng puja*, *kunlang*, *chaitra sankranti*, *nobanna* and various recreational activities;

Folklore: *Jaatra*, *Jarigan*, *lokgan*, etc story, folk tales etc.

Social sequence: Inheritance system, patron client relations, etc.

6.4 APPROPRIATE MESSAGE FOR EFFECTIVE COMMUNICATION

Message or information is the gist of communication materials. Effectiveness of any material depends on the message and its appropriateness. This research considers appropriateness in terms of contextuality, demand, relevance, suitability, and acceptability of the message to the audience. On the basis of the local demand, community people adopted the following themes as shown in Table 11. These themes would be helpful in designing the effective communication materials on water sanitation and hygiene (WSH).

Flowchart 7 : Effective Mechanism of Disseminating WatSan Message

Roles of Development Organisation

Roles of Community People

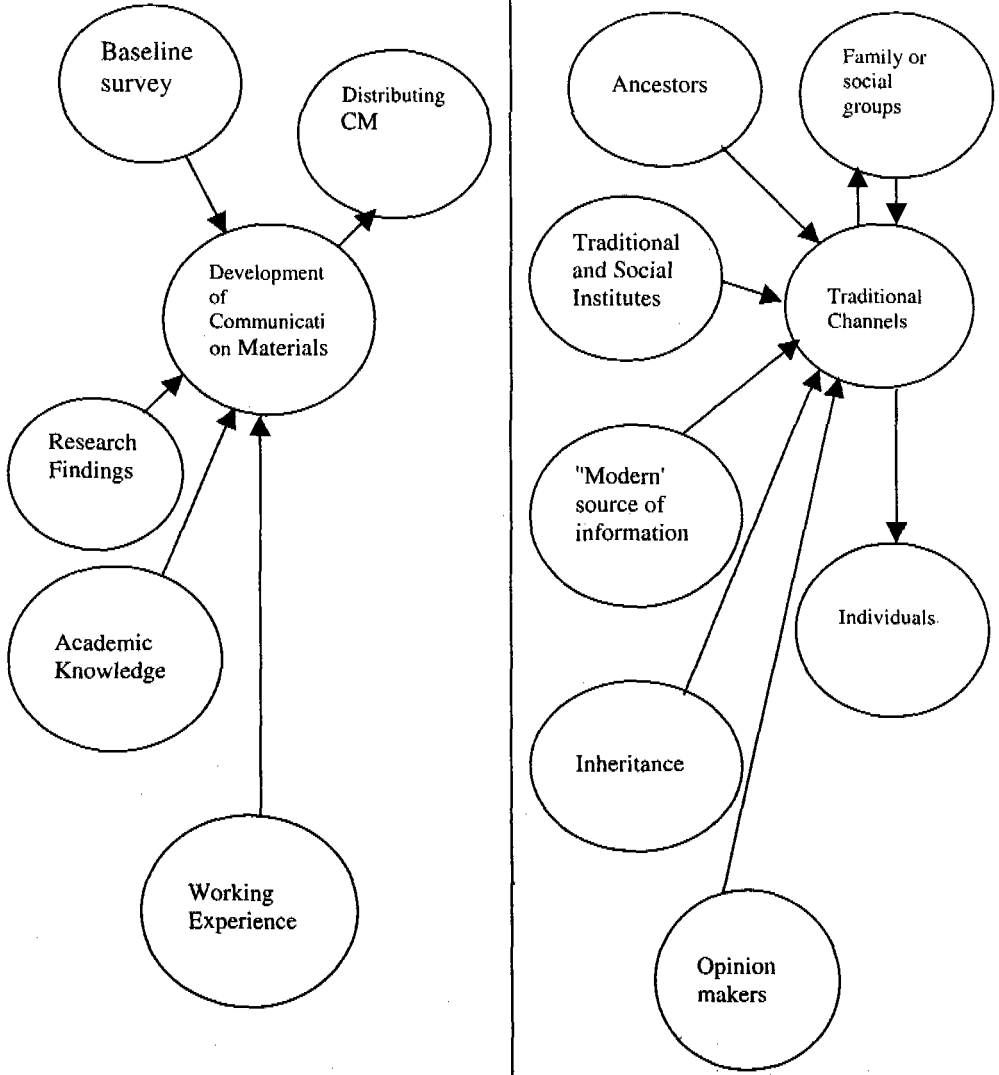


Table 11: Identifying the Themes of Messages for Effective Communication Materials

	Core Issue of WSH	Specification	Purpose of Communication	Eligible audience	Suggested form of Materials
S O N A K A T I A	1) Hand washing	1) Villagers wash hands without soap, ash, mud after defecation; before food taking/making, child feeding	To make the audience aware of concepts of hand washing properly, equip them about protecting water sources and latrines, ensuring proper use of latrines	1) Parents of children	1) Poster and routine with picture of hand washing in local language
	2) Preserving sources of water	2) They don't preserve their ponds properly, maintain, protect and treat their tube wells		2) Children	2) Booklet, posters with picture on protecting water sources
	3) Use of latrine	3) All members of family don't use the latrine exclusively and maintain, protect and treat their latrines		3) School students and teachers 4) Opinion makers 5) Adolescent girls	3) Posters Leaflet on importance and proper usage of latrines.
I D I L P U R	1) During and after affect of flood in water and sanitation system	1) During the flood tube wells and latrines are damaged, Ponds Water is polluted	1) To provide knowledge how to protect TW and latrine from flood and how to purify water during flood. During this period epidemic diarrhea occurred	1) Head and members of the households	1) Posters on protecting tube well, latrine with picture, hand bill on purification of polluted water and flip chart on oral rehydration saline making during flood
	2) Indiscriminate defecation	2) Human faces seen in side of paths, home stead, boundary of ponds. There is no practice on proper usage of latrine, at night and early morning all most all villagers defecate in open place like - road side, ponds bank, home stead side etc	2) To raise awareness about bad affect of open place defecation and discourage them about this practice.	2) All members of the community and head of house holds and community leaders	2) Cartoon, striker and leaflet on bad effects of open place defecation with picture

	3) Knowledge and awareness about WSH and importance	3) All most all community members don't give priority on WSH and don't know why WSH is important for their health and life	3) To develop the concepts about safe water, sanitary latrine and hygiene and motivate them to practice these and raise awareness about the importance of these practices	3) Children, parents of children, students, adolescents and teachers	3) Cartoons and comics, class routines, poster on WSH and importance with picture.
P O R A P A R A	1) Indiscriminate defecation by domestic <i>pok</i> (pig) 2) Water borne diseases 3) Water collection and preservation	1) After licking the human faeces from the woods ' <i>pok</i> ' (Pig) stay with in the surrounding of habitation and they defecate in every where 2) In every year severity of water borne diseases occur like diarrhea, dysentery, skin diseases 3) Traditionally the female members of Murang Community collect water from fountain. Preserve the water in unsafe pot.	To provide Knowledge on how to keep <i>pok</i> cleaned and significance 2) To provide knowledge on how germs of diseases spread 3) To promote the technique on how to protect collected water	1) The care takers of <i>pok</i> 2) All members of the community especially traditional healers, parents, opinion makers etc. 3) Female members and community leaders	1) Posters on cleaning the <i>pok</i> in Murong Language 2) Leaflets, Stickers on to protect spreading germs and how it could be prevented in Murong language 3) Posters and leaflets on means of preserving and protecting water in household with picture in Murong language
D H A R M A P U R	1) Place of Defecation	1) They defecate in bank of canals, ponds,	To make the Community members aware about hygienic behaviour and practice and educate them on how the water source could be properly maintained and protected	All members Of the community, especially women, opinion makers, children with their parents and school students and teachers etc.	1) Leaflets on bad effect of indiscriminate defecation in their life and health with picture.

	<p>2) Personal hygiene</p> <p>3) Sources of water</p>	<p>2) No people washes hands with soap, ash after defecation, before taking/ making food and child feeding</p> <p>3)Community members use water from ponds, canals, tube wells etc. but they don't properly maintain and protect these sources.</p>			<p>2) Posters on hygiene with picture</p> <p>3) Flipcharts with picture on how to maintain and protect the existing water sources</p>
G A W A I R	<p>1)Solid waste and drainage system</p> <p>2)Source of Water</p> <p>3)Latrine</p> <p>4)Personal Hygiene</p>	<p>1) Domestic solid waste seen in every where and emit the bad smell. There is no Drainage in the locality</p> <p>2) Limited numbers of tube well which are not enough to fill up demand of water. No municipal facility exists for supplying water</p> <p>3) Local people use unhygienic latrine which emit the germs and bad smell.</p> <p>4) They wash hands without soap, ash, mud after defecation, before taking food and child feeding.</p>	<p>1)To motivate the audience on keeping solid wastes in appropriate places and role of solid wastes in diffusing germs and diseases.</p> <p>2) To raise awareness about proper use of existing water facilities</p> <p>3) To motivate the local people about repairing and protecting the latrine</p> <p>4) To provide knowledge about importance of hygiene practices, how to maintain hygiene condition, etc</p>	<p>1)Persons involved with cleaning solid wastes in the family and community.</p> <p>2) Persons involved with collecting water in the family and community</p> <p>3) All members of the community especially women, children with their parents, teachers, students , local leaders and other opinion makers.</p> <p>4) All members of community specially children, students</p>	<p>1)Posters and cartoons on keeping solid wastes properly with picture.</p> <p>2)Pamphlets on proper maintenance, repairing and protecting tube wells</p> <p>3) Posters, leaflets on proper use of latrine with picture</p> <p>4)Posters, booklets, leaflets on personal hygiene and importance</p>

6.5 FOCUSING ARSENIC PROBLEM AND ITS MITIGATION

"Bangladesh is passing through nightmare of arsenic problem. The problem is so acute that everyone is under threat of arsenicosis. It is as a mere perilous than the Chernobyl problem" [1]. The research has concentrated on the issue of arsenic and its mitigation in response to this countrywide problem. It is viewed that this is the appropriate time to inform the community people about arsenic problem with possible solutions. Meanwhile, the Government of Bangladesh has given particular attention about this problem and taken some initiatives in collaboration with donor agencies to mitigate this problem. The main objective of this section is to glare towards the development of appropriate communication materials to address the arsenic issue through analysing the effectiveness of existing materials. With inputs of respondent people, following guidelines were adopted that would be useful to design the communication materials (print) on arsenic issues:

Contents of Message in Materials

- What is arsenic
- Effects of arsenic in human body and
- Symptoms of arsenic problems
- Approaches to face arsenic problem

Approach to Arsenic Mitigation

- Testing the arsenic concentration in well-water
- Avoiding arsenic contaminated water
- Understanding the symptoms of arsenic effects in human body
- Treatment of arsenic affected persons
- Removing arsenic contaminated water
- Introducing alternative sources of water

Forms of Materials

- Posters
- Leaflet
- Booklet
- Sticker of comic
- Cartoon.

Audience of the Materials

- NGO Workers
- Women, Girls and Boys
- Community Leaders and Opinion Makers

- Govt. staffs at local level
- Village Doctors, Traditional Healers, Health Workers, Traditional Birth Attendants etc
- School Teachers and Students
- Local Volunteers, Representatives of Local Organisations etc

Aims of the Materials

- To develop concept of audience about arsenic and its effects
- To introduce the approach of arsenic mitigation
- To provide knowledge on how to identify the symptoms of arsenicosis in human body

Annex 1: Inventory List on WatSan Communication Materials used in the Field Intervention

Sl. No	Title	Pattern	Sources
1	Shudhu Khabar Pani Hishabe Noy	Poster	NGO Forum for DWSS
2	Ai bhabe Nijer bipod Dakbenna	Poster	NGO Forum for DWSS
3	Jatio Sanitation Shaptah' 98	Poster	Unicef & DPHE
4	Shustho Jibon Gorte Chan Hat Dhuoy Khabar Khan	Poster	NGO Forum for DWSS
5	Aponi Janen ki	Poster	NGO Forum for DWSS
6	Ai Bhabe Roge Charay	Poster	NGO Forum for DWSS
7	Arsenic Dushon Theke Bachun	Poster	Dhaka Ahsania Mission
8	Shasthosammoto Paykhana Baboher Korun	Poster	DPHE
9	Shudhu ak hat noy -	Poster	NGO Forum for DWSS
10	Fol-Sobji Jai Khabo Tube-weller Panita Dhuay Nabo	Poster	Dhaka Ahsania Mission
11	Nirbachito Protinidhi Hishabe Aponer Bhumika	Handout	NGO Forum for DWSS
12	Class Routine	Class Routine	NGO Forum for DWSS
13	Arsenic Jonito Rog Protirodh Kora Jay	Poster	NGO Forum for DWSS
14	Protiti Poribary Shasthosommoto Paykhana Banano Dorker	Flip Chart	DPHE
15	Shasthosommoto Paykhana Baboher Korun Shustho Jibon Goray Tulun	Hand out	NGO Forum for DWSS
16	Abhays Korun , Shushto Thakun	Sticker	DPHE
17	Choy Nong Tara Pump Rokhonabekhon Nirdeshika	Folder	NGO Forum for DWSS
18	Shasthosommoto Paykhana Baboher Korun	Folder	DPHE & Unicef
19	Tara Pump	Folder	NGO Forum for DWSS
20	Khabar Age Hat Dhuey Nin	Sticker (Cartoon)	NGO Forum for DWSS
21	Khola Mathe Paykhana Korben Na	Sticker (Cartoon)	NGO Forum for DWSS
22	Pukurer Dusheto Pani Niben Na	Sticker	NGO Forum for DWSS
23	Gorte Mayla Falun	Sticker	NGO Forum for DWSS
24	Shasthosammoto Paykhana Baboher Karun.	Sticker	NGO Forum for DWSS
26	Hat Dhua--	Sticker	NGO Forum for DWSS
27	AiBhabe Nijer Sharbonash Dakden Na	Sticker	NGO Forum for DWSS
28	Roge Jibanu Thake Bachite Sabsamay Paykhana Parishkar Rakhun	Sticker	NGO Forum for DWSS
29	Sabsamay Shasthosammato Paykhana baboher Karun	Sticker	NGO Forum for DWSS
30	Shudhu Kaber Pani Hisabe Nay, Sakal Kaje Tube well er Paaani BaaboherKarun	Sticker	NGO Forum for DWSS
31	Ajpo Kharocha Gorto Paykhana Taire Kora Jai	Sticker	NGO Forum for DWSS
32	Pani Hay Jiban	Folder	NGO Forum for DWSS
33	Aponer Shishu Ka Avbhasto Karan	Sticker	NGO Forum for DWSS
34	Paykhanar Par Shaban Athaba Chhai Diea Hate Parishker Karun	Sticker	NGO Forum for DWSS
35	Parishkar Parichchhnota Shastho Bhalo Rakhe	Sticker	NGO Forum for DWSS
36	Khaber Age Tube-weller Pani Diea Hate Dhua Nin	Sticker	NGO Forum for DWSS
37	Sanitation, Parishker Parichchhannota O Nirapad Pani Nia Natun Nirdesh.	Folder	DPHE & Unicef
38	Pora Mater Chak	Folder	DPHE, & Unicef
39	Sanitary Paykhana Bayboher abong Rokhonabekhon	Flip Chart	DPHE, Unicef, NGO Forum
40	Baktigato Parishker Ponchchhonna abong Shastho Shikkha	Flip Chart	DPHE, Unicef, NGO Forum
41	Pani Baboher abong Songrokkhon Karun	Flip Chart	DPHE, Unicef, NGO Forum
42	Hate dhua khabar khan	Poster	RDRS

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