

**Consultancy Services for Undertaking
Social Assessment, Capacity Building and Communication
Framework
For the Rural Water Supply & Sanitation Project in Assam**

DRAFT FINAL REPORT

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ABBREVIATIONS AND ACRONYMS

ANM	Auxiliary Nurse Midwife
APHED	Assam Public Health Engineering Department
APL	Above Poverty Line
APWSC	Anchal Panchayat Water and Sanitation Committee
ARWSP	Accelerated Rural Water Supply Programme
ASHA	Accredited Social Health Activist
BCC	Behaviour Change Communication
BPL	Below Poverty Line
BRC	Block Resource Centre
CBO	Community Based Organisation
CE	Chief Engineer
CRSP	Central Rural Sanitation Programme
CSC	Community Sanitary Complexes
DPMU	District Project Management Unit
DWSC	District Water and Sanitation Committee
DWSS	Department of Drinking Water Supply
EE	Executive Engineer
GoI	Government of India
GP	Gram Panchayat
ha	Hectare
IEC	Information, Education and Communication
IHHL	Individual Household Latrines
IPDP	Indigenous people's development Plan
M&E	Monitoring and Evaluation
MGNREGS	Mahatma Gandhi National Rural Employment Guarantee Scheme
NBA	Nirmal Bharat Abhiyan
NIRD	National Institute for Rural Development
NPMU	National Level Project Monitoring Unit
NRHM	National Rural Health Mission
NRDWP	National Rural Drinking Water Programme
OBC	Other Backward Caste
SC	Scheduled Caste
SE	Superintending Engineer
SLSSC	State Level Scheme Sanctioning Committee
SLUC	Scheme level User Committee
SPMU	State Project Management Unit
ST	Scheduled Tribe
SWSM	State Water and Sanitation Mission
TSP	Total sanitation Programme
VWSC	Village Water and Sanitation Committee
WSSO	Water and sanitation Organisation

Executive Summary

The Government of India (GOI) and State Governments have expended more than Rs. 1,50,000 crores over the last 20 years in providing water supply to more than 70 crore people in 15 lakh rural habitations and achieving sanitation coverage for 31% (Census 2011) of the rural households. This is a major accomplishment for the Rural Water Supply and Sanitation (RWSS) programmes, but many challenges remain, especially translating these expenditures into significantly improved and sustainable service delivery. Only 30% of rural households have tap connections and less than 10% of Gram Panchayats have received the Nirmal Gram Puraskar award for achieving the “open defecation free” environment.

There are some States with less than 10 percent coverage of households with tap connections and sanitation facilities and are lagging behind in many service parameters in RWSS. To assist these lagging States, MoDWS has developed a dedicated National Program for Rural Water Supply and Sanitation for Lagging States (RWSSP-LS) with the assistance of the World Bank. Phase I will be to the tune of US\$1 billion (US\$500 million from the International Development Agency [IDA] and US\$500 million as Government of India’s counterpart funding). Four States (Bihar, Uttar, Pradesh, Jharkhand, and Assam) are being taken up as part of the Phase I program.

In Assam, 7 Multi Village Projects are proposed in seven Districts, namely Sivasagar, Jorhat, Morigaon, Sonitpur, Kamrup, Bongaigaon and Hailakandi covering 1220 villages in 170 G.P.s under 16 Dev. Blocks of 7 Districts for serving about 13.5 lakh present population. The proposal includes 674 nos. of existing schemes falling under the command area of the MVS, which are proposed under rehabilitation of old schemes.

The key element of the reform program along with several others will be “*Placing GPs and communities in the central role, supported by higher levels of PRIs, the State government and the local non-governmental and private sector, for facilitating, planning, implementing, monitoring and providing a range of O&M back-up services*”.

Social Assessment study has been done as a part of project preparation and has been carried out fewer than three heads:

- Social Assessment
- Capacity Building
- Information Education Communication

The Social Assessment has been carried out to be consistent with GOI and the World Bank safeguard requirements, policies, regulations and guidelines and has been carried out through consultative and participatory approach appropriate to the social and cultural values of the people.

Social Assessment included analyses on several aspects like situation assessment through baseline survey, stakeholder analysis, impact assessment, assessment of risk and assumption, indigenous population and gender perspectives. The start point in the social assessment study has been the baseline analysis for situation assessment.

The baseline study has been conducted among 1590 respondents from 53 villages of 43 Gram Panchayats of 19 blocks of seven districts. Out of all the respondents 877 are male and 713 are female. Majority of them follow Hinduism. Social stratification based on caste and ethnicity shows that out of 1590 respondents 38.49% (612) are from general caste. However there is a substantial portion of OBC population. Little more than 33% respondents belong to OBC. 18.05% respondents belong to Scheduled Caste community. Percentage of both STs is 9.69%.

Regarding the gender of the head of the HH the data shows that out of 1590 respondents’ households little more than 10% (165) households are headed by women and the rest (90%) have male heads.

The average income per year, of the respondent set ranges from Rs. 53, 620.83 to Rs. 77,379.18. Highest average income is found in Kamrup and the lowest in Bongaigaon. Data reveals that out of 1590 respondents’ family nearly 79% is single income family. While 16% respondents have double earners in the family and 4.34% have three earning members

Survey reveals that many of the respondents use water from different sources. Highest number of respondents, i.e. 491(30.88%) use water from hand pumps and 23.14% avail community piped water. However, it is alarming to note that i.e. 25.09% (399) use water from well, 9.81% use pond water and another 0.5% use either river or spring water for their daily needs. Therefore, nearly more than 34% respondents use water sources which are not considered as hygienic. Nearly 28% used piped water either from community sources or from individual connection (4.27%). Respondents shared that they have to spend five to thirty minutes time to travel to collect water but did not mention the time they spend for collecting the water from public water source. In 70% cases water collection is the responsibility of women. Perception about safe drinking water is moderate amongst the respondents. About 45.5% of the respondents are aware about different waterborne diseases.

In case of sanitation status, it is found that in all seven districts of Assam open defecation / kuchcha latrines is still in practice. Out of 1590 respondents nearly 90% have reported of this practice. In general, respondents do not have toilets in their house. Moreover, those having toilets do not have any sewerage connection. However, when they were asked about new sewerage connection most of the people showed interest.

In regard to willingness to pay for water connection and improved sanitation facility, the study reveals that majority of the respondents are willing to pay for both. A large majority have showed their interest for water connection. While nearly 90% voted for individual connection, the rest 10% are interested in community connection. Very few households are still not prepared to avail of piped water services. However, in regard to willing to pay, it is found that 60% are willing to pay for individual connection; only 37% are for community connection. In case of sanitation also majority of respondents agreed to pay.

As a whole the study reveals that with regard to water and sanitation some of the districts are in a more vulnerable condition than others. Even today, respondents of Hailakandi use pond water. Moreover, in Sonitpur and Kamrup respondents use well water along with other sources. In Hailakandi, Sonitpur, Kamrup and Marigaon districts more or less people have awareness on water borne diseases and respondents of Hailakandi and Sonitpur have also reported frequent occurrence of water borne diseases. In terms of inadequacy of sanitation facilities, Sonitpur, Bongaigaon, Jorhat and Hailakandi districts top the list of all districts

A collation of baseline information was done within the five point framework of equity, inclusion, security, cohesion and accountability to justify the relevance of the project. The project areas are characterized by significantly low coverage in terms piped water and sanitation. Household data analysis of different water sources have indicated that only 4.21 percent households are having piped water supply. The project will thus address the issue of improved coverage and thus inclusion. The equity aspect has been handled from the point of view of preference and willingness to pay and as observed from baseline around 90% is interested in availing piped water supply and over 60% are ready to pay for it. On the issue of security 24X7 treated water supply is expected to address the concerns related to quantity, quality and regularity. On the aspects of cohesion and accountability the project through its approach to Community based management by formation and functionalization of Scheme level user Committees (SLUC) and Village Water and Sanitation Committees (VWSC) will ensure grass roots level cohesion leading to a coordinated management. The proposed multi-tier institutional structure from the State to the Scheme level with individual level roles and responsibilities, imbibed through adequate and appropriate capacity building and Information, Education Communication functions, is expected to strengthen the system and make it accountable. Proactive disclosures and beneficiary advocacy strategies, as suggested, will make the system more responsible.

Institutional analysis involved an assessment of the multi-tier institutional set up designed for the RWSS- LS project. The State Project Management Unit (SPMU) has been constituted but is operating with sub optimal number of staff. Regular PHED Engineers are supporting SPMU in technical matters. The District Project Management Unit (DPMU) is yet to be notified. While the Water and Sanitation Committees exist at the District and GP/ Village level (DWSC and VWSC) handling exclusively sanitation issues, at the Block or Anchal Panchayat level ,APWSC, is yet to be instated. The Scheme level User Committee (SLUC)s work in direct coordination or under the direct guidance of the PHED, bypassing the Panchayat. They are responsible for Operations and Maintenance of existing water supply structures, collection of water charges, addressing grievances etc. There is lack of integration between the VWSC and SLUC which is a threat to the

community management process. Convergence of RWSS with other programmes like MGNREGS, NRHM of the Panchayat and Rural Development Department and Health Department respectively, is lacking .

Stakeholder Analyses included identification of stakeholders at different levels to understand the expectations, roles, Issues and Concerns related to each stakeholder and the subgroups thereof. Stakeholders comprised the direct and indirect partners including the community, User Committees, PRI representatives, PHED, Health Professionals as direct partners and NGOs, related Government Departments the contractors, labourers as indirect partners.. The stakeholder analysis identified the several issues and expectations from the project in terms of safe drinking water and sanitation. In general all expressed the need for safe drinking water and sanitation facilities and expected the project to meet these. They community particularly scheme beneficiaries are somewhat aware of their role in community management of water supply and sanitation schemes through User Committees and Water and sanitation committees but are unaware of the role of other stakeholders which will hamper coordinated functioning. SHG-s expressed their intention to get involved in community mobilisation and user charge collection. Panchayat and Rural Development Department (PNRD) expressed readiness to extend support through convergence of programmes.

Impact Assessment was done for identification of positive and negative social impacts or concerns as perceived by different sub-groups or beneficiaries due to the project intervention. Stakeholder consultations and beneficiary assessments revealed that positive impacts include supply of quality water, employment, reduced drudgery of women in carrying water from source, reduced health hazards etc. On the other hand negative impacts/ concerns related to intra group politics and domination of the powerful, reduced role of women in water management and revision in tariffs.

Safeguards related to the World Bank's environmental and social safeguard policies which are a cornerstone of the Bank's support to sustainable poverty reduction. The objective of these policies is to prevent and mitigate undue harm to people and their environment in the development process. Review of situation in the project area in the context of OP 4.10 (Indigenous Population) and OP 4.12 (involuntary resettlement) concluded that none of these OP-s are relevant and thus are not needed to be triggered.

Gender and water being intrinsically linked was analysed in the context of water supply and sanitation. It was observed that women are eager to take piped water connection and household sanitation for reduced drudgery and privacy respectively. . Although the primary collectors and managers of water , women did not have a visible representation in the User Committees. Stakeholders and community are not particularly sensitive to women issues in the context of water and sanitation.

A summation of all the issues analysed under Social Assessment led to the identification of Key issues and Recommendation along with Risks and Mitigation measures. Key issues related to beneficiary preparedness, institutional preparedness, inter departmental convergence, willingness to pay and women involvement. In terms of beneficiary preparedness issues related to beneficiary preference ,awareness and concerns where linked recommendations were timely commissioning of schemes, awareness on the project, public disclosures during scheme implementation and incorporating indigenous knowledge in DPR preparation. On Institutional preparedness, issues related to inadequacies in the constitution and strength of State , District level project management units and Water and Sanitation Committees with special focus on Block level Anchal Panchayat Water and Sanitation Committees, lack of integration between GP level Village Water and Sanitation Committees and Scheme level User Committees, inadequacies of the water and sanitation committees at all levels in handling water supply projects and the recommendations related to strengthening and orientation of all management units and committees through staff deployment and capacity building trainings for understanding of roles and responsibilities in management of both water supply and sanitation projects. The issue of lack of convergence with other departmental programmes for resource optimization has been brought forward and recommendation related to streamlining departmental integration procedures and inclusion of other programmes resources into the Action Plan of PHED. On the issue of willingness to pay the waiver of connection charges under the current project as contradictory to the

PaniJogan Samity Act 1995 where beneficiaries are expected to pay Rs 600 for connection charges emerged as an important subject along with negative effect of subsidies in the sanitation sector. Recommendations related to review at the policy level. Women involvement included pointers like insensitivities in connection to women participation and involvement in general, inadequate involvement of women in SLUC and untapped role of women SHGs in scheme management and the recommendations included overall gender sensitization through awareness and motivation programmes, mandatory provisioning of women in the executive committee with at least one woman representation in the 3 key office bearer positions viz. President, Secretary and Treasurer and involving SHGs in community mobilization and user fee collection.

Risks and mitigation measures included a mention of the overarching risks related to ethnic insurgency and floods where it has been suggested that loss of mandays due to such exigencies and micro flood management safeguards have to be factored- in in scheme design and implementation. The other risks related to lack of ownership of GP-s, lack of will at the District and Anchal Panchayat level PRI-s to shoulder the responsibility, PHED engineers overburdened in the absence of strong SPMU and DPMU, procedural conflicts in integrating water and sanitation under the same committees, lack of convergence, exclusion of women etc. where mitigation measures have been suggested drawing from the list of recommendations with a major focus on orientation and strengthening of PRIs and community committees in managing water supply schemes along with sanitation.

Capacity Building component comprised of functional stages like capacity needs assessment and capacity building strategy design. Capacity needs assessment has been carried out to assess the training / learning requirements of the personnel of the RWSS sector institutions and Panchayati Raj Institutions at various levels (based on an identification and analysis of the gaps), for enabling them to perform their functions effectively, efficiently and economically.

Interactions and field consultations revealed the specific capacity gaps and subsequent needs which have been indicated below:

As per stakeholder consultation and analysis undertaken during the study, the following issues are of importance for designing CB strategy:

- In the existing system, the community is responsible for management and operation of the programme after execution is completed. However the community in general was not involved in planning, design and implementation phase
- In general there is lack of understanding on the Community Driven Development approach at all levels of stakeholders
- Existing institutional capacity is not adequate to address the emerging capacity building needs following the proposed changes in approach and strategy. For example, there is no sector specific departmental training institution for RWSS Sector in the State. The PHED stakeholders are generally responsible for imparting training
- Even in the WASH Report published in 2009, it has pointed out the inadequacy of capacity building support of PHED Department is, mainly due to the fact that frequency and duration of training programme for the government employees is very less or sometimes unsatisfactory. In the absence of regular trainings the Engineers often lack the appropriate skills to implement water supply and sanitation projects with respect to environmental parameters and in co-ordination with the Gaon Panchayats, User Committee and local people participation.
- At present, the existing PWSS schemes handled by PHED are small in nature and the department is handling the project through a small team with direct intervention of field Engineers which is largely supplementing the limited experience and skills of SLUCs. The Multi-village Schemes will require larger technical teams.
- Awareness on the World Bank Project linked operational procedures has yet to be disseminated at a great extent. During field consultation, in all the study districts, the grassroots. PHE stakeholders as well as all other stakeholders expressed that they are not fully aware of the proposed Piped water supply project
- WSSO is targeting sanitation at large while water issues were not addressed adequately. Most of these training and activities (organized as awareness campaigns/ meetings) were primarily

targeted towards informing people about the sanitation programmes and safe handling of water.

- At the State level, convergence of all stakeholders has been initiated but has not yet translated at the grassroots. It is applicable for District as well as Block level also
- VWSCs and SLUCs often lack management and technical skills in taking up operation and maintenance of water supply and sanitation systems.
- Regarding maintaining transparency and accountability issues, no such efforts have been made till date regarding social audit, proactive disclosure related to discharge of water, timings of water supply, water quality report in a permanent board and such issues
- Grievance Redressal mechanism not adequately addressed. No records maintained at the project site regarding registering grievances as well as no register is there to maintain records on how many grievances resolved
- Women lack orientation on membership of women in SLUC's and managing the maintenance of schemes
- The community in general is clueless about functioning of User committees, linkages between Gram Panchayat and User Committee, their role and interaction as well as liaison with PHED department.
- Social institutions are active but not oriented toward WATSAN management issues. SHGs exist but they mainly practices thrift activities and engaging them in project management or community contracting is not yet thought of
- To address the issues of safe sanitation and water practices community as well as PRI needs to be capacitated. Ownership building, creating knowledge base through strategic capacity augmentation plan seems to be important
- There is often lack of integration between the different stakeholders which restricts overall capacity.
- Community in general and youth and women groups in specific lack the orientation towards community management of schemes and sanitation systems.

The Capacity building strategy and plan based on the above needs have been designed to include capacity building programme for the Stakeholders at different levels. As inferred State, District GP level functionaries need orientation on Community Driven Development (CDD) approach and the integration of RWSS with different programmes through workshops and manuals. GP level functionaries need special orientation on formation of VWSC/ User committees and their integration with the other developmental programmes at the GP level. The VWSC/ User Committees need training and handholding on community mobilisation techniques for generating community contribution, participatory monitoring mechanism, VWSC/ SLUC set up, Formation, Registration formalities Management and technical issues. Other stakeholders like ASHA, ICDS workers on WATSAN issues and deliverables of RWSS. Scheme level beneficiaries need to be oriented on community managed WATSAN projects and advocacy issues to establish rights. In general there would be gender sensitization workshops for all stakeholders.

IEC or communication strategy as an integral part of the programme has been designed to support the project State/ district and sector institutions (nodal line departments, PRIs and other related institutions) and local communities in planning, implementation and subsequent operations of the project. In the event of inadequacy of services (infrastructure) peoples knowledge and attitude towards hygiene and health is inadequate too and this is particularly true in Bongoigaon and Hailakandi.

Analysis at the beneficiary level indicated the following points :

- Low levels of awareness and misconceptions of the scheme including fears that the scheme may result in increased cost of water, most poor people lacking access to water,
- Low conservation practices at community level, although the majority of the people believe that
- Low understanding of proper sanitation and hygiene practices and the link between adequate water and sanitation and the health and wealth of the nation.

- Poor overall coverage of water and Sanitation issues by the media
- Reach of mass media approaches is very poor

On the other hand at the service provider level the following issues emerged:

- The present, WSSO set up is not in a position to reach all of its target audiences or implement an integrated comprehensive communication strategy.
- The IEC activity is mostly dependent on mass media and a major portion of the budget goes into giving advertisements in newspapers and radio or TV spots.
- The planning, training and effective implementation of inter Personal Communications (IPC), which may be emphasized in the communications strategy (and mass media to support and reinforce the messages), faces several challenges due to lack of understanding in the approach and required human/technical resources .
- Most health/ PHED workers lack communication skills and do not have user-friendly counselling tools and technique to be used when meeting families.

Analysing the different means and modes of communication it is inferred that use of interpersonal communication (IPC) and community mobilizations strategies to educate, inform and bring behavioral change are the most effective means along with education entertainment.. IPC includes face-to-face and small group counseling sessions and organization of community volunteer-led home visits, small group educational meetings, and other interpersonal communication activities to negotiate and discuss:

- Traditional beliefs and practices that might prevent families from access to safe drinking water and adopting toilets or hygienic practices
- Link between access to poor drinking water and unsanitary practices and diarrhoea and other illnesses
- Toilet options and subsidies
- Community managed WATSAN projects

Suggested Community Mobilization Activities include *activation of social networks* (user committee, VWSC, community leaders, volunteers, women groups) and encouragement of peer communication to reach remote areas in order to disseminate information about the benefits of clean drinking water sanitation and hygiene, creation of mobile communication units (MCU) to mobilize communities on sanitation and hygiene issues, promotion of demand for clean drinking water / sanitation and hygiene issues on radio and television using drama, TV-Radio PSAs and magazines.

Education-entertainment to *promote* the value of safe drinking water through pipe /tape water supply, sanitation and hygiene, model key behaviors, and engaging the public around sanitation and hygiene *through theatre, storytelling, games, and TV/ radio dramasetc*, can supplement the IPC and Communication mobilization drives .

Further use of mobile phones preloaded with information appears to be an innovative approach for developing and strengthening both counseling skills of health workers and providing them with counseling tools.

The **monitoring and evaluation framework** at the project level has been developed using a standardized "Performance Indicator Tracking Table" (PITT). Aside from its administrative function, the PITT provides a useful management tool that allows examining progress in implementation, assessing bottlenecks, and indicating possible next steps in resolving identified constraints. of a multi-year development projects. While output and outcome is that which needs to be monitored continuously, outcome in the longer time frame would be evaluated in regular time intervals. Choice of indicators has been done judiciously to assess the performance and progress of a project.

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Chapter 1: Introduction

In more than six decades since independence, India has witnessed rapid expansion in the drinking water infrastructure for its urban and rural population. Water supply and sanitation were added to the national agenda during the first five-year planning period (1951-1956) and increasing investments have been made in subsequent plans. While creating provision of drinking water and sanitation facilities in India lies in the hands of the state governments, more specifically the local bodies, the centre allocates funds and also ensures that funds are provided in State budgets.

The Government of India and State governments have spent more than `1,500,000 million over the last 20 years in providing water supply to over 700 million people in 1.5 million rural habitations and achieving sanitation coverage of 31 percent of the rural households. This is a major accomplishment for the Rural Water Supply and Sanitation (RWSS) programs, but improving and sustaining service delivery still remains a challenge. Deteriorating quality and quantity of source water, poor operations and maintenance (O&M) standards, and weak cost recovery are formidable constraints in achieving and maintaining full coverage. After all the investments only 31 percent of rural households have piped water supply and less than 11 percent of GPs have received the Nirmal Gram Puraskar for achieving an Open Defecation Free environment.

There are some States with less than 10 percent coverage of households with tap connections and sanitation facilities and are lagging behind in many service parameters in RWSS. To assist these lagging States, MoDWS has developed a dedicated National Program for Rural Water Supply and Sanitation for Lagging States (RWSSP-LS) with the assistance of the World Bank. Phase I will be to the tune of US\$1 billion (US\$500 million from the International Development Agency [IDA] and US\$500 million as Government of India's counterpart funding). Four States (Bihar, Uttar Pradesh, Jharkhand, and Assam) are being taken up as part of the Phase I program. The goal of the World Bank project is to enhance the institutional capacity of MoDWS and participating States in delivering the national RWSS-LS. The program aims to improve piped water coverage integrated with sanitation services through decentralized service delivery systems. It will be implemented through a special window of assistance under National Rural Drinking Water Program. The program will bring about reforms in institutional aspects, infrastructure setup, social and environmental aspects, implementation arrangements, financing, and capacity building requirements. Project interventions will take place at all four levels: national, State, districts, and villages (including blocks, as appropriate). The capacity building component will address the national and the State RWSS programs while demonstration projects for decentralized service delivery arrangements will be implemented in selected districts of each State. The project will be implemented over a six-year period.

Key Elements of the RWSS Program for Lagging States are:

The program will be a separate component of NRDWP focusing on lagging states with different allocation criteria and funding components, but implemented within the framework of NRDWP, supporting the following key elements of the reform program:

- Placing GPs and communities in the central role, supported by higher levels of PRIs, the State government and the local non-governmental and private sector, for facilitating, planning, implementing, monitoring and providing a range of O&M back-up services.

- Using sustainable, community or local government managed models for intra-GP RWSS schemes and using State-PRI partnership models for multi-GP schemes.
- Putting water resources security as a core theme of the new model, including increased community management of scarce resources.
- Moving the RWSS sector to recovery of at least 50% O&M and replacement costs and initiating contribution to capital costs keeping affordability and inclusiveness in mind. .
- Moving towards metered household connections, with 24/7 water supply where feasible, as a basic level of service.
- Promoting professionalized service provision management models, and/or back-up support functions, for the different market segments (simple/small single village/GP schemes; large single village/GP schemes; multi village/GP schemes).
- Integrating water supply and sanitation, with effective sanitation promotion programs for achieving “clean villages”.
- Establishing M&E systems with independent reviews and social audits.

Towards operationalizing these elements and feeding it into the design of the project the Social Assessment study has been done as a part of project preparation.

As per the Terms of Reference of the study, the research has been carried out under three heads:

- Social Assessment
- Capacity Building
- Information Education Communication

The present report is an outcome of the **Social Assessment Study in the context of the World Bank Supported RWSS Program in Assam.**

The Chapterisation Plan has been as follows:

Chapter 1: Introduction

Chapter 2: Assam – the partner state

Chapter 3: Study approach and Methodology

Chapter 4: World Bank supported RWSS Program in Assam

Chapter 5: Social Assessment Study

5.1 Situation assessment – baseline analysis

5.2 Social relevance of the project in terms of inclusion, equity perspective

5.3 Institutional Analysis

5.4 Stakeholder analysis

5.5 Impact Assessment

5.6 Gender Perspective

5.7 Issues, recommendations, risks and mitigation measures

Chapter 6 Capacity Building

Chapter 7: Communication Strategy for Rural Water Supply Sanitation Project in Assam

Chapter 8: Performance Monitoring and Evaluation

Chapter 2: Assam – the partner state

2.1 Introducing the State

Assam is situated in the North-East region of India, bordering the seven States viz. Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Tripura, and West Bengal and two countries viz. Bangladesh and Bhutan. It is, one of the seven sister States of the North East India with Dispur as its capital, located in Guwahati the main city of the State. With a geographical area of 78,438 sq. kms which is about 2.4 per cent of the country's total geographical area, Assam provides shelter to 2.2 per cent population of the Country.

A land of high rainfall, Assam is endowed with lush greenery and the mighty river Brahmaputra, whose tributaries and oxbow lakes provide the region with a unique hydro-geomorphic and aesthetic environment. Assam is divided into 27 administrative districts. These districts are further sub-divided into 49 "Sub-divisions". Every district is administered from a District Head Quarter with the Offices of the Deputy Commissioner, District Magistrate, District Panchayat and usually with a District Court. The districts are delineated on the basis of the features such as the rivers, hills, forests, etc. and majority of the newly constituted districts are sub-divisions of the earlier districts.

2.2 Demographic features

As per the 2011 census, total population of Assam was 31,169,272 with a growth rate of 16.93% over the last decade. Assam's population was 28.67 million in 2006 and 31.17 million in 2011 and at the stipulated growth rate it is estimated to be 34.18 million by 2021 and 35.60 million by 2026.

Of the 27 districts of Assam, eight districts registered rise in the decadal population growth rate in 2011. Interestingly, religious minority-dominated districts like Dhubri, Goalpara, Barpeta, Morigaon, Nagaon, Hailakandi etc. recorded growth rates ranging from 20 per cent to 24 per cent during the last decade. On the other hand, eastern Assam districts like Sibsagar, Jorhat etc. registered around 9 per cent population growth, and for the record, these districts do not share any international border. The growth in the western and southern districts was extremely high primarily due to the rapid influx of people from East Pakistan, now Bangladesh. High population concentration was recorded in the districts of Kamrup, Nagaon, Sonitpur, Barpeta, Dhubri, Darang and Cachar.

In 2011, literacy rate in the State was 73.18%. Male literacy rate was 78.81% and female literacy rate was 67.27%. In 2001, the census had recorded literacy in Assam at 63.3% with male literacy at 71.3% and female at 54.6%. Urbanisation rate was recorded at 12.9%.

Assam is often regarded as the melting pot of a large number of ethnic tribes and races. It actually has the largest number of tribes or races in the whole of India. The main communities of the region include the Aryans and the non-Aryans i.e. Mongoloids and Indo-Iranians. Apart from that, Bodos (or Kachari), Karbi, Kosh-Rajbanshi, Miri, Mishimi and Rabha are the other tribes that have been infused in the rich cultural tapestry of Assam.

In Assam three areas – Bodoland Territorial Council, Karbi Anglong Autonomous Council and Dima Hasao Autonomous District Council are under the Sixth Schedule (Article 244(2)) of the Constitution designated as Scheduled Tribal Areas. Bodoland is the gateway to the beautiful North Eastern Region of India, which was created very recently by curving out some area of eight districts of Assam namely Kokrajhar, Dhubri, Bongaigaon, Barpeta, Nalbari, Kamrup, Darang and Sonitpur within the state of Assam. However, the entire area covered under the

BTC has been recognized with Kokrjhar as original district and forming other new district like Chirang, Baska and Udalguri.

2.3 Socio economic backdrop

Assam inherited an economy which had been designed largely for the interests of the colonial British. These included – tea, coal, oil and timber. After independence, the ownership of these industries was transferred to the central and state governments and the political and economic elite of the state. Assam accounts for a significant amount of the country’s crude oil production and more than 50% of the nation’s tea production. Yet, Assam has income levels much below the national average. Agriculture mostly rural today employs nearly 70% of the state’s workforce; yet contributes only 30 % of the state’s gross domestic product. The shift from subsistence farming to technologically advanced, market oriented farming has been slow. Other reasons for low agricultural yield also include lack of assured irrigation and fragmentation of landholdings. Almost 50% of Assam’s farmers cultivate crops once a year leading to inefficient utilization of agricultural land. The use of agricultural machinery in Assam is less than 1/15 that of a strong agricultural productive state likes Haryana. The pace of urbanisation has not been that significant.

The 2001 Commission on Macroeconomics and Health examined the impact of health on development and concluded that improving the health status of people is essential to the economic development of a community. Life expectancy at birth (1996) was 56.2 years in Assam compared to the national average of 60.7. Infant mortality (below 1 year of age) in Assam is 70 per 1000 live births (2001) compared to an IMR of 64 in the rest of the country. Within Assam itself there is a wide disparity in the different districts – in 1991, Dhubri had an IMR of 128 while Jorhat had 47 infant deaths for every 1000 live births. *The population in Assam with access to safe drinking water is only 77.55% compared to the all India figure of 88% (the same is 84% in rural areas and 95% in urban areas) while the total sanitation coverage (rural plus urban) in India is 18% and in Assam 15.89%.* The inadequate coverage coupled with water quality issues emerging from high content of iron, fluoride and arsenic in aquifers in many areas of Assam has led to linked morbidity conditions. Bacteriological contamination due to unhygienic sanitation condition leads to water borne diseases. Hence the water and sanitation situation, particularly in rural areas remains to be a critical challenge for the State.

2.4 Status of Rural Water supply and Drinking Water

Assam is still dependent on water from rain, streams and rivers for drinking and other domestic purposes. These sources have proven to be unsafe. Access to safe drinking water and the status of sanitation & hygiene in Assam is substantially less than the national average.

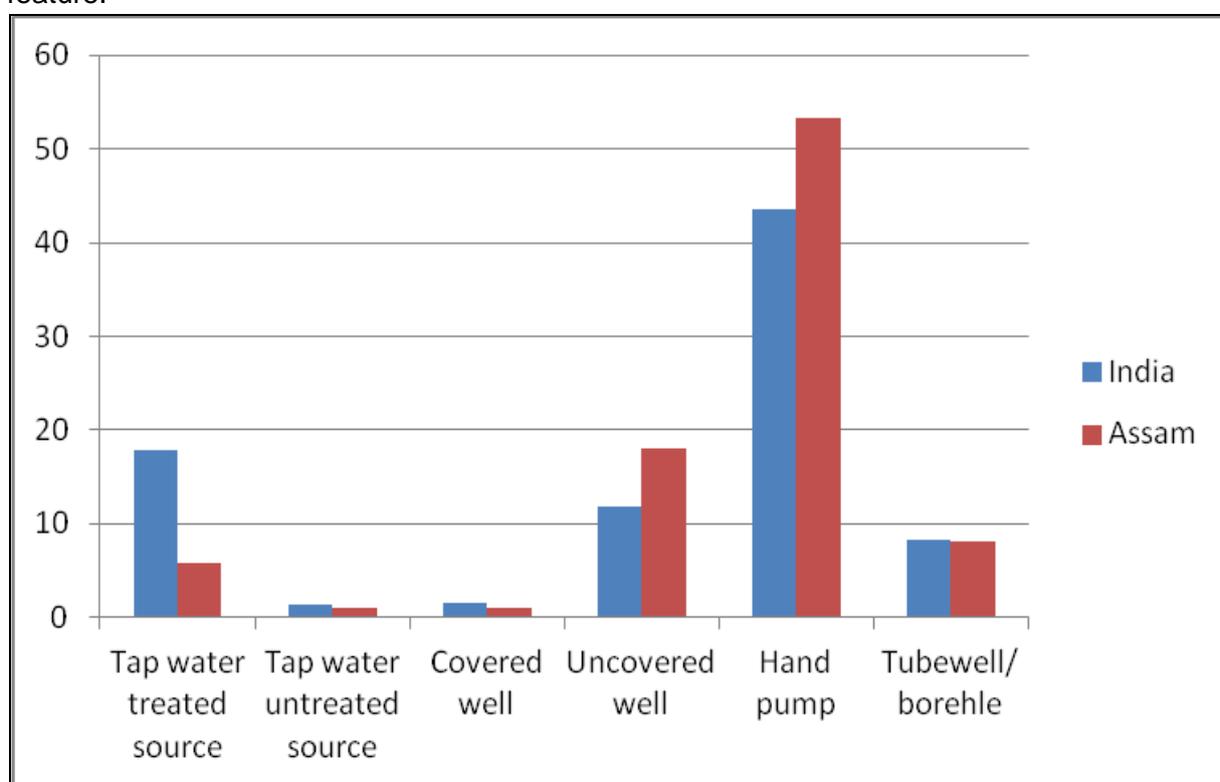
Table 2.1 Distribution of Households by main source of drinking water and location: Assam Rural

	Total number of households	Tap water from treated source	Tap water from un-treated source	Covered well	Un-Covered well	Hand-pump	Tube well / Borehole	Spring	River / Canal	Tank / Pond / Lake	Other Sources
Total	5374553	310833	55852	58923	965961	2866428	439414	70287	208593	282954	115308
Within the premises	2707213	100028	16469	24752	433151	1877505	255308	0	0	0	0
%	50.37	32.18	29.49	42.01	44.84	65.50	58.10	0.00	0.00	0.00	0.00

	Total number of households	Tap water from treated source	Tap water from untreated source	Covered well	Un-Covered well	Hand-pump	Tube well / Borehole	Spring	River / Canal	Tank / Pond / Lake	Other Sources
Near the premises	1572643	140740	25875	18774	278979	643035	116299	18758	75258	220759	34166
%	29.26	45.28	46.33	31.86	28.88	22.43	26.47	26.69	36.08	78.02	29.63
Away	1094697	70605	13508	15397	253831	345888	67807	51529	133335	62195	81142
%	20.37	22.71	24.19	26.13	26.28	12.07	15.43	73.31	63.92	21.98	70.37

Source: Census 2011

Comparisons with All India figures indicate that the majority of rural people obtain their drinking water from hand pumps and this is higher than the All India Average. However the proportion of population having treated source is much lower and the proportion obtaining from uncovered well is much higher than rural India as a whole. The chart below indicates this feature.



Source: Census 2011

Water is supplied to rural areas through various Government led schemes. These schemes are either single village or multi village schemes with both ground water and surface water as their prime sources. PHED is the main government agency which is responsible for water supply. However, many international NGOs/CBOs, private organisations, and individuals fulfil the daily demand of rural population by utilising ground water source through, dug wells, dug-cum-bore wells and shallow tube wells. Villages with reported or observed presence of Arsenic, Iron and Fluoride, are mainly relying on surface water sources such as River Brahmaputra and its tributaries, ponds, lakes, etc.

The present norms adopted by PHED for coverage of Habitations in Assam are as follows:

- 40 litres of safe drinking water per capita per day (LPCD) for human being.

- A water source should exist within the habitation / within 1.60 km in the plains and within 100 m elevation in the hilly areas.

On the sanitation front, it is evident from the following table that the Scheduled Tribe population in Assam lacks the facility of latrine within the premises severely as compared to total rural population and the Scheduled Caste counterpart. However, in case of drainage facility the situation remains the same for the above sub- groups. This feature has been depicted in the table below:

Table: 2.2 Distribution of Households by sanitation facilities and caste:

	Total number of households	Number of Households having latrine facilities within the premises	Number of Households having closed drainage within the premises	Number of Households having bathrooms within the premises
Total	6367295	4131931(64.89)	230025(3.61)	1558058 (24.47)
Rural	5374553	3201625(59.57)	76764(1.42)	846494(15.75)
ST Rural	814320	57674(7.08)	8243(1.01)	74530(9.15)
SC Rural	539606	326395(60.48)	10114(1.87)	89156 (16.52)

Source: Census 2011



Defunct water source



Pit Toilet



Toilet enclosure



Pit Toilet

In the last 50 years, the Government of India (GoI) has put significant efforts to reach out to all habitations and provide them access to safe drinking water and sanitation facilities through various centrally and state sponsored programmes. There has been paradigm shift in approach from supply driven to demand driven in designing the programmes. The recent programmes focussed on the objectives of cost recovery and institutional capacity strengthening.

2.5 RWSS in Assam

“a clean and healthy State , in which each person individually and collectively owns and takes

the responsibility to ensure an equitable and good quality of life through safe water supply, adequate sanitation facilities and best hygiene practices.” Source: PHED, Assam

Providing safe drinking water to the rural habitations and schools has been acknowledged as the most challenging and priority task by the Government. Assam Public Health Engineering Department is the nodal Government Department for the rural water supply programmes in the State.

For ensuring access to safe water to the rural **mass** following are the three major Government sponsored programmes undertaken by PHED

1. Minimum Need Programme (MNP)
2. Accelerated Rural Water Supply Programme (ARWSP)
3. Pradhan Mantri Gramodaya Jojna - RWS

Water supply is ensured to the rural population by Piped Water Supply Schemes (PWSS) and Spot Source Water Supply Schemes (SSWSS). A PWSS is adopted to cover a larger population and also when there is the need of proper treatment of raw water. A SSWSS is adopted to cater smaller population and also where the raw water requires no or minimum treatment. Various type of spot sources adopted by the APHED are:-

- Conventional Hand Tube Well (Earlier No. 6 Hand Tube Wells were installed for rural water supply. However, presently this type is discarded and new Type Hand Tube Wells are being used)
- Direct Action (Tara) Hand Pump
- India M II Hand Pump
- India M III Hand Pump
- Reinforced Cement Concrete (RCC) Ring Well

There are approx. 1200 piped water supply schemes in Assam covering 18.5% of the State's population. Assam Public Health Engineering Department is also the nodal department for rural sanitation programme. The two major Government sponsored programmes are

1. Minimum Need Programme (MNP)
2. Centrally Sponsored Rural Sanitation Programme (CRSP)

Rural sanitation programme is a State subject and included in the MNP from the year 1986. Government of India launched CRSP with 100 % grant-in-aid to the State and Union Territories. In April 1999; Government of India revamped the CRSP and introduced it as the Total Sanitation Campaign (TSC). TSC moved away from allocation based supply driven approach to demand responsive strategy. Primary focus of TSC is to form environmental sanitation generating felt demand and developing alternative delivery mechanism.

Chapter 3 Study Approach and Methodology

The Social Assessment study, as a component of the project preparation process, will analyse the impacts of the project on the project partners in addressing the requirements of the all the sub-groups, with special attention towards the socially excluded sub-groups. Besides, there are a large number of stakeholders, some internal and others external to the project, who would have varying degrees of influence and impact on project activities and outcomes. This makes it necessary for the project to provide a framework for participation of all key stakeholder groups and enable solicit their contributions towards project design and delivery mechanisms. Broad elements of the study included beneficiary assessment, stakeholder analysis, social impacts, institutional assessments and risks analysis. Scope of the study is however little larger to cover aspects related to capacity building and communications strategy in general and PRI in particular.

Hence social assessment study comes with an extended scope and includes the following components

- A. Social Assessment
- B. Capacity Building
- C. Communication

3.1 Objectives

The objective to conduct a Social Assessment study, chiefly, is to better understand and address social development issues, and ensure accomplishing the outcomes – inclusion, cohesion, equity, security and accountability. This would also enable assessing the social impacts of the proposed project interventions; develop measures to mitigate negative impacts and enhance positive impacts; examine the legal, policy and institutional aspects to enable accomplish the principles underpinning the approach.

3.2 Approach

The assessment has been carried out to be consistent with GOI and the World Bank safeguard requirements, policies, regulations and guidelines. Social assessment, as per the World Bank OP 4.10, should be carried out through consultative and participatory approach appropriate to the social and cultural values of the people particularly the affected Indigenous Peoples' communities and their local conditions. Hence the approach to the assignment has been participatory and consultative.

The key elements of the assignment include:

Water and Livelihood: The present project is expected to affect the livelihood of the villagers in a number of ways. Firstly, it may reduce the incidence of diseases due to supply of treated water for drinking and other purposes. Secondly, it may reduce the time available for collection particularly lessening the drudgeries of women.. Thirdly, it might create employment for a section of the people.. Consequently, **the Social Assessment Study** analysed in detail the socio-economic parameters, the water accessibility issues, the employment opportunities and other impacts which such a project might entail..

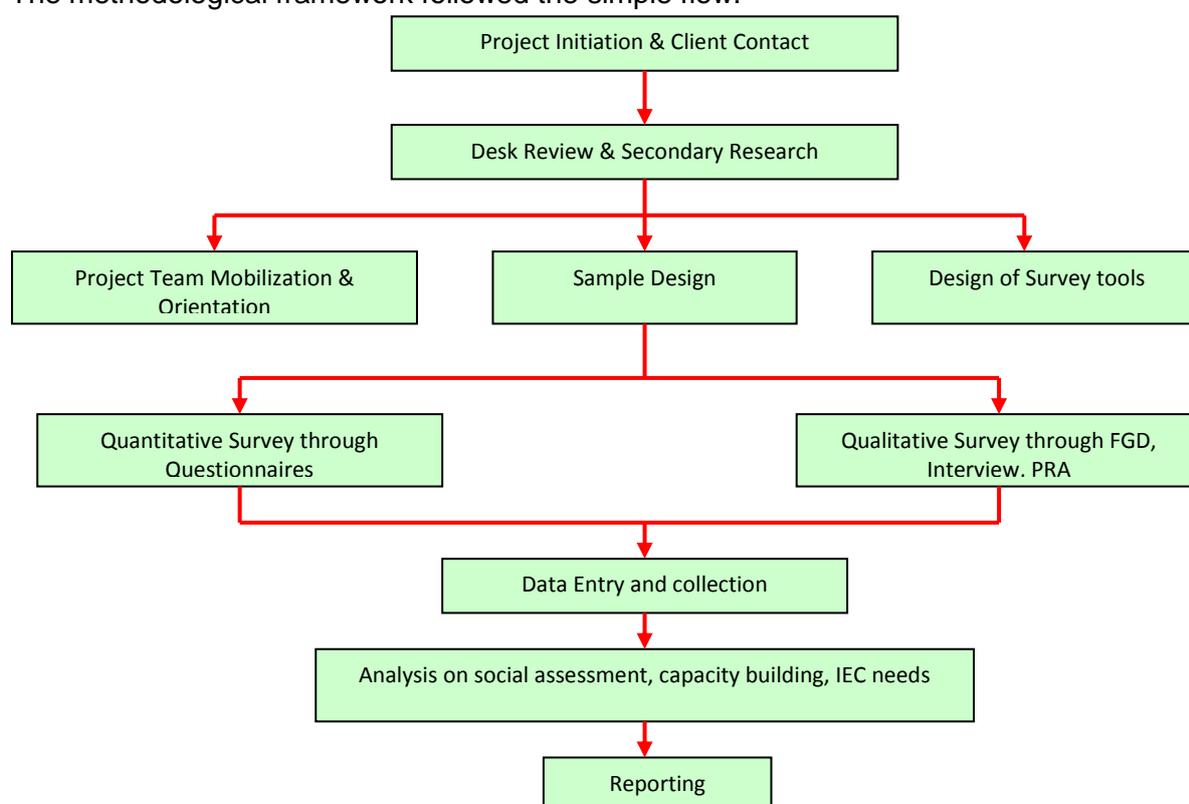
Awareness and Participation: Another crucial aspect of the project is the awareness of the villagers regarding the vital importance of the project and their eagerness to participate in the

implementation, operation and the maintenance of the project. Else, the outcome will turn out to be an initiative imposed from above about which the villagers have no sense of ownership. The **Information Education and Communication Component** studied the awareness of the villagers and ways to raise their knowledge and participation regarding the project and its benefits.

Capacity: The third important pillar of the project is the technical capabilities of the functionaries as well as the institutional capability of the PRIs and the community to maintain the level of benefits flowing from the project. The **Capacity Building Component** attempted to estimate the present capabilities of the rural institutions and villagers and outline the initiatives needed to raise capabilities which are particularly deficient in the backward regions.

3.3 Methodology

The methodological framework followed the simple flow:



As depicted above, the methodology to the assessment study involved both quantitative and qualitative analyses and an integrated approach. A range of secondary data analysis, State, District and Village level consultations and primary surveys have been adopted in the course of the study.

Project initiation and Client Interaction: This involved meeting the Client and the World Bank Team for an overall orientation and work planning.

Desk review and secondary research: Documents and reports were collected and reviewed for an overview and preliminary situation assessment of Assam and the water supply and sanitation scenario. Desk review was also done for an understanding of the policies, regulations, guidelines and Government Orders related to the social aspects of the project. Web-based research substantiated the assessment.

Project Team Mobilization and orientation: The Project Team comprising a multidisciplinary set of professionals and support technical personnel were mobilized and orientated in the technical approach and deliverables of the programme.

Sample Design and Sample Selection: The method chosen for this study was Stratified Random Sampling where the stratification was done by project areas to take into account the differences in geography and population characteristics by regions. Further within each project area at least three GPs were selected based on their distance from the envisaged intake point (Head, Tail, and Middle) as the land requirements, installations, as well as the flow of water varies according to the intake points. In some of the larger Project areas, more GPs had to be selected to take into account the location, social and economic diversity. The selection was done based on secondary sources supplemented by consultations with the Executive Engineer of the district particularly in some critical areas.

In each GP, at least one village was chosen at random. However, in some of the GPs with large populations, 2 villages had to be chosen to take into account the wider variations in the socio-economic characteristics of the populations. In each village 30 households were chosen at random, spread over different habitations

The selected households were surveyed on the basis of a household level questionnaire. Further for a greater understanding of the critical issues, Focus Group Discussions have been planned in several habitations under a GP to have a dispersed coverage and a greater representation of the catchment populace. The list of sample GP-s and Villages is provided below:

Sample Composition

S.No	District	Project Areas	Name of Blocks	Sample	
				No of GPs	No of Villages
1	Kamrup	Composite WSS at Chandrapur & Dimoria Dev. Block	Chandrapur	1	2
			Dimoria	2	2
		Composite WSS at Bezera	Bezera	1	2
2	Sibsagar	Amguri Gaurisagar integrated WSS	Amguri	2	3
			Gaurisagar	2	3
		Gr. Sibsagar integrated WSS	Sibsagar	2	2
			Dimow	3	5
3	Jorhat	Composite WSS at Jorhat & Jorhat Central Dev. Block	Jorhat	2	3
			Jorhat Central	2	2
		Jorhat North West			
				1	2
4	Sonitpur	Composite WSS at Gohpur	Chariduar	3	4
			Purb Chariduar	3	4
5	Morigaon	Gr Mayang WSS	Mayong	3	3
			Bhurbondha	2	3
6	Bongaigaon	Gr Jogighopa WSS	Boitamari	3	4
			Tapatari	2	2
			Srijangram	1	2
7	Hailakandi	Gr. Hailakandi-Algapur WSS	Algapur	3	4
			Hailakandi	2	2
TOTAL				40	54

Design of survey tools: The quantitative and qualitative data/information required for the study was collected through:

- Questionnaires / query schedules at household level to capture the socio economic information , water use practices, personal hygiene practices, disease incidence and health seeking behavior etc
- PRA with community to understand the spatial dimensions of the project catchment/ settlements and distribution of water sources, the collection practices, problems and expectations
- Structured interviews with key informants like Representatives SPMU, PRI executives on project dimensions and key issues related to management and maintenance , institutional capacity
- Meetings with stakeholders concerned officials, VWSCs, PRI members, staff of line departments, consultants, NGOs etc. on project dimensions and key issues related to management and maintenance, institutional capacity , capacity building and communication strategies
- Focus Group Discussions with PRI members, Women Groups, Health Service providers etc on water availability, collection practices, quality of water , health hazards, institutional services availability and utilization etc
- Stakeholders workshops at different levels (village, block and district level) on strategies and plan finalization

The study tools have been presented in **Annex1**

Data collection through application of survey tools - The survey team comprising the Team Leader, Supervisor and Investigators collected the relevant data through judicious application of survey tools on the identified sample set. The quantitative survey was carried out in the 54 villages falling under 40 Gram Panchayats scattered all over the area under each project location while consultations were held with beneficiaries from over 100 villages to supplement the quantitative data. The data obtained from the questionnaire and consultations helped develop a baseline against which changes would be monitored and evaluated.

Data Entry and collation: The data collected was computerized in suitably designed data bases so that it could be used for integration into the proposed spatial knowledge base and the monitoring and evaluation system. The emphasis was on generation of information rather than collection of data.

Analysis: The analysis of data has been carried out under three heads:

- Social Assessment
- Capacity Building
- Information Education Communication

The analyses have been presented in the following sections.

Performance Monitoring

In order to ensure that the project is implemented properly with desired outcomes a monitoring framework has been developed adopting the Performance Indicator Tracking Table (PITT) approach. This monitoring framework have three parts, i) the beneficiary situation ii) capacity building and iii) Awareness. Performance indicators in terms of output, outcome and impact have been designed for each section to understand change – positive or adverse. The baseline situation assessment formed the basis for assessing change.

4: World Bank supported RWSS programme in ASSAM

Assam is amongst the four States along with UP, Bihar and Jharkhand, chosen by GOI, MoDWS for the proposed 50:50 cost sharing project with World Bank wherein altogether 7 Multi Village Projects are proposed in seven Districts, namely Sibsagar, Jorhat, Morigaon, Sonitpur, Kamrup, Bongaigaon and Hailakandi for serving about 13.5 lakh present .

4.1 Project Details

The source of drinking water for the inhabitants in these districts are either from PWSS and spot sources developed by the PHED, or from their own arrangement of Tube well & pond. Some of the existing schemes of the proposed project area where House connection facilities are available have been presently maintained by the local “User’s Committee” in partnership with PHED, Assam. With this in the backdrop Government of India has issued its concurrence on principle for taking up 9 (nine) different large Multi Village Scheme (LMVS) in the 7 (seven) Districts vide letter No. W-11031/03/2011 Water-II dated 28.08.2012 wherein it was directed to take up projects costing at least Rs. 425.0 Cr. As 1st. Phase, which includes all proportionate shares, i.e., the above amount includes the matching component (50 %) of NRDWP (Central + State share)

Initially 9 (nine) Large Multi Village Schemes (LMVS) had been identified to be taken up for the proposed World Bank supported RWSS – LIS Projects within the above 7 (seven) districts of Assam. Details of the proposed projects are as follows:

Table 4.1 Proposed Schemes

District	Name of Scheme	Name of Block	No. of G.P.	No. of Village	No. of Habs	Present Popln.
Kamrup	Composite WSS for Sustainability & Quality in Chandrapur & Dimoria Dev. Block	Chandrapur & Dimoria	16	190	680	244721
Kamrup	Composite WSS for Sustainability & Quality in Bezera Dev. Block	Bezera	7	53	323	105911
Sibsagar	Amguri-Gaurisagar Integrated WSS	Amguri & Gaurisagar	25	165	629	138165
Sibsagar	Greater Sibsagar Integrated WSS for mitigation of Arsenic & Iron	Sibsagar & Demow	16	134	701	145145
Jorhat	Composite WSS for Sustainability & Quality in Jorhat Central & Jorhat North West Dev. Block	Jorhat, Jorhat Central & Jorhat North West	33	163	1046	302482
Sonitpur	Gohpur Composite WSS	Chaiduar & Pub Chaiduar	33	221	439	102641
Morigaon	Greater Mayang WSS	Mayang & Bhurbondha	16	85	488	154288
Bongaigaon	Greater Jogighopa WSS	Boitamari, Tapatari & Sreijangram	36	342	1537	325378
Hailakandi	Greater Hailakandi - Algapur WSS	Hailakandi & Algapur	14	54	236	89149
Total 7 (seven) District	Total 9 (nine) Scheme	Total 19 (nineteen) Block	193	1407	6139	1607880

However review at a later stage led to exclusion of 2 schemes like Composite WSS for

Sustainability & Quality in Bezera Dev. Block of Kamrup District and Greater Sibsagar Integrated WSS for mitigation of Arsenic & Iron in Sibsagar and Demow Blocks of Sibsagar bringing the number of schemes to 7. The details of the 7 schemes have been provided below:

Table 4.2 Proposed schemes after revision

District	Name of Scheme
Kamrup	A) Composite WSS for Sustainability & Quality in Chandrapur & Dimoria Dev. Block (B1)
Jorhat	Composite WSS for Sustainability & Quality in Jorhat & Jorhat Central Dev. Block (B1)
Hailakandi	Greater Hailakandi - Algapur WSS (B1)
Morigaon	Greater Mayang WSS (B2)
Bongaigaon	Greater Jogighopa WSS (B2)
Sonitpur	Gohpur Composit WSS (B3)
Sibsagar	Amguri - Gaurisagar Integrated WSS (B3)
	7 (seven) Large MVS

Batch 1 is supposed to cover 3 schemes as follows:

1. Chandrapur and Dimora block of Kamrup district
2. Jorhat, Jorhat Central and Jorhat North West blocks of Jorhat district, and
3. Hailakandi and Algapur blocks of Hailakandi district.

This will be a total of 7 development blocks and 63 Gram Panchayat (GPs), which include 406 villages consisting of 1974 habitations. The first phase will benefit a total population of 610615 people (Source: PHED, Assam).

The main elements under the World Bank aided RWSS scheme will be,

- Development of water sources which may include both surface and groundwater sources, depending upon availability of good quality water, sustainability and other technical feasibility issues.
- In areas where there is no suitable water surface source without contamination with arsenic, fluoride, iron or other similar elements, shallow dug-wells, ring wells may be considered.
- In areas of excess iron, and no proper alternate source, a deep tube-well with submersible will be used for water abstraction.
- In case of shallow source use, individual or small scale water supply systems would also need to be considered. Where source is not a constraint multi-village schemes would be considered.
- For surface water sources the intakes considered will include, either an intake- well or a floating barge fitted with a Centrifugal Pump to be used to lift raw water.
- Depending upon the quality of the sourced water, treatment will considered. Typically this will consist of Pre-sedimentation, Aeration, Coagulation & Flocculation, Sedimentation, Filtration and then Disinfection.
- If the best available source is contaminated with iron beyond BSI permissible limits, the treatment process is likely to be a combination of - Aeration, Filtration and then Disinfection.

- Water distributed will be at a minimum terminal head of 5.0metre and a residual chlorine content of 0.2mlg.
- The project will also consider upgrading of existing schemes, where practicable.

Costs will be shared in all projects, where the community is expected to pay part of the expenses. Upon implement of the schemes they will be handed over to the PRIs for the day to day management of the system.

It is planned that the water source for all large multi village schemes shall be from surface sources and perennial rivers. The project will ensure 100% household connections and metering for collection of water charges. Bulk water meters will also be installed at village entry points for all schemes. Water supply is planned to be 24X7. In case of peri-urban areas, multi storied apartments will have shared connections with bulk meters.

4.2 Overview of Project Districts

The project covers **seven** districts namely **Kamrup, Sibsagar, Jorhat, Sonitpur, Morigaon, Bogaigaon** and **Hailakandi** - the choice of districts being based on the following criteria—

- The Ground Water in most of the habitations is Iron affected and some of them are having Excess Arsenic and Fluoride.
- The Ground water level is gradually depleting.
- Most of the existing PWSS in the proposed project area have already surpassed their design period of 15 years. Hence these PWSS need to be refurbished.
- A major consideration is the growing population as well as increase of per capita demand from 40 lpcd to 70 lpcd.
- Some habitations, which include tea garden area, the supply of water provided by the concerned authority is not sufficient to cater to the increasing demand. Hence the proposed RWSS will improve the Standard of Living of Tea Tribe Community.
- The yields from the sources installed in some areas have dwindled due to poor aquifers causing great hardship for drinking water in that area.

The project districts with red spots have been indicated in the map below.



The basic demographic features of these target districts have been provided below.

Table: 4.3 Demographic Information of Project Districts

	Total Population	Males	Females	Sex Ratio	Literacy rate Persons	Literacy rate Males	Literacy rate Females	SC%	ST%
Kamrup	15,17,202	7,79,608	7,37,594	946	72.81	77.64	67.69	6.8	9.9
Sibsagar	11,50,253	5,89,454	5,60,799	951	81.36	86.75	75.69	3.4	3.9
Jorhat	10,91,295	5,57,944	5,33,351	956	83.42	88.38	78.22	7.9	12.3
Sonitpur	19,25,975	9,89,919	9,36,056	946	69.96	76.98	62.53	5.2	11.6
Morigaon	9,57,853	4,85,328	4,72,525	974	69.37	73.66	64.99	12.9	15.6
Bongaigaon	7,32,639	3,73,590	3,59,049	961	70.44	75.48	65.18	10.3	12.2
Hailakandi	6,59,260	3,38,766	3,20,494	946	75.26	81.61	68.54	10.9	0.2

Source: Census 2011

In rural Assam there exists number of habitations in each village under a particular Gram Panchayat. The following table explains the details of the villages and habitations falling under the project areas.

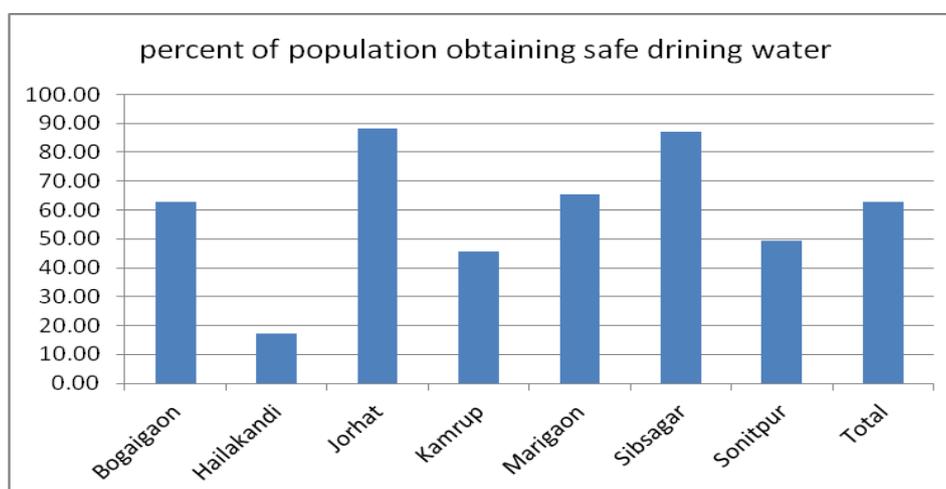
Table: 4.4 Districts and their Coverage Details under the Project

S. No	District	Project Areas	Name of Blocks	No of GPs	No of Villages	No of Habitation	Population
1	Kamrup	Composite Wss at Chandrapur & Dimoria Dev. Block	Chandrapur	4	51	194	49,355
			Dimoria	12	155	486	1,76,987
		Composite WSS at Bezera	Bezera	7	45	323	97,957
2	Sibsagar	Amguri Gaurisagar integrated WSS	Amguri	12	76	307	62,878
			Gaurisagar	13	84	283	58,995
		Gr. Sibsagar integrated WSS	Sibsagar	17	42	735	1,37,876
			Dimow	21	164	920	1,54,058
3	Jorhat	Composite WSS at Jorhat&Jorhat Central Dev. Block	Jorhat East	23	96	657	1,95,410
			Jorhat Central	10	70	381	83,187
4	Sonitpur	Composite WSS at Gohpur	Chariduar	17	109	257	46,033
			PurbChariduar	17	113	180	44,822
5	Morigaon	Gr Mayang WSS	Mayong	14	123	427	1,33,155
			Bhurbondha	2	19	59	9,045
6	Bongaingaon	Gr Jogighopa WSS	Boitamari	12	128	516	97,786
			Tapatari	11	100	454	90,641
			Srijangram	13	112	564	1,00,150
7	Hailakandi	Gr. Hailakandi-Algapur WSS	Algapur	10	37	147	53,866
			Hailakandi	4	16	89	26,931
TOTAL				219	1540	6979	1619132

Source: PHED (P), Assam

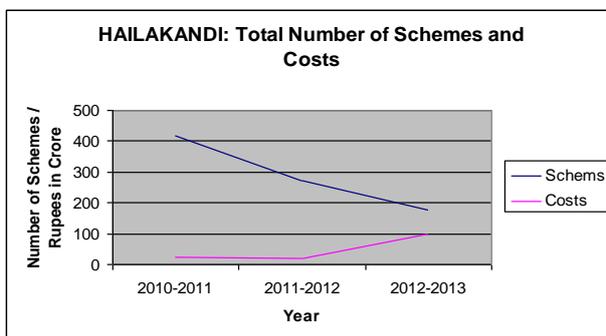
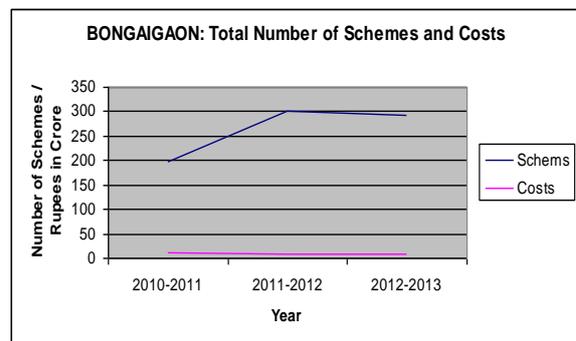
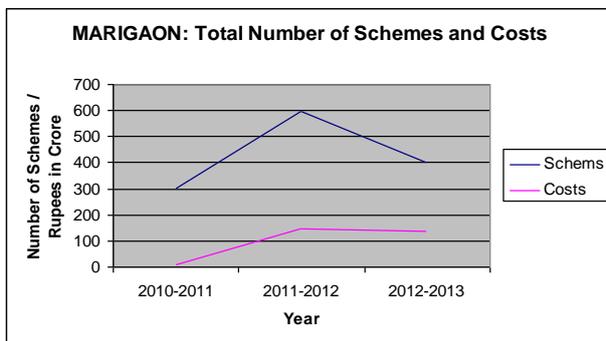
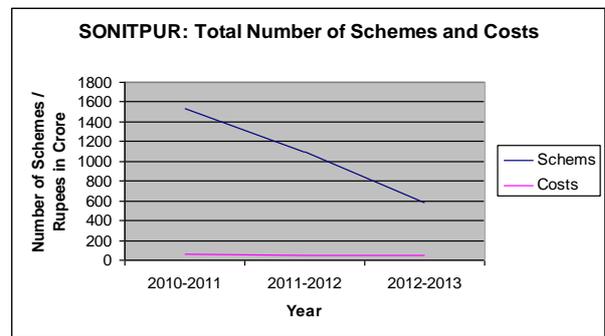
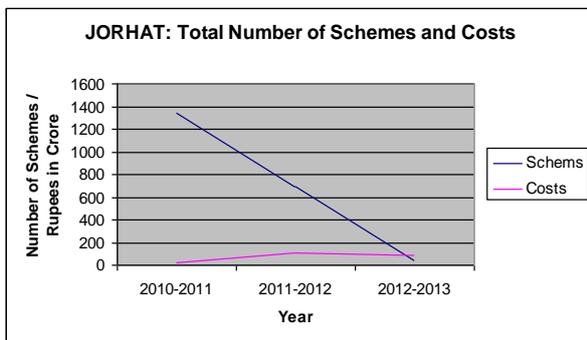
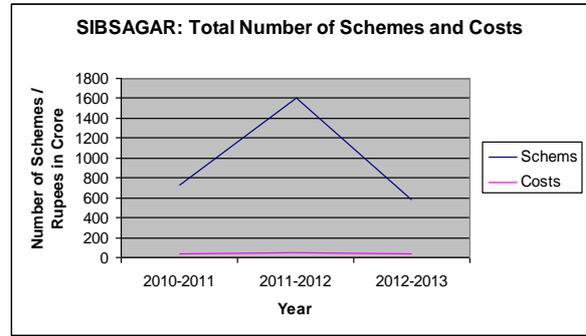
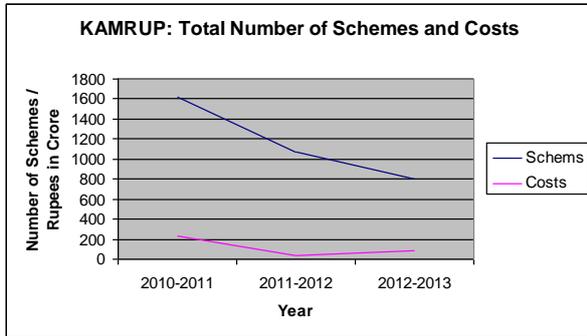
The district specific piped water coverage has been presented below:

Population obtaining safe drinking water



Source : MoDWS

An analysis of the total no. of schemes and costs incurred over the last three years in the project districts reveal that in general there has been a downtrend in the schemes commissioned although costs have not fallen. On the contrary it has either maintained a matching level or has increased implying a creation of cost intensive infrastructure



Source: Ministry Website

Incidence of Water and Sanitation Related Diseases in the project area

Data on three water borne diseases namely, Bacterial Dysentery, Acute Diarrhoeal Disease and Cholera occurring in Assam, the number is highest during summer and rainy season. In 2010, Assam experienced incessant rains which led to flooding of most of the districts, which led to State wide outbreak of Cholera and other water borne diseases. Out of the seven districts, six districts barring Hailakandi lies in the plain of River Brahmaputra and vulnerable to yearly flooding.

Table 4.5: Incidence of Water and Sanitation Related Diseases

Block	Total Population	Acute Diarrhoeal Disease	Bacterial Dysentery	Percentage of population affected by ADD during 2010-2012	Percentage of population affected by BD during 2010-2012
		2012	2012		
Algapur & Hailakandi	80797	3364	5045	4.33	5.14
Tapatari & Srijangram	190791	3263	3630	1.81	1.94
Boitamari	97786	3235	1715	4.04	1.99
Mayong	133155	221	509	0.09	0.50
Bhurbandha	9045	2768	6257	32.63	83.05
Jorhat Central	58021	2118	582	2.64	0.99
Chariduar	46033	291	227	0.78	0.72
Ambeguri	62878	251	159	0.73	0.63
Gaurisagar	58995	960	1122	2.65	2.96
Demow	154058	5442	1372	3.73	1.58
Bezera	97957	1470	1593	1.72	1.56
Dimoria	176987	227	281	0.15	0.20

Source: IDSP-Cell, NRHM, Assam 2012.

The Blocks taken by the IDSP cell are based on the Revenue circle. Thus, it may not truly reflect the total population of the nine project areas since the blocks selected by PHED are based on the Habitation Record.

Hence the project districts are plagued with quantitative and qualitative inadequacies establishing the need for the project. The following sections deal with the social assessment issues particularly to understand the relevance of the project considering the social and institutional context.

A) SOCIAL ASSESSMENT STUDY

Chapter 5: Social Assessment Study

Social Assessment has been undertaken through the following appraisals

- 5.1 Baseline Analysis
- 5.2 Social relevance in terms of inclusion and equity
- 5.3 Institutional Analysis
- 5.4 Stakeholder Analysis
- 5.5 Impact Assessment
- 5.6 Safeguards
- 5.7 Gender perspective
- 5.8 Assessment of Risks and Assumptions

5.1 Baseline Analysis

Beneficiary profile may not be homogeneous, rather, quite diverse comprising a number of sub-groups identifiable on the basis of their differential endowment, gender, ethnicity, different economic groups and other regional features, their practices. The initial activity of any assessment study is thus taking an account of the baseline situation to gauge the appropriateness of intervention.

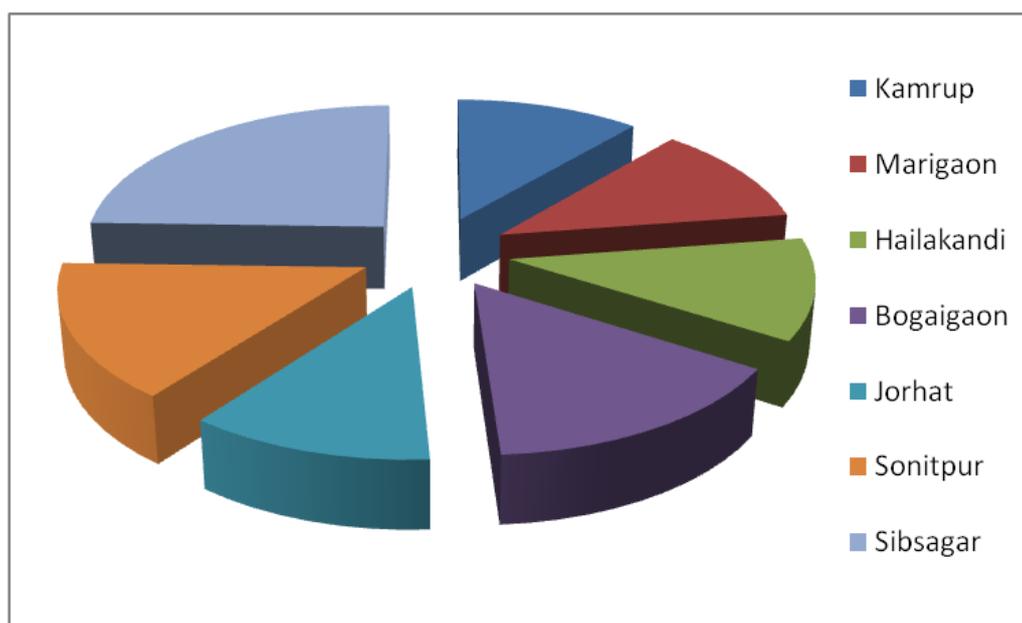
The baseline analysis has been done on the basis of questionnaire based survey and FGD-s. The snapshots of field Consultation is provided in **Annex 2**. The primary task involved the design of sample and sample selection which was followed by quantitative and qualitative survey.

The baseline analysis related to the analysis of the socioeconomic profiles including Socio economic sub-groups identifications, habitation, housing and household amenities (space for bathing, defecation, cattle etc) family structure / size, occupation, income, literacy, gender spread, land ownership and use, water supply, hygiene and sanitation, common ailment and medical expenses, relationship between tribal habitations and main villages and gram Panchayats, political representation, special attention to women, reactions to project rules and regulations.

The analysis also covered the assessment of water use (optimal) in terms of number and characteristics of sources and availability (quantity, quality); reasons for preferences, if any; reliability in terms of continuity of supply, distance to source; time taken in fetching water, general aspects of water use; water requirement by purposes such as cooking, drinking, bathing, vessels and washing clothes, cattle etc, time allocation on water related functions with a special focus focused on women, management aspects such as source protection, method of distribution, ownership of water sources, accessibility tariffs and general maintenance. Review of Personal habits in relationship to using water, practices related to (drawing, caring, storage and drinking of water and review of personal hygienic practices including hand cleansing practices, disposal of household refuse, and disposal of animal and farm residues. Review of sanitation infrastructure and use in terms of status of latrine, if any including the type/technology, construction details and the use and maintenance aspects. Beneficiary assessment would also include an analysis of cause-effect of water borne diseases with respect to WASH. An overview of baseline analysis is presented below while **Annex 3** contains the detailed report.

Respondent Profile

Data has been collected from 1590 respondents from seven districts of Assam. There are 180 respondents each from Kamrup, Morigaon, Hailakandi and Jorhat districts. Bogaigaon and Sonitpur have 240 respondents each and Sibsagar has 390 respondents.



Three blocks from Kamrup, Bogaigaon, Jorhat district and two blocks each from Morigaon Hailakandi and Sonitpur have been identified. On the other hand, four blocks have been selected from Sibsagar. Data has been collected from six villages from five G.P.s each from Kamrup, Morigaon, Hailakandi and Jorhat districts. Eight villages from seven GPs of Bogaigaon, eight villages from six GPs of Sonitpur and 13 villages from 10 GPs of Sibsagar district have been identified. Therefore, survey has been carried out altogether in 53 villages from 43 Gram Panchayats of 19 blocks of seven districts. Altogether, data has been collected from 877 male and 713 female respondents.

Socio-economic profile of respondents

Respondents' religious identity shows that in the seven districts namely Kamrup, Morigaon and Hailakandi, Bogaigaon, Jorhat, Sonitpur and Sivsagar nearly 84.5% of the respondents are Hindu. While little more than 13% belongs to Muslim community, only 2% respondents follow Christianity and 0.12% is Sikh.

District wise data shows that hundred percent respondents of Morigaon district are Hindu, followed by 99% in Sonitpur, 98% in Sibsagar, 91% in Jorhat and nearly 89% in Kamrup. On the other hand, in Bogaigaon and Hailakandi percentage of Hindu respondents are 53% and 50% respectively. In those two districts, respondents who follow Islam are more or less comparable, i. e. 47% and nearly 48% respectively. However, in other districts Muslim respondents are less than 5%. Even in Morigaon district there is no respondent who follow Islam. Out of 1590 respondents only two are from Sikh community, one from Jorhat and another from Sibsagar district. Besides, 32 respondents belong to Christianity. Out of seven districts only Kamrup, Hailakandi and Jorhat have Christian respondents.

Social stratification based on caste and ethnicity shows that out of 1590 respondents 38.49% (612) are from general caste. However there is a substantial portion of OBC population. Little more than 33% respondents belong to OBC. 18.05% respondents belong to Scheduled Caste community. Percentage of both STs is 9.69%.

In Kamrup ST respondents comprising nearly 51%, while 63% OBCs represented at Sibsagar district, SC respondents were nearly 33% at Jorhat and 27% at Bongaigaon.

The study intended to see the type of family and the gender of the head of the family have any co- relation with access and the pattern of usage of water supply and sanitation systems and the related knowledge, attitude and practices.

The data reveals that more than 76% families are nuclear and the rest 24% are joint families. It is interesting to know that contrary to common belief in rural areas also families are primarily nuclear. While there are 380 (24%) joint families, no extended families are found among the respondents. Data reveals that in all the seven districts nuclear families are more than 60%. Highest percentage (91.1%) of nuclear families is found in Hailakandi and the lowest percentage (63.3%) is in Bogaigaon. At the same time, highest percentage of joint families are also found in Bongaigaon (36.67%), followed by Morigaon (30.56%)

Regarding the gender of the head of the HH the data shows that out of 1590 respondents' households little more than 10% (165) households are headed by women and the rest (90%) have male heads. Highest percentage of female headed households is found in Kamrup district (17.78%), followed by Morigaon 13.89%), Jorhat (11.67%) and Sibsagar (10.26%).

The study reveals that the average number of family members varies from four to five in all the seven districts. While in Kamrup, Morigaon and Bongaigaon it is five, in other four districts average number is four. Besides it also shows that the average income per year ranges from Rs. 53, 620.83 to Rs. 77,379.18. Highest average income is found in Kamrup and the lowest in Bongaigaon.

District wise segregation of data shows that for most of the respondents' family income fall into Rs 25001 to Rs 50000 category. As expected relatively a few respondents' are in upto Rs 25000 and More than Rs 100000 categories. However in Morigaon 16% and in Kamrup 15.44% respondents have more than Rs 100000 income per year.

The study shows that while little more than 30% respondents own BPL card, nearly 70% do not have. Highest percentage of BPL among the respondents is found in Hailakandi (61%) and the lowest in Sibsagar (14.10%).

It is to note that while more than 20% of the respondents do not own any agricultural land, the rest 80% has agricultural land which is cultivable. In Hailakandi, nearly 73 % respondents do not own any land, which is the highest among all the respondents. It also corroborates the high percentage of BPLs among the respondents in the district. On the other hand, the highest number of land owning among the respondents are found in Jorhat (94.4%), followed by Sibsagar (90.5%) and Sonitpur (89.1%). In Morigaon 28.89% and in Kamrup 21.67% respondents do not have agricultural land.

In case of residing in pacca house, it is found that out of 1590 respondents while 34.9 % (555 persons) reside in pacca house a vast majority (65%) do not. Supporting the data of highest number of BPL and lowest number of land ownership, respondents of Hailakandi have the lowest percentage (20.5%) of pacca house. Highest number of pacca houses is found in Kamrup (46%) followed by Jorhat (44%).

Data reveals that out of 1590 respondents' family nearly 79% is single income family. While 16% respondents have double earners in the family and 4.34% have three earning members; less than 1% families have more than three earners. Double or more income reduces the vulnerability of the family and increases the chance of having disposable income.

Data also reveals that while little less than 50% think that there income is sufficient to run their family, the rest 50% feels otherwise. However, it is interesting to note that in Kamrup district

only 4.4% respondents feel that their income is not sufficient. In case of emergency there is a trend to borrow money from friends and relatives as well as from money lenders. Relatively less number of participants try other sources like bank or SHGs.

To know the purchasing power of the respondents and to assess their standard of living as well as their production capacity the study intends to find out the ownership pattern of consumer goods and conveyance and productive assets among the respondents.

Three household items have been selected, namely, television, refrigerator and fan to assess the purchasing power and standard of living of the respondents.

Out of the 1590 respondents 65% own fans, 51% has television and only 5% has refrigerators in their house. It generally shows that people give more importance to entertainment aspect in general and television in particular than day to day household requirements like refrigerator.

District wise data reveals that highest percentage of respondents having television (69%) and fan (82%) are in Morigaon district. In Kamrup number of respondents having television and fan are 68% and 64% respectively, In Jorhat those are 62% and 76%. While in Sonitpur and Sibsagar nearly 77% and 72% respondents own fans, in case of television the data are nearly 50% and 47% respectively. The lowest percentage of respondents own television (27%), refrigerator (2%) and fan (34%) in Hailakandi. 10% respondents in Jorhat, nine percent in Morigaon and eight percent respondents in Kamrup own refrigerator.

In case of conveyance it is found that while 14 % respondents have two wheelers, only 2.26% has four wheelers. Four percent of respondents each for Kamrup and Morigaon and 3% respondents in Jorhat own four wheelers. In case of two wheelers, it is found that 22% respondents each in Kamrup and Jorhat districts and 14% in Morigaon district own two wheelers.

Tractor, power tiller, sprayer and thrasher are the four major productive assets especially among the farmer community. Among the 1590 respondents from seven districts nearly 80% have land holding. However in case of owning of productive assets it is found the only 0.31% have tractor, 0.25% have power tiller and 0.19% have sprayer. However, no respondent have personal thrasher.

Respondents of Bongaigaon, Hailakandi, Sibsagar and Sonitpur do not have Tractors while only 5 tractors reported owned by the respondents - two at Jorhat, two at Kamrup and one at Morigaon district. None of the respondents own Thrashers. And only 3 persons own Sprayers one each at Bongaigaon, Kamrup and Morigaon districts. .

Availability and accessibility of water

Survey reveals that many of the respondents use water from different sources. Highest number of respondents, i.e. 491(30.88%) use water from hand pumps and 23.14% avail community piped water. However, it is alarming to note that i.e. 25.09% (399) use water from well, 9.81% use pond water and another 0.5% use either river or spring water for their daily needs. Therefore, nearly more than 34% respondents use water sources which are not considered as hygienic. Nearly 28% used piped water either from community sources or from individual connection (4.27%).

District wise data shows that out of 180 respondents, in Hailakandi 139 (77.22%) still use pond water for their daily use, while in, Bongaigaon and Sonitpur district, no use of pond water was reported by the respondents. In Kamrup (53.33%) and Sonitpur (50%) districts

respondents predominantly use well. Other than well community piped water and hand pumps are prevalent. Among the respondents of Morigaon hand pumps (47.77%) are the primary source of water followed by community piped water (37.77%). Besides, 22.7% respondents take water from well. Among the total 68 respondents who have individual pipeline in their house, 30 are from Sibsagar, 20 are from Jorhat and 18 are from Morigaon district.

Regarding the distance of the water source, the study reveals that the respondents travel maximum up to 400 mtr to collect water for their daily use. 60% respondents do not travel to collect water as they collect it from individual well, ponds and hand pumps. Among the rest 40%, 32.57% collect the water from within 100 mtrs. However, nearly 7.5% respondents use to travel 100 to 400 mtrs to collect their daily water.

Respondents shared that they have to spend five to thirty minutes time to collect water. However, they have basically mentioned the time spent for travel, but not the time they spend for collecting the water from public water source. That is why, those who collect water from individual well or private connection they have mentioned no time for collection.

Regarding collection of water it is found that in more than 70% cases water collection is the responsibility of women. In case of 29% respondents it is found that the water is collected jointly by men and women. And in less than 1% cases the male members of the household collect water.

Public Health and Hygiene Features

Out of 1590 respondents more than 68% feels that the water they use for domestic or drinking purpose is safe. However, the rest 32% feels otherwise. It is interesting to note that 63.88% respondents in Hailakandi district feel that the water is not safe. It supports the fact that a considerable number of people use pond water in Hailakandi. On the other hand, 90.5% respondents in Morigaon and nearly 76% of Jorhat and Sibsagar feel that the water is safe. In both the cases there are prevalence of hand pump and community piped water. Therefore the data supports the perception.

Further about 45.5% of the respondents are aware about different waterborne diseases. However, even today the rest 54.5% are unaware of that. Their ignorance is one of the major reasons for their vulnerability and disease proneness. While in Kamrup, Morigaon, Hailakandi and Sonitpur major percentage of respondents are aware about the various diseases caused by the water, in other districts majority of the respondents are not aware. Awareness is relatively less in Bongaigaon, Jorhat and Sibsagar districts.

The study reveals that nearly 37% respondents have reported the occurrence of water borne disease in their families. District wise data shows that 68.3% respondents in Hailakandi and 44.5% in Sonitpur have informed that there were incidences of diseases after using the water. Table 14 shows that in Hailakandi primary source of water is pond and in Sonitpur 50% respondents use well water. That gives probable explanation for occurrence of water borne diseases. Beside It justifies the need for immediate implementation of Rural Water and Sanitation project. On the other hand, where 96% respondents in Morigaon, 88% respondents each in Jorhat and Sibsagar and 82% respondents in Bongaigaon use water from safe water sources occurrence of diseases is comparatively low. In Kamrup while 72% respondents use safe water 41% responded that there is occurrence of water borne diseases.

Willingness to pay

One of the major aspects which have been included in this survey is to get the idea of respondents' willingness to pay for the water and sanitation facilities.

When respondents are asked about their preferences for water connection, nearly 90% respondents expectedly preferred individual connection and the rest 10% asked for community connection. Individually in all seven districts nearly 79% to 96% respondents favoured individual water connection to community connection.

Comparative data on willingness to pay for individual and community connection shows that while 60% respondents are willing to pay for the individual connection, only 37% are willing for community connection. In case of individual water connection 40% respondent are not willing to pay. District wise data shows that 51.25% in Bogaigaon and 44.35% in Sibsagar are not willing to pay for the proposed individual water connection. On the other hand, nearly 63% respondents have showed their reluctance for paying for community water connection and in all the study districts more than 55% respondents are reluctant to pay for community level connections.

Data also reveals that while 60% respondents are willing to pay according to meter reading the rest 40% are not willing. It shows that those who are willing to pay for individual water connection all are agreeable to make the payment according to the meter reading. In Sibsagar, and Hailakandi more than 40% responds found reluctant while in Bongaigaon 55% are reluctant to pay water charges as per Meter reading

While respondents were asked about their plan to maintain the water meter, a few common answers which came from them are creation of community awareness and community participation. They also suggested for formation of village water committee and proposed for their own contribution for regular maintenance. They also recommended for construction of boundary wall for proper maintenance of the water meter. However, more than 43% respondents have showed their reluctance to give any answer.

Sanitation status

Open defecation puts people at high risk for water borne diseases. It contaminates groundwater used for drinking, cleaning, etc. and poses a serious health hazard in community and public areas where collection/disposal is unreliable. Terming India as world's capital for open defecation, in 2012 Drinking Water and Sanitation Minister Jairam Ramesh mentioned that over 60 percent of all open defecation takes place in India. In Assam there is prevalence of use of kuchcha latrine which is equivalent to open defecation in terms of water source contamination.

In the present study data shows that in all seven districts of Assam use of Kuchcha Toilet, is still in practice. Out of 1590 respondents nearly 90% have reported the practice of using Kuchcha latrine. 100% respondents in Sonitpur followed by 99.17% Bongaigaon, 96.11% in Jorhat and 93.89% in Hailakandi reported use of kuchcha latrine.

In general, respondents do not have toilets in their house. Moreover, those are having toilets do not have any sewerage connection. No presence of sewerage connection has been found among the respondents.

However, when they were asked about new sewerage connection most of the people showed interest. Moreover, majority of them also agreed for their contribution. However, while little

more than 27% respondents could categorically share the nature of contribution they would make for improved sanitation, nearly 73% could not say anything.

Out of 1590 respondents, 8.3% have showed their willingness to contribute cash for improved sanitation facility. On the other hand, nearly 19% told that they would contribute in the form of putting labour. District wise data shows that in all the districts number of respondents wanted to contribute in form of labour is more than the people wanted to contribute in cash. In Bongaigaon, Jorhat, Sonitpur and Sibsagar districts, they opined of not having any idea about community contribution for construction of sewerage.

Chiporsangan II is a revenue village in Chiporsangan gram panchayat under Algapur block of Hailakandi district. Located at a distance of 18k.m. from the district headquarters, the village has a population of 850. Villagers face acute crisis of water. They bring treated PHED water from a distant source of almost 2 km away from their habitation. They store the water for three days and collect it twice a week. The PHED water is



good but is supplied only on alternate days. The water always falls short of the demand although it is used judiciously. They use water from nearby ponds for cooking, bathing, washing etc. The colour of the water is green and the water body is full of Hyacinths as shown in the picture above. The latrines are kuchcha with squatting plate placed on a pit within a ramshackle bamboo structure covered by rags, plastic sheets or canvas. The villagers are quite conscious about the health hazards involved in this practice. One lady, shamima explained how the children suffers from skin diseases and frequent stomach upsets.

Key findings

- More than one third respondents use water sources which are not considered as hygienic. Little more than one fourth respondents used piped water either from community sources or from individual connection. However, individual connections are less than five percent
- 90% respondents have reported the practice of using kuchcha toilets
- Nearly 100% have showed their interest for water connection. While 90% voted for individual connection, the rest 10% are interested in community connection.
- 60% are willing to pay for individual connection while only 37% are for community connection.
- In case of sanitation majority of respondents agreed to pay for scientific sewerage facilities.

5.2 Social relevance of the project in terms of inclusion, equity perspective

The social relevance of the project was assessed in terms of the

- *Inclusion*
- *Equity*
- *Security*
- *Cohesion*
- *Accountability*

An elaboration of the concepts were done in the following manner to map it to the different levels of analysis

1. Inclusion :Drinking water is to be provided to all families – none to be left out – addressing the issue of coverage
2. Equity : There must be some correspondence between the families ability to pay and the user fees charged - tariff calculations should in- build willingness to pay
3. Security : Water must be adequately available at a nearby point (preferably through a connection at home) – adequacy to be judged in terms of duration of supply , quality and regularity
4. Cohesion: There must be active participation of beneficiaries and stakeholders in a coordinated manner under the local Panchayat for the upkeep of the system and for repairs in case of failures, as well as for collection of user charges
5. Accountability: The concerned Panchayat and government officials liable for fee-collection, maintenance and monitoring should be responsible to the villagers for performance of their designated tasks

Beneficiary assessment needs to be done within the five point framework to understand the relevance and effectiveness of the project.

Inclusion Issues

The analysis provides the pointers related to the inclusion vis a vis exclusion (coverage vis a vis non coverage) which would justify the relevance of the project in the identified areas.

At the habitation level in the study area, only 12 habitations have individual piped water supply that too coverage ranging from 2 percent to 10 percent households in terms of piped water supply at their house. The coverage figures are provided below

Regarding water and sanitation scenario, it has been reported that in the study area, particularly two habitations do not have any hand pumps installed by Government agencies. These areas are in the district of Sonitpur (MaganiKachari) and in Sibsagar (Dihajanhabi).

Household data analysis of different water sources have indicated that only 4.21 percent households are having piped water supply and 9 percent HHs are using pond water while in Morigaon and Sonitpur district use of pond water was not reported while in Bongaigaon, Haikandi, Kamrup and Sonitpur respondents has not reported using household piped water sources, another 8 percent HHs depends on water from river, pond, spring etc.

However the responses received from the survey may not absolutely represent the reality, but would provide an indicative water use profile.

Table 5.2 Source of water for daily use

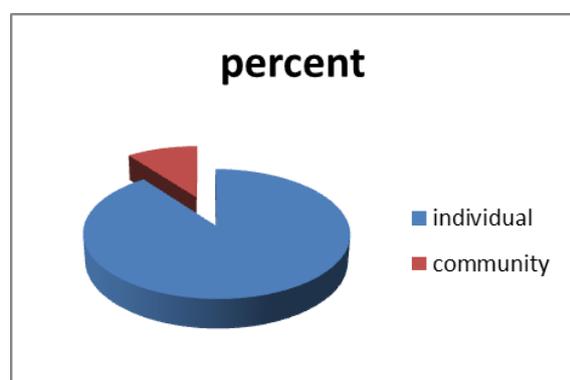
District	Well	Pond	Pvt. tube well	Community tube well	Hand pump	Pipeline Community	Pipeline individual	Others	Total Respondents
Bogaigaon	60 (25%)	1 (0.4%)	16 (6%)	4 (1.6%)	113 47%	6 2.4%	12 5%	28 12.6%	240
Hailakandi	3 1.6%	101 56%	1 0.5%	8 4.4%	22 12%	18 10%	6 3.3	18 10%	180
Jorhat	10 5.5%	11 6.1%	1 0.55		41 23%	97 53%	20 11%	0	180
Kamrup	10 5.5%	1 0.5%	20 11%	2 1%	21 12%	59 32%	20 11%	47 26%	180
Morigaon	27 15%				66 36%	35 19%	17 9%	35 19%	180
Sibsagar	43 11%	6 1%	3 0.5%	46 25%	174 44%	87 22%	30 7%	1 .2%	390
Sonitpur	119 49%			11 4%	73 30%	34 14%		3 0.3%	240
Total	312	147	25	67	560	280	67	132	1590

Equity

The issue of equity has been addressed from the point of view of preference and willingness to pay reflecting choice and ability to pay.

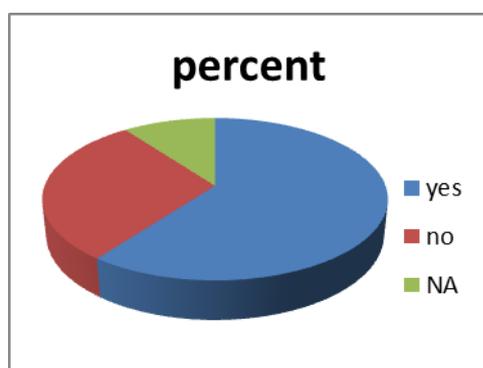
Household data analysis revealed that 89.81% would prefer individual water connection while 10.19% would prefer to go for community connection. The proportion varies from 96.25% in Bogaigaon to 78.89% in Hailakandi. Majority of the respondents, over 90% at Sibsaagar, Sonitpur, Bogaigaon and Kamrup have expressed their willingness for having individual HH connection justifying beneficiary appropriateness of the intervention.

Table 5.3 Preferred water connection



District	individual	community
Bogaigaon	96.25	3.75
Hailakandi	78.89	21.11
Jorhat	86.67	13.33
Kamrup	90.56	9.44
Morigaon	82.78	17.22
Sibsagar	91.79	8.21
Sonitpur	95.42	4.58
Grand Total	89.81	10.19

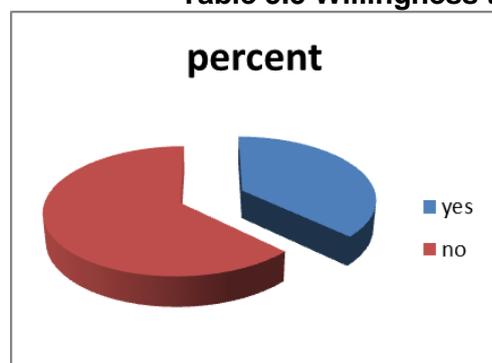
Table 5.4 Willingness to pay for individual connection



District	yes	no	NA
Bogaigaon	45.00	51.25	3.75
Hailakandi	57.78	21.11	21.11
Jorhat	67.22	19.44	13.33
Kamrup	73.33	17.22	9.44
Morigaon	57.22	25.56	17.22
Sibsagar	55.64	36.15	8.21
Sonitpur	72.08	23.33	4.58
Grand Total	60.25	29.56	10.19

Regarding willingness to pay for water it was observed that 60 percent of the household respondents expressed their readiness to pay vis-à-vis around 30 percent who were either not willing to subscribe or can't say at this moment. However when it comes to community connection the willingness is reversed. Over 60 percent negated the proposal for paying tariffs against piped water. The Tables below represent this feature.

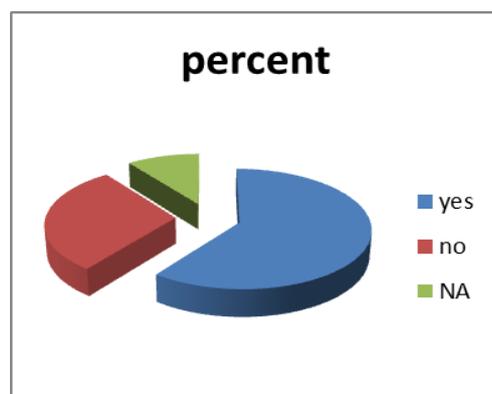
Table 5.5 Willingness to pay for community based water supply



District	yes	no
Bogaigaon	34.58	65.42
Hailakandi	42.78	57.22
Jorhat	45.00	55.00
Kamrup	43.33	56.67
Morigaon	31.11	68.89
Sibsagar	32.56	67.44
Sonitpur	37.08	62.92
Grand Total	37.17	62.83

However a much lower proportion was willing to pay for community based water supply. 60% of the respondents expressed their willingness to pay as per the Meter readings.

Table 5.6 Are you willing to pay as per the meter reading (yes/No)



District	Yes	no	NA
Bogaigaon	45.00	51.25	3.75
Hailakandi	57.78	21.11	21.11
Jorhat	67.22	19.44	13.33
Kamrup	73.33	17.22	9.44
Morigaon	57.22	25.56	17.22
Sibsagar	55.64	36.15	8.21
Sonitpur	72.08	23.33	4.58
Grand Total	60.25	29.56	10.19

Security Issues

Security issues cover availability in terms of duration of supply, proximity of source in terms of distance and time and water quality. It has also been reported that, Piped water supply is available for only 1 to 3 hours in a day. In majority of the areas it is for 2 hours and once in a day and in few areas it is more than 1 hour but frequency remains same.

Table 5.7 Duration of water supply to village (in hrs./Day)

Row Labels	Hours in a day				NA	Grand Total
	1	1.5	2	3		
Bogai gaon			1		7	8
HailaKandi			1		5	6
Jorhat		1	3		2	6
Kamrup	4		2		0	6
Morigaon			3	2	1	6
Sibsagar	3	1	5		5	13
Sonitpur			4		4	8

	Hours in a day					
Row Labels	1	1.5	2	3	NA	Grand Total
Grand Total	7	2	19	2	23	53

Supply of water for 3 hours in a day reported in two habitations of Morigaon i.e. Amlighat and Silchang. Water supply is for 1.5 hours is reported in the districts of **Jorhat (Now solia)** and in **Sibsagar (Gatangapathar)**, and Water supply for 2 hours reported in the following habitation.

Bogaigaon <ul style="list-style-type: none"> • Baniapara Hailakhandi <ul style="list-style-type: none"> • Lakhir land Jorhat <ul style="list-style-type: none"> • Chowtangdakhingaraguri • Kamarhazarika • Pakhimarihahi 	Kamrup <ul style="list-style-type: none"> • Ghogha • Topotoli Morigaon <ul style="list-style-type: none"> • Borpak • Salmari • Teleliangaon 	Sibsagar <ul style="list-style-type: none"> • Borsila grant • Dhuliyapar • Khonamukhchintamonigah • Pahukhowadoloni Sonitpur <ul style="list-style-type: none"> • Arilhangapathar • Duhia • Kukurachowa • Mornaiguri
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Water supply is for 1 hour in the following habitations-

Bogaigaon <ol style="list-style-type: none"> 1. Balapara 2. Chedamari 3. Kachudala 	Kamrup <ol style="list-style-type: none"> 1. Dhopotori 2. Gohardhan 3. Malong 4. Panikheti 	Sibsagar <ol style="list-style-type: none"> 1. Bagjan 2. Dehingkalghar 3. Kakurachowa 4. Sensuwabangaon
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In Bongaigaon and Jorhat districts, the HHs reported travelling less while at Hailkhandi, Kamrup and Morigaon they reported travelling more than 200 Mtrs to collect water. The maximum distance of water pipe line from the habitation is in Gohardhan(300 Mtrs) at Kamrup, Amlighat and Teleliangaon (500 Mtrs.) and Borpak (1500 Mtrs.) at Morigaon and Borsila grant and Dhuliyapar (1000 Mtrs.) at Sibsaigar District.

It has also reported that average time spent is around 10 minutes to collect water. The responded has considered mainly time spent for collecting piped water supply only. At Hailakhandi, Jorhat, Morigaon and Kamrup the time spend is around 12 minutes.

Table 5.8 Time spent in collecting water

District	Average time spent (in Minutes)
Bogaigaon	8.12
Hailakhandi	11.60
Jorhat	11.86
Kamrup	11.35
Morigaon	11.56
Sibsagar	8.00
Sonitpur	7.85
Grand Total	10.42

While distance travelled is not alarming, the practice of collection of water is a more of a gender issue where women are the primary collectors .The drudgeries related to collection of water are usually borne by women.

Around 68 percent respondents opined that the quality of water is safe while other 31 percent reported it as not safe. Consequently 63% mentioned that they have not fallen sick due to

water intake. However a large majority have mentioned suffering from water borne gastrointestinal diseases

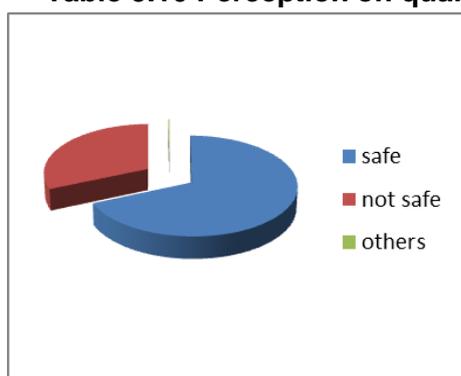
Table 5.9 Preferred duration of water supply

Row Labels	Average duration
Bogaigaon	2.39
Hailakandi	2.02
Jorhat	2.44
Kamrup	2.04
Morigaon	2.51
Sibsagar	2.31
Sonitpur	2.36
Grand Total	2.30

The community opined to get an average water supply for two and half hours in a day.

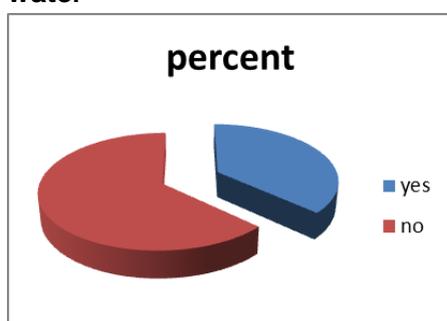
The survey attempted to take the view of the community for maintaining Water Meter if installed, and the suggested options were (through awareness generation among the community 13%), Community participation, contribution and regular maintenance (34%) and 43 percent could not respond on the issues. *One respondent has only mentioned about user's committee at topatoli habitation of Dimoria Block, Kamrup district.*

Table 5.10 Perception on quality of water



District	safe	not safe	others
Bogaigaon	67.50	32.50	0.00
Hailakandi	36.11	63.89	0.00
Jorhat	76.11	23.89	0.00
Kamrup	67.22	32.22	0.56
Morigaon	90.56	8.33	1.11
Sibsagar	75.90	24.10	0.00
Sonitpur	59.58	40.42	0.00
Grand Total	68.36	31.45	0.19

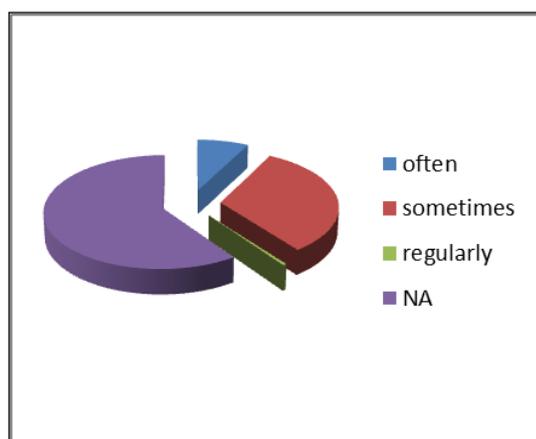
Table 5.11 Issues related to sickness due to water



District	Yes	No
Bogaigaon	28.75	71.25
Hailakandi	68.33	31.67
Jorhat	29.44	70.56
Kamrup	41.11	58.89
Morigaon	31.67	68.33
Sibsagar	26.41	73.59
Sonitpur	44.58	55.42
Grand Total	36.86	63.14

The majority (63.14%) of the community opined that none of their family members fallen sick due to poor quality of water.

Table 5.12 How often you/your family member have fallen sick because water borne disease



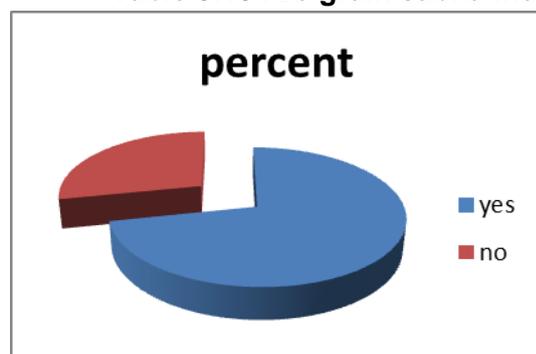
District	often	sometimes	regularly	NA
Bogaigaon	10.00	20.83	0.00	69.17
Hailakandi	13.33	52.22	2.78	31.67
Jorhat	4.44	26.11	0.56	68.89
Kamrup	15.00	25.00	1.11	58.89
Morigaon	12.78	18.89	0.00	68.33
Sibsagar	1.28	30.00	0.00	68.72
Sonitpur	4.17	51.25	0.00	44.58
Grand Total	7.61	32.08	0.50	59.81

Cohesion Issues

The basic principle of demand driven water supply system is participation of beneficiaries and stakeholders. Participatory decision making at the Gram Sabha level is a fall out of the 73rd Constitutional Amendment where all major decisions related to planning, implementation, management and maintenance are to be taken up at the village or relevant administrative level. In the context of demand driven water supply system cohesion implies coordinated functioning of stakeholders under the local Panchayat for the upkeep of the system and for repairs in case of failures, as well as for collection of user charges. Since management through User Committees is a relatively new concept, participation in Gram Sabhas was considered a supportive analysis to assess cohesion along with analysis of User Committees and VWSC-s.

The survey analysis revealed that community is aware in a great extent (around 72 %) regarding holding Gram Sabha meeting at the villages.

Table 5.13 Are gram sabha meeting organized in your village (1=yes/2-No)

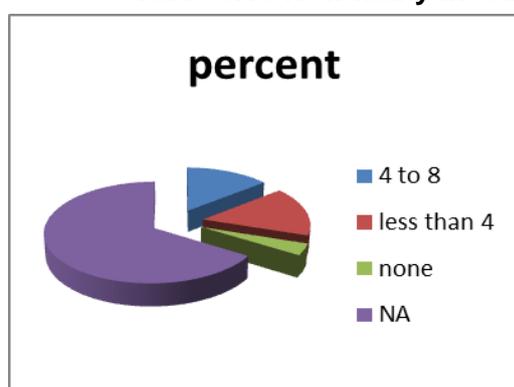


District	yes	no
Bogaigaon	47.50	52.50
Hailakandi	47.78	52.22
Jorhat	82.78	17.22
Kamrup	67.22	32.78
Morigaon	90.00	10.00
Sibsagar	76.15	23.85
Sonitpur	87.92	12.08
Grand Total	71.70	28.30

Table 5.14 If yes how often do you take part in Gram Sabha

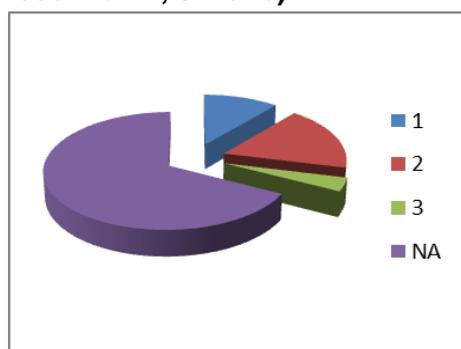
District	yes all meetings	most of the meetings	only important meeting	only when I am free	rarely attend	have not attend any
Bogaigaon	0.42	2.92	1.67	10.00	1.67	52.50
Hailakandi	5.00	8.33	0.56	9.44	2.22	52.22
Jorhat	9.44	10.56	2.22	12.22	2.22	17.22
Kamrup	8.89	13.33	3.33	16.11	5.56	32.78
Morigaon	6.11	20.56	6.11	20.56	3.33	10.00
Sibsagar	1.79	7.44	0.26	17.95	1.54	23.85
Sonitpur	1.67	11.25	2.92	13.33	2.50	12.08
Grand Total	4.09	9.94	2.14	14.53	2.52	28.30

Table 5.15 How many meetings have you attended during this year?



District	4 to8	less than 4	None	NA
Bogaigaon	4.17	10.42	2.08	83.33
Hailakandi	10.00	15.56	0.00	74.44
Jorhat	21.67	15.00	0.00	63.33
Kamrup	20.56	25.56	1.11	52.78
Morigaon	22.78	27.22	6.67	43.33
Sibsagar	13.08	11.28	7.95	67.69
Sonitpur	12.92	15.00	4.17	67.92
Grand Total	14.28	16.04	3.77	65.91

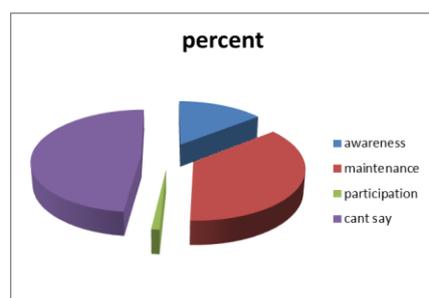
Table 5.16 How many Gram Sabha meeting have you actively participated (1-4to8, 2-less than 4, 3-None)



District	1.00	2.00	3.00	NA
Bogaigaon	3.80	8.86	0.84	86.50
Hailakandi	11.11	13.89	0.56	74.44
Jorhat	17.88	16.20	2.23	63.69
Kamrup	14.44	25.00	6.67	53.89
Morigaon	17.22	25.56	7.22	50.00
Sibsagar	10.26	15.90	6.15	67.69
Sonitpur	6.67	23.75	1.67	67.92
Grand Total	10.97	17.97	3.78	67.28

Table 5.17: The preferred way to maintain Water meter

Districts	awareness among community	community contribution	community participation	cant say
Bogaigaon	17.50	28.75	1.25	42.08
Hailakandi	7.78	59.44	0.00	25.56
Jorhat	9.44	47.22	0.00	33.33
Kamrup	1.67	21.67	0.00	62.78
Morigaon	20.56	30.56	3.33	36.67



Sibsagar	16.92	24.10	0.26	48.46
Sonitpur	10.83	30.00	2.08	47.08
Grand Total	12.89	32.77	0.94	43.27

During public consultation, GP members mentioned that in Assam, organising Gram Sabha on a regular basis as part of 73rd Constitutional Amendment, has brought discussing development issues in public forum.

Accountability

Accountability reflects the roles and responsibilities of the concerned Panchayat and government officials liable for performance of their designated tasks. In the context of demand driven approach it relates to accomplishment of the roles and responsibilities of the Grassroots PHED Functionaries, Panchayats, VWSC and SLUC-s in terms of maintenance and monitoring and fee-collection. In a multi stakeholder functioning in 53 habitations revealed the general apathy towards govt/ panchayat maintained water, sanitation, drainage systems. This was also substantiated by the habitation specific qualitative data analysis where it has been reported that User Committees are formed, have their own bank account, have women participation on board, charge water fees but in many cases functional modalities are not always adhered to.

In case of functioning of GPWSC/ VWSC, it is coterminous, though roles and responsibilities as per programme design of two committees are different.

The general opinion of the community on water and sanitation facilities is poor maintenance of water structure. About 26 percent respondents commented on such issue and the responses were more or less same across all the districts. Inadequacy of drainage facilities was also cited as a major concern (60 percent), absence of waste disposal mechanism was cited by 13 percent respondents of Jorhat, Kamrup, Morigaon and Sibsagar district.

Remarks of the general opinion of the community on Water and sanitation facilities has been presented below

Table 5.18 General opinion of the community on Water and sanitation facilities

District	No maintenance of water structure	No proper drainage, sanitation facility available in village	No waste disposal mechanism in village	Grand Total
Bogaingaon	3	5	-	8
HailaKandi	2	4	-	6
Jorhat	-	5	1	6
Kamrup	2	3	1	6
Morigaon	1	4	1	6
Sibsagar	3	6	4	13

Sonitpur	3	5	-	8
Grand Total	14	32	7	53

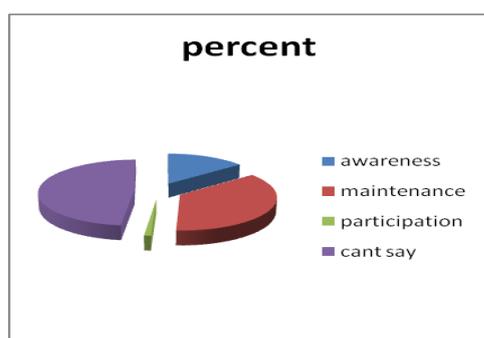
With regard to existing water supply schemes in the villages, 47 percent reported inadequacy of water supply with 53 percent respondents expressing inadequacy of individual water connection.

Table 5.19 Stakeholder general view for existing water Supply schemes in the villages

District	inadequate water supply	very less individual water connection	Grand Total
Bogai gaon	5	3	8
HailaKandi	4	2	6
Jorhat	2	4	6
Kamrup	3	3	6
Morigaon	3	3	6
Sibsagar	3	10	13
Sonitpur	5	3	8
Grand Total	25	28	53

The survey attempted to take the view of the community for maintaining Water Meter if installed, and the suggested options were through awareness generation among the community(13%), Community participation, contribution and regular maintenance (34%) . 43 % could not respond on the issues. *One respondent has only mentioned about user's committee at topatoli habitation of Dimoria Block, Kamrup district.*

Table 5.20 Preferred way to maintain Water meter



districts	awareness among community	community contribution & reg maint	community participation	cant say
Bogaigaon	17.50	28.75	1.25	42.08
Hailakandi	7.78	59.44	0.00	25.56
Jorhat	9.44	47.22	0.00	33.33
Kamrup	1.67	21.67	0.00	62.78
Morigaon	20.56	30.56	3.33	36.67
Sibsagar	16.92	24.10	0.26	48.46
Sonitpur	10.83	30.00	2.08	47.08
Grand Total	12.89	32.77	0.94	43.27

Awareness on roles and responsibilities triggers accountability. Since there is an overall lack of awareness on respective roles of stakeholders and the designed management practice, the issue of accountability seemed bleak. Accountability is at the individual level where relatively involved individuals are forcefully or are deemed to be accountable and loyal to their respective roles.

Capacity building and awareness through IEC which is in built as a major component of the project will ensure accountability in the long run.

Key inferences

- The baseline analysis indicates the inadequacies in the coverage by piped water which is around 2% to 10% in the sample areas. Hence the project addresses the issues of inclusion and equity through its design for including unserved habitations and ensuring service based on preference and willingness to pay
- Security issues in terms of quantity, quality and reliability although in-built in the project design would depend to a large extent on efficient operation and maintenance .
- However issue of cohesion and accountability needs to be imbibed through adequate capacity strengthening and awareness

5.3 Institutional Assessment

The institutional arrangement for accomplishing the tasks and implementation of the WATSAN programmes as been assessed at the implementing agency level as well as through an appraisal of different committees formed at different levels for accomplishing the WATSAN functions.

PHED is the implementing department for all the schemes under RWSS-LIS. The Public Health Engineering Dept. (PHED) was created in 1956 as public Health Engineering Organization under the Directorate of Health services to look after the implementation of rural and urban water supply. The dept. starts functioning as major department since 1981 and separate secretariat was created for Public Health Engineering Department in the year 1989. The main activities of the department are:

1. Water Supply (Both rural and urban)
2. Sanitation
3. Water quality testing and monitoring.

The Assam Public Health Engineering Department comprises of double staged organizational setup, one is administrative and the other is directorate set-up. The secretariat is headed by Commissioner & Secretary. He is assisted by one Deputy Secretary, two Under Secretaries and other officers & staff. At the directorate level, there are two Chief Engineer (PHE) s in the APHED-one is Chief Engineer (PHE), Assam and the other is Chief Engineer (PHE), Sanitation cum Cell Coordinator,

Communication and Sanitation Cell. Chief Engineer (PHE), Assam is head of the APHED who looks after the Water Supply Sector while Chief Engineer (PHE), Sanitation basically looks after the Sanitation Sector.

Agency Name	Institutional Structure and Key Stakeholders	Role & Responsibility	Their number and existing capacities (for Project Areas)
PHED, Assam	The Secretary (PHED) is the administrative head of PHED providing all administrative support while 'The Chief Engineer' is the executive and technical head. Thus, at the state level, Chief Engineer is assisted by Additional Chief Engineer at the Zonal level, Superintendent Engineer at the circle level and Executive	PHED is responsible for providing drinking water to both rural and urban population of the state. The Department is responsible for State release of funds, technical support, and development of State Action Plan, Inter-sectoral coordination with concerned departments, Training and capacity building. The group	Chief Engineer (PHE), Assam Guwahati; Chief Engineer (PHE), Sanitation, Assam; Additional Chief Engineer (PHE) (HQ) -2 No. SE (PHE) (HQ) - 3 Nos. EE (PHE) (HQ) - 9 Nos; EE (PHE) District : 7 Nos;

Agency Name	Institutional Structure and Key Stakeholders	Role & Responsibility	Their number and existing capacities (for Project Areas)
	<p>Engineer at the division/ district level, while at the sub-divisional/ Block level there is Junior Engineer who is in turn supported by Assistant Engineer and other workers at the grass-root level. Administrative Officer looks after Administrative matters; Accounts Officer is in charge of the accounts.</p>	<p>of engineers in PHED are responsible for design and implementation of water supply schemes including drilling tube wells, laying of pipelines, constructing, distribution network for providing safe drinking water and proper sanitary conditions, conserving water resources, etc.. PHED also collaborates with other agencies for creating public awareness on public and personal hygiene.</p>	

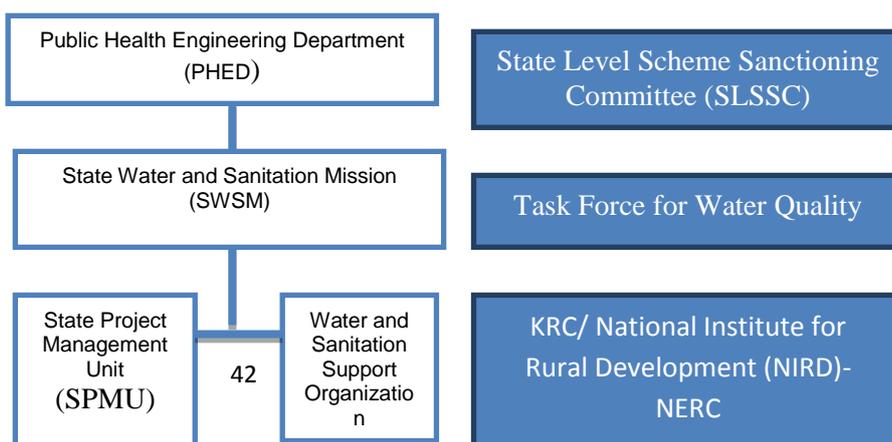
Interactions with PHED professionals at different levels indicate that in general PHED engineers have sufficient technical knowhow for handling the technical aspects of the proposed project. However they, particularly the grassroots operatives, require orientation in the Community Driven Development approach to planning, implementation, management of schemes. They are still undecided about the PRI integration and handing over of issues with the GPs.

Institutional set up and analysis

The multi-tier institutional system has been conceived for handling the proposed project.

State Level

The **State Water and Sanitation Mission (SWSM)** is the State-level nodal body in Assam for Rural Water Supply & Sanitation activities for the Government of India’s flagship Project - National Rural Drinking Water



Programme (NRDWP) and Nirmal Bharat Abhijan (NBA) at the State level. The Mission is managed by an Apex Body and a State Level Executive Committee (SLEC). The Apex Body is headed by the Chief Secretary to the GOA and Secretary, PHED is the Member Secretary.

For management of the proposed World Bank Assisted RWSS, the **State Project Management Unit (SPMU)** has been constituted vide Notification No PHED 785/2012/11 dated 22 November 2012.. The constitution of the SPMU is as follows:

Table 5.21 Constitution of SPMU

Chief Engineer (PHE)/ Director / State Nodal Officer	1 no
Procurement specialist, Social dev. & communication specialist, Institutional specialist, Environment specialist, Monitoring & evaluation specialist, Financial management specialist, Technical specialist	1 No in each post
Upper Div. Assistant, Accounts Officer Lower Div. Assistant, Peon, Security personnel, Private Secretary to Dir.	1 No in each post

The SPMU is currently handled by the Project Director in the rank of Chief Engineer and is supported by 6 Engineers from the PHED (vide notification: PHED 335/2011/47). They will be supported by a team of experts. Hence the SPMU is operating at sub optimal capacity which needs to be strengthened for overseeing implementation management.

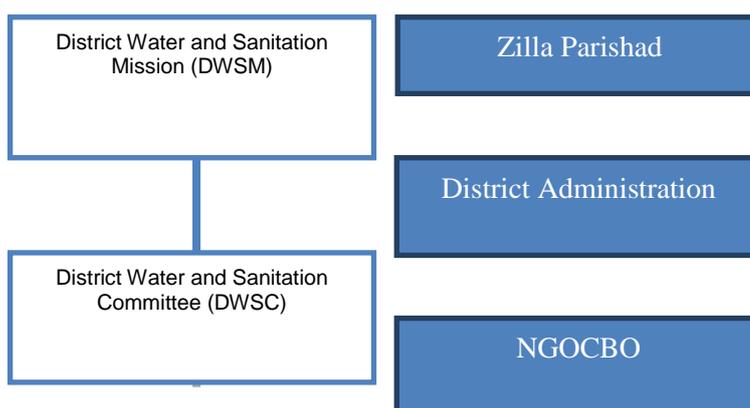
The PHED engineers engaged in the SPMU have the requisite skill and knowledge for implementing such water supply programmes. However there is definite scope for capacity building through best practice sharing.

The **Water and Sanitation Support Organization (WSSO)**, is operational under SWSM, which is responsible for maintenance of MIS, conducting Trainings and Water Quality Surveillance tests etc .WSSO is not in a position to reach all of its target audiences or implement an integrated comprehensive communication strategy due lack of adequate manpower.

District level

At the **District Level there is the District Water and Sanitation Mission (DWSM)** headed by the Chairperson Zilla Parishad.

The **District Project Management Unit (DPMU)** is the district counterpart of the SPMU constituted for the proposed World Bank Assisted RWSS. The DPMU is headed by the Additional Chief Engineer of the concerned zone and is supported by the Superintending Engineer, all Executive Engineers of the concerned project area, Assistant or Junior Engineers and Sectional Assistant and Field Officers.



The organisation set up for DPMU is provided below

Table 5.22 Organisation set up for DPMU

Addl. Chief Engineer (PHE) of concerned Zone	1 no
Superintending Engineer (PHE) of concerned Circle	1 No
All Executive Engineer (PHE) of the concerned project area	As per sanctioned posts
Institutional specialist, Social dev. & communication specialist, Financial management specialist, Monitoring & evaluation specialist	1 No in each post
Assistant / Junior Engineer, Sectional Assistant and other field staff	As per sanctioned posts

Under the project Seven District Project Management Units (DPMUs) will be formed, for the seven districts, Kamrup, Morigaon, Bongaigaon, Jorhat, Sibsagar, Sonitpur, Hailakandi, identified under RWSS-LS project. It is also envisaged that the DWSS consultants already appointed under the Mission will be clubbed with DPMU positions. All field level functionaries within the project area will be a part of the implementation team.

The DPMU is yet to be commissioned in the districts. The existing set up comprising the Addl CE, SE, EE, AE/ JE , SA and other field staff are already in place , not under the folds of DPMU though. The specialists would be engaged on contract. Interactions suggested that **there is need for a dedicated Technical Specialist at the DPMU level.**

The Executive Body for implementing the water and sanitation projects at the district level is the **District Water and Sanitation Committee (DWSC)**, headed by the District Collector. The composition of the District Water and Sanitation Committee, which is linked to Nirmal Bharat Abhiyan , is provided below.

Table 5.23 District Water and Sanitation Committee (DWSC) – (for districts of General/PRI Area)

Sl.No.	Constituents	Formation
1	Chairperson	Deputy Commissioner of district concerned
2	Member Secretary	Executive Engineer (PHE) posted in district H.Q.
3	Associate Member Secretary	All other E.E. (PHE) of the Divisions in the district within concerned jurisdiction of their Divisions
4	Treasurer	Accounts Officer of the O/o the concerned E.E. (PHE)-cum Member Secretary, DWSC
5	Member	C.E.O. of the ZillaParishad of the district concerned.
6	Member	S.D.O. (Civil) of the concerned Civil Sub-Division
7	Member	S.E. (PHE) of the concerned Circle
8	Member	Project Director of D.R.D.A. of the respective district.
9	Member	Co-opted Members-2 Nos NGO Representatives
10	Member	Dist Social Welfare Officer
11	Member	Inspector of Schools of the respective district
12	Member	Dist. Elementary Education Officer (DEEO) – cum-DMC, SSA
13	Member	Dist. Programme Manager, NGHM
14	Member	All A.E.Es (PHE) of each Sub-divisions in the concern district

At present the DWSC-s are only handling sanitation programmes and are not directly involved in water supply projects which is a PHED mandate.

Block level

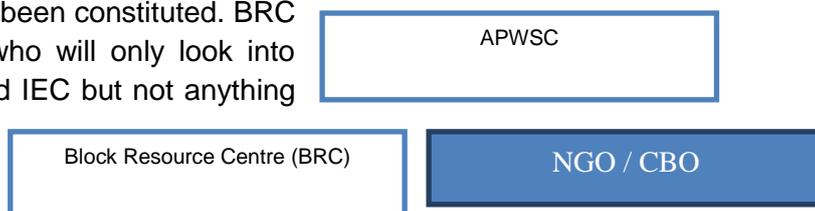
A **Block**, i.e. **Anchal (Anchal Panchayat) level Water and Sanitation Committee, APWSC** headed by the President of the Anchal Panchayat of the Block is the Executive Body at the Block or Anchal Panchayat level. The details of proposed members in the committee are as below:

Table 5.24 APWSC details

SI No	Constituents	Formation
1	Chairperson	President of the Anchal Panchayat of the Block concerned
2	Vice Chairman	1. BDO of the Block 2. SDC of the Circle
3	Member	All Chairman and member Secretaries of GPWSC with the AP
4	Member	Asst. Exe Engineer (PHE) within the AP other than Member Secretary APWSC
5	Member	Block Elementary Education Officer of respective Education Block
6	Member	At least 3 representatives from NGO (preferably from Women Group and RSM)
7	Member	Block programme Manager (NRHM)
8	Member	CDPO of Social Welfare Dept.
9	Member Secretary	Senior Asst. Executive Engineer within the concerned Block

Anchal Panchayat (AP) Water and Sanitation Committees (APWSC) have been notified but not constituted. This committee is mandated to look after the water and sanitation issues at the Anchal level.

A **Block Resource Centre (BRC)** has been constituted. BRC will be managed by NGO partners, who will only look into issues related to Capacity Building and IEC but not anything related to construction. At the BRC a Coordinator has been engaged from December 2012 who has been entrusted with the task of Baseline Survey in the domain of sanitation.



Hence at the Block level, the institutional capacity to manage the RWSS program is missing. Commissioning of the set up will require holistic training and capacity building for the involved members particularly on O & M Management.

Gram Panchayat Level

At the GP Level **Gram Panchayat Water and Sanitation Committee / Village Water and Sanitation Committee** was formed to implement Swajaldhara schemes in the Gram Panchayats. Each Gram Panchayat taking up Swajaldhara schemes shall have a village water and sanitation committee (VWSC) under the Chairmanship of the Gram Panchayat Pardhan / President / a Panchayat Member elected by the members of the VWSC for implementation of drinking water supply schemes of their own choice with active participation of the villagers.



The structure of GPWSC / VWSC is as follows:

Table 5.25 Constitution of Gram Panchayat level water and Sanitation Committee (GPWSC) / VWSC

SI No	Constituents	Formation
1	Chairperson	President of the respective GP
2	Member Secretary	Sectional Officer (Asst/ Jr. Engineer in charge of the jurisdiction)
3	Treasurer	Secretary of the respective GP
4	Member	All Ward members of the GP
5	Member	President of village level health and sanitation committee of NRHM
6	Member	ASHA activists within the GP
7	Member	AWWS within the GP

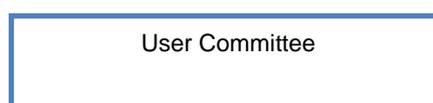
Gram Panchayats level Village Water and Sanitation Committees (VWSC) have the responsibility of mobilizing community participation. Completed single-village schemes and intra-village distribution network of multi-village schemes are to be handed over to GP-s in a phased manner along with funds transferred to Gram Panchayats for subsequent Operation & Maintenance. The VWSCs would recover O&M cost through collection of user charges and by mobilizing resources. The user charges so collected would be used exclusively for the O&M of the assets for drinking water.

The GP-s are in any case entrusted with the task of maintenance of existing schemes through budgetary allocation under the 12th/13th Finance Commission. Often GPs are still not oriented and prepared to take over the schemes, as expressed by PHED Engineers although PHED is mandated to go for a 80-20 sharing of maintenance costs if the GP-s take over the maintenance.

In Assam currently VWSC solely handle sanitation issues at the village and GP level.

Scheme level

At the scheme level there is the **Scheme level User Committee** SLUC-s work in direct coordination or under the direct guidance of the PHED, bypassing the Panchayat, the primary reason being schemes often cut across GP-s for which it becomes difficult to follow the defined administrative hierarchy.



The Scheme levels User Committees are responsible for Operations and Maintenance of existing water supply structures such as water treatment plant , collection of water charges, grievance redressal etc.. Any discrepancy or faults are conveyed to the PHED officials for its repair. Thus they form the basic communication channel between villagers and Govt. Officials working for providing Water Supply in villages. Such committees are specific for specific schemes and thus for multi-village schemes, which provide water to more than one village there will be representations from all the villages covered under the scheme.

SLUC is a body registered under the Societies Registration Act for which it has to maintain all the statutory formalities to run the committee as a Society. The SLUC maintains Bank Account at nearest Bank Branch, maintains Books of Records to support PHE departmental Audit. The SLUC Bank Account has PHED Jun

The user committee comprises of 15 members appointed by the villagers from amongst themselves. The constitution of SLUC is as follows:

Table 5.26 Scheme level user Committee (SLUC) / User committee

President	1 No
Vice President	1 No
Secretary	1 No
Asst. Secretary	1 No
Treasurer	1 No
Members	10 Nos.

Majority of them are functional. However the User Committees which have not continued to function are mainly due to the following reasons like

- Limited linkage with PHED
- Lack of awareness

Scheme level user Committees are thus only involved in operation and maintenance of water supply systems and are not involved in sanitation issues in any way.

VWSC vis-à-vis User Committee

For the World Bank funded RWSS-LS project in the seven districts of Assam, it is proposed that there should be two committees are to be oriented at the GP and Scheme level looking after both Water supply and Sanitation. Gram Panchayat level Village Water & Sanitation Committee (VWSC) for water supply and sanitation at GP level and Scheme Level Users' Committee (SLUC) for water supply and sanitation at scheme level.

Currently VWSCs with the President of the GP as the Chairperson handles the sanitation issues while the SLUCs handle issues related to operation and maintenance of water supply systems through regular operation, management and user charge collection. At present GP-s are not prepared attitudinally and technically to takeover water supply schemes. Consequent to the situation when water supply schemes would be handed over to the GPs, the VWSC at the GP level would be entrusted with the task of maintenance of water supply systems along with handling of the activities related to sanitation promotion and maintenance management. With the circle of influence of each committee being different with overlaps and disjoints , at the proposed operational status there would be overlap and conflict in roles and responsibilities between the VWSC and the User Committee.

A suggestive VWSC- User Committee Integration plan could be as follows

- VWSC being the Standing Committee at the GP level would be in charge of both water supply and sanitation
- User Committee to carry out the usual task of operation and maintenance through collection of user charges as per the Committee's constitutional framework
- Scheme level User Committees to have more interaction through reporting arrangements with the VWSCs.
- With operation and maintenance being handed over to the GP , financial power would also be transferred to the GP executives in place of the PHED Engineers who are currently signatories to the bank account of User Committees
- User Committee Book of Records to be linked to GP Audit.

Women participation VWSC and SLUC

As a mandatory provision both lead male and female duo in the household are supposed to be members of the User Committee and this is being practiced in all the SLUCs and VWSCs. In the Executive Committee women representation was conceived at 30 percent which has been very recently increased to 50%. However, as revealed from the interactions at the User Committee, women representation is around 20 percent (3 out of 15). It was also observed that though women are included in the User Committee as member but their role and responsibilities in subproject management, fees collection and community mobilisation has not yet translated into action. Though targeting women for training and capacity building is critical to the sustainability of water and sanitation initiatives as this would lead to decision making process and in many cases women are not in a position for making decisions.

Support Organisations

Many Non-Government Organisations (NGOs) are working in Assam in advocating and educating on health and hygiene issues at State, district and GP levels. NGOs such as Hopeline, Environ, Arch, etc., are involved in capacity building of local population as well as the panchayat representatives. Besides NGO's UNICEF, is also very active in carrying awareness drives on sanitation, health hygiene issues at village, district and State level. It liaise with PHED, officials and conduct trainings on water quality management, monitoring, etc., and also providing technical assistance in adopting correct technological options for the construction of Low-cost sanitary toilets.

Other service providers and the issue of convergence

Convergence of the Panchyati Raj Institutions (PRIs) with PHED is a primary mandate of the RWSS program. Hence Panchayat and Rural Development Department is the key Department in this context. However there is lack of strategic inter departmental coordination which is needed for effective use of resources. Water and Sanitation needs to be addressed as an integrated component and convergence with existing framework of Nirmal Bharat Abhijan (NBA) in the State as a whole and effective dissemination to be done at the District, Block Gram Panchayat and Habitation level. Convergence of RWSS with MNREGS is inadequate which hampers added coverage

On the other hand, at the grass root level the effective communication media is the grass root functionaries. Health Department through the ASHA, ANM workers and the Social Welfare Department through ICDS workers reaches out to the community and are very well accepted. These interpersonal networks can be utilised for spreading awareness and inducing behaviour change on RWSS.

In general, integration and convergence among various programmes in the State as a whole is inadequate. Discussions are held with representatives of National Rural Health Mission (NRM), P&RD dept. SSA programme, NBA coordinators held on a regular basis. At various committees' representation of members from all such stakeholders are also ensured but still actions aimed at effective convergence need to be strengthened

Key findings

- The SWSM is presently the State-level nodal body in Assam for Rural Water Supply & Sanitation activities in State for the Government the Mission is managed by an Apex Body and a State Level Executive Committee (SLEC).
- PHED formulates a State Action Plan on water supply and sanitation, provides technical as well as maintenance support to local/grass root bodies, facilitates the release of funds, and ensure Inter-sectoral coordination between concerned departments.
- DWSM is the District Counterpart of SWSM in charge of policy making at the District level formed under Total Sanitation campaign programme.
- Under the project Seven District Project Management Units (DPMU)s are to be formed, for the seven districts, Kamrup, Morigaon, Bongaigaon, Jorhat, Sibsagar, Sonitpur, Hailakandi, identified under RWSS-LS project. DPMU has not been notified as yet.
- DWSCs exist in the Districts but handle only sanitation functions.
- Constitution of APWSCs has been in place (Vide Memo No. PHED 424/2009/6-A by the Deputy Secretary to the Govt. of Assam, PHE Department) but have not been formed in any of the AP-s blocks. However Multi Village Schemes covering several GPs being commissioned will need the active supervision of the APWSCs.
- Block Resource Centres have been constituted and work related to baseline Survey has just been initiated through engagement of Block Coordinators
- GP level VWSC-s handle functions related to sanitation.
- SLUC-s are existent for all schemes and handle the regular maintenance and management of water supply systems. They collect user charges.
- SLUCs are usually handled by one or two executives and the remaining members remain dormant. However all need technical capacity building to handle community mobilisation and management issues
- There is lack of integration between the VWSC and SLUC which is a threat to the scheme management process.
- Convergence of RWSS with other programmes like MGNREGS, NRHM of the Panchayat and Rural Development Department and Health Department respectively, is inadequate.

5.4 Stakeholder analysis

Stakeholder Analyses included identification of stakeholders at different levels to understand the Expectations, Impacts, Issues and Concerns related to each stakeholder and the subgroups thereof. Stakeholders would be the direct beneficiaries and indirect beneficiaries of the project. As identified from preliminary research and reconnaissance, the key or direct stakeholders and their domains of concern are:

1. Scheme beneficiaries being partners in the development and management – water supply, usage and its management
2. Panchayat officials particularly GP functionaries and GPWSC members being entrusted to hold the projects and to handle O&M,
3. User Committees in charge of Managing scheme level O& M operations
4. PHED being the primary implementation agency
5. Women and Self Help Groups being household water managers
6. Health Personnel like ICDS workers and ANM being co-actors in mitigating the issue of ill health resulting from water and sanitation inadequacies

The indirect stakeholders will comprise the Teachers & NGOs, Bankers, Traders, related health professionals.

The stakeholder analysis helped to gauge stakeholders 'expectations along with issues and concerns. An overview of the stakeholder feedback has been presented below.

Stakeholders	Feedback on current Status	Understanding of the WB Project	Expectations from the Project	Perceived role in the Project	Key Issues
Scheme Beneficiaries	<ul style="list-style-type: none"> • Use of drinking water from unsafe sources prevalent along with piped water • Piped water is available for average 1 to 2 hours daily while in Hailakandi community reported of having water once in two days • They generally do not practice safe handling of drinking water • Iron contamination in water reported, in Sonitpur some habitants practice indigenous method of purification using sand and stone • In present condition more number of stand posts provided and low pressure of water in the extreme point is reported along with no water at all in the study areas • Average collection of water is for 3 times a day from nearby sources and it takes more than 10 minutes each time to collect water • The maximum distance generally covered is around 1 to 3 K.M 	They have little knowledge about the new project but when briefed about the new scheme, they opined that there is an urgent necessity of water and welcome the project as this would augment water supply in the villages	<ul style="list-style-type: none"> • Good quality water • Availability in adequate quantity • More number of household connections • Uninterrupted service 	<ul style="list-style-type: none"> • The project would be run through User Committee • They would identify one or two resource persons in each project area to form the user committee for daily O&M 	<ul style="list-style-type: none"> • Inadequate awareness about handing over the scheme to Panchayat and role of Panchayat • The users' feels awareness generation on WATSAN issues is required
GP Functionaries	<ul style="list-style-type: none"> • They have complaints about PVC pipes laid by PHED 	Not aware about the new scheme details	Needs water for longer duration and uninterrupted services	Ready to support in implementation, maintenance and running the programme	This project would help bring overall development
GPWSC / VWSC Members	VWSC exits, in the project areas the members of GPWSC mentioned that as these schemes are not handed over to GPs by PHED they are only having advisory role	Not fully aware of the scheme detailing	Uninterrupted water supply and grater coverage <i>Electrician and</i>	Shall cooperate in scheme operations	Ready to help and intervene for any local issues also ensure availability of land if required.

Stakeholders	Feedback on current Status	Understanding of the WB Project	Expectations from the Project	Perceived role in the Project	Key Issues
			<i>Plumbing training and training on Maintenance of Books of Accounts for User Committee is urgently required</i>		
User Committee	<ul style="list-style-type: none"> User committees are operational User charges usually Rs. 50/- per month with a security deposit of average Rs. 500 to 600/- They prefer to maintain liaison with PHED instead of Panchayat for any water related issues 	Not fully aware – though some seem to be aware while proposed scheme detailing is not available with them	<ul style="list-style-type: none"> Augmentation of water supply and new sustainable water supply and sanitation systems in the villages Design the system for equitable water supply and sanitation facilities Community capacity building 	Will undertake scheme management	<ul style="list-style-type: none"> There is no space for keeping records at the programme area User Committees does not have any office set up. All documents related to user Committee generally maintained by PHED, They are satisfied with PHE work and have a demand for more water (quantity), For any breakdown the user committee directly contacts PHE and PHE does necessary repairing in 2 days time Training required to effectively run the user committee Needs extensive awareness on user committee In case of sanitation general opinion is to get sanitation system in a subsidized rate
PHED	<ul style="list-style-type: none"> Inadequate coverage by piped water Water quality deficient in some 	Aware of the proposed project	<ul style="list-style-type: none"> Augmentation of water supply and new sustainable 	Involvement at different levels – at State (through	<ul style="list-style-type: none"> Handing over of schemes to PRI-s

Stakeholders	Feedback on current Status	Understanding of the WB Project	Expectations from the Project	Perceived role in the Project	Key Issues
	<p>locations</p> <ul style="list-style-type: none"> Need for rehabilitation and augmentation of water supply systems and PRI/ community involvement in maintenance needed. 		<p>water supply and sanitation systems in the villages</p> <ul style="list-style-type: none"> Streamlined process for PRI involvement 	SPMU) at District (through DPMU)	<ul style="list-style-type: none"> Accountability of operation and maintenance to be vested on GPs PHED to handle major maintenance issues and provide technical guidance
PHED Grassroots Officers	<ul style="list-style-type: none"> A general observation that the User Committee are not equipped to take full responsibility of schemes All the work is done through informal communication PHE is also not involved in day to day functioning of User Committee They mentioned that have not faced any land problem even for installation of tube well, land generally donated by community spontaneously. The land for construction of existing pump house was also gifted by the community 	They don't know how the existing system would be integrated to the new one. Even clueless on the point whether the existing supply units will be closed	The project will solve the local water crisis.	They have to identify one or two resource persons in each project area to form the user committee	<ul style="list-style-type: none"> People do not pay any attention when PHED repairs the pipe later they complain. Even if the user committee is formed it is usually becomes defunct when the hand holding support is withdrawn. Cross Subsidy may be one solution for the poor They prefer accountability to be on GP while the technical support to be provided by the PHED.
Panchayat and Rural Development Department.	<ul style="list-style-type: none"> There is urgent need for installation of sanitary toilets on a large scale DO No J-11017/41/2011-MGNREGA (Pt) proposes that "NGOs may also be allowed as Implementing Agencies for implementation of Individual Household Latrine (IHHL) under MGNREGS in convergence with NBA". 	<p>Need to understand the project in details but as far as installation of latrine is concerned convergence is possible</p> <p>On the issue of handing over to GPs procedure streamlining is required</p>	<p>Increase coverage of public utility services</p> <p>Convergence of programmes for effective utilisation of resources</p>	As a partner Department in implementing RWSS projects	<ul style="list-style-type: none"> Convergence procedure to be streamlined through integration and incorporation in to the Action Plan of the PHED
Women	<ul style="list-style-type: none"> Distribution of hand pumps is concentrated at some points. Water collection is generally done by women and they have to wait in a long queue 	<ul style="list-style-type: none"> no such awareness 	Water for longer duration	Ready to pay user charges	<ul style="list-style-type: none"> Women issues need to be considered separately

Stakeholders	Feedback on current Status	Understanding of the WB Project	Expectations from the Project	Perceived role in the Project	Key Issues
	<ul style="list-style-type: none"> needs door to door connection ready to motivate male counterparts to pay needs water for longer duration, involves long time for collecting water hence livelihood affected, 				
Self Help Group (SHG)	<ul style="list-style-type: none"> Needs training on vocational skills, only practice thrift activities Income generating activities not done directly and controlled by intermediaries hence do not get proper remuneration Having limited interaction with Gram Panchayat 	Welcome the project	Supply of good quality water in sufficient quality	<ul style="list-style-type: none"> Ready to pay user charges Can get involved in the project and provide services related to awareness generation and user charge collection 	<ul style="list-style-type: none"> Presently having limited access and needs awareness generation and advocacy for demanding services Capacity building on management of water supply schemes for effective contribution
Other grass root level workers including Health, ASHA, ICDS workers	<p>In Hailakandi, They use pond water for washing and bathing. Fetch water from a distance of 1km on an average by hiring a cart. The collection is generally once in a week.</p> <p>ASHA volunteer at Bongaigaon mentioned that they demonstrate the community on use of safe water but due to scarcity of water they as well as the community is bound to use unsafe water and feel depressed. Diarrhea has major outburst, though mortality not reported. Skin disease is also common. ICDS workers, opined that they have to cook food using pond water as well as ring well water hence they need water tank near their Centre. Presently they do not</p>	They understand that if this project comes it will be of great help to them, but they can't believe now that it will be a reality.	They will be immensely benefitted	They are willing to take role as trainer and capacity builder for the common people	<ul style="list-style-type: none"> No negative impact Huge Gap in capacity building Awareness campaign from door to door is required for common people, local NGOs as well as PHED grass root workers and social leaders Sustainability possible through formation of effective user committee. PRI should have limited role.

Stakeholders	Feedback on current Status	Understanding of the WB Project	Expectations from the Project	Perceived role in the Project	Key Issues
	store piped water for their use				
Local Traders	as there is no water they can't run hotel business and other improved services and welcome the proposed project In DD PWSS scheme area of Jorhat, local traders contacted, they reported that new project would increase scope for business and they could be engaged in material supply to the project site. Water would act as facilitator for development and habitation would also grow with supply of water thus scope for business	Not aware of details of the project	Supply of water	ready to pay user charges Shall extend cooperation	needs water for longer duration

Key issues

- The stakeholders mentioned of the present situation as inadequate and expected the project to meet the gaps.
- They are somewhat aware of their role in community management of water supply and sanitation projects through User Committees. This is indeed encouraging in the context of the project where in general stakeholders realise the need of community management, although the exact format for User Committee and VWSC is not clear to them.
- Majority of the stakeholder groups are unaware of the role of other stakeholders which will hamper coordinated functioning.
- Women issues to be handled separately. SHG-s can be involved in community mobilisation and user charge collection
- Panchayat and Rural Development Department (PNRD) ready to extend support through convergence of programmes.

5.5 Impact Assessment

Any infrastructure development project comes with a bunch of impacts – some positive and some negative. While some impacts have unanimous reactions cutting across all stakeholders some are stakeholder specific depending on their perceptions. The area where the current project is expected to create an impact has been elaborated below.

Access to safe drinking water

One of the main obstacles to the struggle of poor people in backward areas to rise above their dire poverty is their chronic ill-health as well as major diseases – particularly those that attack their principal wage earners as well as their young. The main diseases are **communicable diseases** – a large part being water borne. These occur mainly due people drinking from **unhygienic sources** like open water bodies, poor sanitation etc. Another problem caused by absence of a reliable and adequate water supply is that family members have to spend a lot of **time obtaining water from wells**, ponds, or other sources. This time could have been better spent working for wages or with the family. Easy access to safe drinking water addresses all the above undesirable conditions.

Involvement of the Panchayati Raj Institutions and the community

Water Supply and Sanitation can be considered as local public goods where it is crucial that the local community has a role in selecting the level of benefits as well as the monitoring and maintenance of facilities. In keeping with this understanding, the strategy underlying the project emphasizes achieving water security through decentralized governance with oversight and regulation, participatory planning and implementation of sources and schemes. In achieving the project stipulates handing over of management to the community groups and levy of a tariff to cover the operation and maintenance costs. While collection of tariff is deemed as a positive impact since it would ensure sustainability, the beneficiaries might consider it to be a negative impact since it would directly pinch on their disposable income, however minimal

Social Capital

In the absence of piped household water connection substantial proportion of the population water is sourced from outside the premises. The methods of collections from ponds, lakes, rivers and even common hand pumps and tube wells lead to frequent interactions between villagers leading to information exchange and creation of social capital within the village. Once tap water is sourced from within the premises for a large majority of households, such interactions will become much less frequent leading to loss of social capital. On the other hand Beneficiary Committees will ensure bondage on a different plane and strengthen social capital.

Critical Dependence on External Sources

The water from the project will be critically dependent on power and expert technicians that the village authorities may not have complete control. Previously the villagers obtained water from traditional sources like hand pumps, tube wells and wells which did not depend on electricity and could be operated and repaired adequately by the villagers themselves. Once the project is implemented this may not remain true and unless critical backup is available.

Livelihood and Employment

The project does not involve any loss of livelihood, on the other hand commissioning of a project will lead to a creation of employment during construction, a band of operators for operating the schemes at the SLUC level and a set of mechanics (Mistry) for carrying out petty repair.

The positive and negative impacts as envisaged by the stakeholder groups have been presented below:

Stakeholder Groups	Positive Impacts	Negative Impacts/concerns
Women as Sub-group	<ul style="list-style-type: none"> • Availability of quality water for a duration required • Reduced drudgery of carrying water from long distances particularly in rainy season. • .Reduced disease burden due to reduction in water borne and water related diseases • .Reduced health expenses and thereby savings • Improvements in quality of life and dignity 	<ul style="list-style-type: none"> • Lower opportunities for social interaction with consequential weakening of social capital • Domination of male members in User Committees may lead to insensitive decisions (<i>Women in Hailakandi apprehensive about their role in SLUC vis a vis men's role</i>)
All Users	<ul style="list-style-type: none"> • Availability of quality water • Reduced nuisance of open defecation due to increased coverage of individual sanitary latrines • Reduced drudgeries among women and improved dignity • Improved infrastructural facilities leading to upward social mobility • Reduced health expenses • Less suffering during rainy season • Better infrastructure facilities and upward social mobility • Improved access to services • Improved community participation and sense of ownership • Improved Capacity of beneficiaries to handle own assets • Improvements in quality of life and human dignity 	<ul style="list-style-type: none"> • Payment of Tariff and high connection fees • Partisan in User Committee – domination of the powerful in making decisions • Conflict among BPL card holders and non card holders in payment of user charges • Disruption during construction
VWSC / User Committee	<ul style="list-style-type: none"> • A forum for beneficiary cohesion in making decisions • Empowerment of community members • An institutional set up which can advocate for different social issues • SLUC/ VWSC members technically competent • Reduced incidence of conflicts over the distribution and use of water 	<ul style="list-style-type: none"> • VWSC controlled by few powerful individuals • Off shouldering of responsibility of the beneficiaries on the User committee
Gram Panchayat	<ul style="list-style-type: none"> • Opportunity for provision of reliable water and sanitation services 	Threat of conflict between roles related to regular developmental agenda and that of VWSC
PHED	<ul style="list-style-type: none"> • Opportunity to provide water and sanitation services to rural areas • Opportunities for skill development and capacity improvement 	
Daily Wage Earners	<ul style="list-style-type: none"> • Employment Opportunities during 	

Stakeholder Groups	Positive Impacts	Negative Impacts/concerns
	implementation and sometimes during maintenance. <ul style="list-style-type: none"> • Likely Increased wages • Opportunities for working with skilled persons and learning new skills 	

Key inferences

- Stakeholders conceive positive impact related to availability of water supply, sanitation facilities and work opportunities
- Negative impacts, on the other hand, concern threats related to conflicts/ local power dynamics and high tariffs.

5.6 Safeguards

The World Bank's environmental and social safeguard policies are a cornerstone of its support to sustainable poverty reduction. The objective of these policies is to prevent and mitigate undue harm to people and their environment in the development process. Safeguard policies provide a platform for the participation of stakeholders in project design, and have been an important instrument for building ownership among local populations.

OP 4.10 Indigenous Population

In Assam, three areas – Bodoland Territorial Council, KarbiAnglong Autonomous Council and DimaHasao Autonomous District Council are under the Sixth Schedule (Article 244(2)) of the Constitution. None of the seven project districts fall under the territorial jurisdiction of these scheduled areas. Further none of the tribals inhabiting the project districts are living in exclusive clusters/ habitations. Although they are officially designated as Scheduled Tribes in the project areas, this study - on the basis of a review of their socio-economic and cultural profile - records that these groups are enmeshed completely with other sections of the village societies. This study records no distinct livelihood pattern – nor in cultural identities – between the Scheduled Tribes and non-Scheduled Tribes. On the basis of these factors, this study concludes that the OP 4.10 on Indigenous Peoples need not be triggered.

OP 4.12 Involuntary Resettlement

Land requirement arises for four purposes: (i) water source; (ii) water treatment plants; (iii) construction of ground level or overhead tanks (G/OHT) or cisterns; and (iv) Water transmission and distribution pipelines as well as sullage/ storm water drains. Water sources could be either ground water or based on surface sources, chiefly, rivers and canals. The ground water sources do require 'land' and so is the case with WTPs. In the case of tanks, if they are constructed in a place other than that of the 'source, separate land will be essential. Transmission and distribution lines are laid mostly in public land or along public streets and no land needs are to be secured. In a few cases, pipelines may have to pass through private agriculture fields. Since the pipeline are laid at least 90 cms below ground elevation, no land acquisition is needed, but permission from the land owner is taken. If such permission is not forthcoming, then alternative pipe routing is used, even if it is more expensive to do so. This means, lands are required for SI No (i), (ii) and (iii).

When plots of lands are to be acquired for project installations, their ownership could be either public or private. While it is easier to access public land, arrangements will have to be made for securing privately owned land. The prevailing normal practice in the state is obtaining such land plots either through voluntary donation or by outright purchase. The discussions with the communities and experts as well as the past experiences reveal that most villages do have sufficient vested lands with government or Panchayats which are utilized for such public utilities.

The following rules will be binding on the part of all states and will govern the process.

- All donations and purchases will be voluntary. Mechanisms will be developed not only to ensure the voluntariness but also that it will not involve any significant adverse impact upon incomes or physical displacement.
- All voluntary land transactions will meet the following criteria: (i) the land in question will be free of squatters, encroachers or other claims of encumbrances; (ii) land will be

- chosen by the community after ensuring that water will be available in that particular piece of land; (iii) verification of the voluntary nature of land donations in each case; (iii) due transparent measures will be in place; (iv) land transfers will be complete, land title will be vested in the community/ GP through a registered sale deed or MOU; and (v) provision will be made for redressal of grievances (ROG) if any.
- All voluntary transactions will be documented and signed by both the parties. Agreements on above will be reached during appraisal and legal documents will include the necessary clauses.
 - DPMU will arrange for an examination of all land purchases by an independent agency before according the approval. Further, lands will not be accepted from such land owners whose holding will be less than the minimum economical viable stipulated size (2.5 acres).

5.7 Gender perspectives

In most societies, women have primary responsibility for management of household water supply, sanitation and health. Water is necessary not only for drinking, but also for food production and preparation, care of domestic animals, personal hygiene, care of the sick, cleaning, washing and waste disposal. Because of their dependence on water resources, women have accumulated considerable knowledge about water resources, including location, quality and storage methods. However, efforts geared towards improving the management of the world's finite water resources and extending access to safe drinking water and adequate sanitation, often overlook the central role of women in water management.

In this context the following are the major factors that need to be addressed to implement a gender approach to water resources and sanitation management were considered in the analysis as presented below. A focus on both women and men has been crucial to the approach.

Inadequate access to water supply and associated drudgeries

Access to safe drinking water is a basic human right and essential for achieving gender equality, sustainable development and poverty alleviation. Providing physically accessible clean water is essential for enabling women and girls to devote more time to the pursuit of education, income generation and even the construction and management of water and sanitation facilities.

In the study area though the piped water supply has reached to the villages, but the quantity is not sufficient to meet the requirements of the population. On the other hand pumps are also not in sufficient quantity hence dependency on river, pond, well and collecting water by digging earth is also practiced by communities in districts like Bongaigaon.

Collection of water is primarily a women's activity. The table below as constructed from the household survey data implies that female collect water solely in 25 percent of the cases while in 73 percent of the cases men and women both collect water. However the frequency needs to be factored in as in majority of the days women collect water and men collect occasionally as reported in the FGD-s. The study shows that average time spend is around 10 minutes to collect water. At Hailakhandi, Jorhat, Morigaon and Kamrup the time spend is around 12 minutes while they mainly sited their opinion on collecting piped water and the total time spent remains not reported. Although not alarming in terms of time devoted, the drudgeries related to collection bestows on women.

Table 5.27 Water Collection Practice

District	Male	Female	Both
Bogaigaon	1	11	13
Hailakandi	1	36	46
Jorhat	2	22	104
Kamrup	2	44	71
Morigaon	4	18	73
Sibsagar	2	21	111
Sonitpur		4	42
Grand Total	12	156	460
in %	1.91	24.84	73.25

Water management is once again a women's function. However in the study area perception of safe water management is missing among the women beneficiaries as reported by the ASHA and ICDS workers Thus 68 percent of the respondents opined that the quality of water is safe and thus does not need preventive management while other 31 percent reported it as not safe while the secondary source depicts presence of Fluoride, Iron, Arsenic in ground water along with bacterial infestation causing water borne gastrointestinal diseases.

Lack of access to sanitation

Lack of sanitation facilities and poor hygienic conditions cause water-borne diseases, such as diarrhoea, cholera, typhoid and several parasitic infections which affects all. However for women, unhygienic conditions result in the occurrence of RCH related problems. Further lack of sanitation impacts the privacy and dignity of women in general and under special conditions where women's needs are dominant.

Lack of participation in community management

It is a well know fact that women are chief mangers of water and sanitation at the household level for which by design the project ensures full participation of women in the sub-project activities at the village level and scheme levels.

As indicated in the section on institutional analysis women are included in the User Committee as member but their role and responsibilities in subproject management, fees collection and community mobilisation has not yet translated into action. This is due to lack of gender sensitisation at all levels of community and institutional arrangement. Ideally percentage of women can be increased to 50 % or even more and there could be integration with existing Self Help Groups. As stakeholder feedbacks indicate, the SHGs are also interested to take active part in various community level operation and maintenance works as well as in collection of water charges.

Key issues

- Women more eager to take piped water connection and household sanitation
- Stakeholders and community not particularly sensitive to women issues in the context of water and sanitation.
- Women participation in the SLUC is inadequate in terms of numbers and in terms of roles.
- Women groups like SHGs interested to be a part of the SLUC and get involved in tariff collection agents, petty maintenance, etc

5.8 Issues, Recommendations, Risks and Mitigation Measures

Issues and Recommendations

The earlier sections analysed the different issues in depth and brought out the key issues. However a collation of inferences and findings led to the identification of some key issues which have been enlisted below along with its recommendations for creating an enabling environment for project implementation and sustainability.

Issues	Recommendations
Beneficiary preparedness	
<ol style="list-style-type: none"> 1) The beneficiaries are willing to accept the proposed piped water schemes and are ready to pay for improved service 2) They seem to be less aware of the scheme details including site of the project and other details. 3) Beneficiaries apprehensive about reaching piped water to the farthest point 	<ol style="list-style-type: none"> 1) Since the beneficiary preparedness exists, the commissioning of the schemes should be done as early as possible in ensuring water security addressing the issues of quantity quality and regularity 2) There has to wide-scale awareness, through mass communication and inter personal communication on the project benefits to create a demand in the community. Project details to be displayed (proactive disclosure) in a permanent board to ensure awareness of the scheme among all stakeholders 3) Contour of the land to be considered prior to laying of pipe line
Institutional preparedness	
<ol style="list-style-type: none"> 1) State level SPMU is in place but at the sub optimal functional level. 2) PHED functionaries , although technically proficient , need orientation on Community Driven Development Approaches, administrative and management issues related to MVS 3) District level DPMUs are yet to be commissioned 4) At Anchal level, APWSC is yet to be commissioned although notification exists. However multi-level village schemes as planned under RWSS programme, which would cut across several GPs will required active role of APWSCs. 5) VWSC at the GP level looks after mainly sanitation issues. Since water supply schemes are not handed over, they yet not prepared mentally and technically to takeover multi-village schemes. 6) AT the GP level all the committees dealing with water and sanitation seem to be dormant as water supply schemes are yet to be handed over to the PRIs. With the new project with larger coverage and handing over the schemes to the PRI, PRI stakeholders and 	<ol style="list-style-type: none"> 1) Strengthening of SPMU with engagement of staff and definition of work roles 2) Regular capacity building through training programmes and exposure visits 3) DPMU to be commissioned and made functional through engagement of specialists .The existing staff in the DPMU needs to be geared towards the World Bank Project provisions. 4) APWSC should be oriented towards handling Multi Village Projects covering more than one GP 5) GP level committees dealing with water and sanitation including VWSC should be oriented and trained to be able to handle multi-village schemes with larger coverage. 6) Adequate staff with technical capabilities have to be mobilised.

Issues	Recommendations
<p>committee stakeholders needs to be capacitated for effective management of such schemes</p> <p>7) SLUC are functional in most of the cases, but they work under the direct supervision and guidance of PHED bypassing the PRIs.</p> <p>8) SLUC s are generally handled by one or two office bearers- the President and the Secretary/ Treasurer. The other members are not involved in the management. All members need orientation, motivation trainings and also capacity building on management issues including financial management</p> <p>9) SLUCs do not have adequate capacity in community mobilisation and information dissemination</p> <p>10) There is lack of integration between VWSC and SLUC</p>	<p>7) Motivational trainings should be designed for GP functionaries</p> <p>8) Capacity building through trainings of SLUC members on statutory obligations for managing SLUCs and book keeping required</p> <p>9) There should be a reporting mechanism for SLUC at the GP level</p> <p>10) All SLUC Executive Committee members need to be trained on technical, organisational and financial management issues</p> <p>11) Capacitating the SLUC members on information dissemination seems to be required. Local NGO-s and a local resource person can work towards capacity building of SLUC-s who would in turn carry out the functions in their catchments areas. Activation of the Block Resource Centres are a must in this context.</p> <p>12) VWSC as the standing committee at the GP level will provide guidance to SLUCs. There should be a reporting arrangement of SLUC-s to the VWSC for integration.</p>
Inter Departmental Convergence	
<p>Convergence of programmes and schemes are not yet streamlined for which program benefits are either duplicated or resources not optimally utilised.</p>	<p>Taking support of ASHA in the NBA program functionaries in mobilizing people for promoting individual sanitary latrines and creating awareness about health, hygiene and nutrition</p> <p>SHG-s under the Rural Livelihood Mission to be integrated with User committees</p> <p>MGNREGA programme to be utilised for infrastructure creation under RWSS. With adequate rainfall in Assam, rainwater harvesting structures could be created and this activity could be converged with MNREGS programme effectively.</p> <p>Yearly Action Plans needs to be developed for such convergence programmes. With the PHE Engineers having technical knowledge on this activity, such schemes could be easily</p>

Issues	Recommendations
	implemented
Willingness to pay	
<ol style="list-style-type: none"> 1) Community is more or less geared up to pay for water but there are some instances where they stopped paying if water is not available or grievances are not addressed 2) As per the <i>PaniJogan Samity</i> Act 1995 beneficiaries are expected to pay Rs 600 for connection charges. However the issue of waiver of this connection charge is under consideration. This might lead to a confusion and a reversal from the forward looking mindset of 'paying for service' to the traditional beneficiary attitude. 3) Subsidy in sanitation sector has a negative impact and community is not maintaining the sanitation system as it comes in a subsidised rate 	<ol style="list-style-type: none"> 1) Water security and sustainability issues should be taken care of through appropriate SLUC and VWSC strengthening. There should be a streamlined system of Grievance Redress at the SLUC/ VWSC levels. 2) Water supply connection should not be given at free of cost as there is already a habit of paying for getting water and the present Act also has such provision 3) If any subsidised rate to be thought for inclusion of poor and marginalised section, this should be handled by SLUC. Issue of subsidy in sanitation needs to be revisited
Women Issues	
<ol style="list-style-type: none"> 1) Stakeholder and society not particularly sensitive to women issues in the context of water and sanitation. Women's role conceived as passive in water management. 2) Women participation in the SLUC is inadequate in terms of numbers and in terms of roles. 3) Women groups like SHGs interested to be a part of the SLUC 	<ol style="list-style-type: none"> 1) Gender sensitization to be done through appropriate IEC 2) The mandatory provision of women participation in SLUC Executive Committee to be increased from 30% to 50% or more. At least one position among the President, Secretary and Treasurer should be held by women. (All women member SLUC could also be tried out as an innovative model). 3) SHG-s to be involved in the O & M under the folds of SLUC and get them involved in tariff collection agents, petty maintenance, etc

Risks and Mitigations Measures

Assam is a vulnerable area in terms of ethnic insurgency and natural calamities like flood both of which can pose a serious threat on the project implementation. Although the seven project districts do not fall under the conflict areas, yet unrest in these areas do have a ripple effect hampering daily activities. Loss of man days due to strikes should be considered in the project planning. On the other hand floods are a regular feature which needs to be built into the design of the schemes.

Beyond these overarching risks, the assessments of risks and assumptions has been done in the course of beneficiary assessment which have been indicated below:

SI no	Risks	Mitigation Measure
1	Lack of ownership of the constructed schemes by Gram Panchayats (GPs)	<ol style="list-style-type: none"> 1. PRI members engaged in implementation phase 'as as when' required basis, this has to be streamlined and a detailed planning to be done staring from planning to handing over of the scheme involving PRI stakeholders 2. Handing over process needs to be streamlined and capacitating all the PRI stakeholders concerned needs to be done 3. The committees constituted for looking after the issues needs to be strengthened with designated power and execution of the power
2	District and Block (Anchal) Level staff may not be comfortable with the new project as it entrusts greater responsibility on PRI	<ol style="list-style-type: none"> 1. There has to be a detailed orientation on the roles and responsibilities of the different government and PRI functionaries indicating the advantages of such involvement- 2. Exposure visit and success story sharing could be a viable method
3	Additional responsibility on PHED Engineers at State and District may lead to over burdening on staff capacities	<ol style="list-style-type: none"> 1. The SPMU and DPMU needs to be strengthened with adequate staff 2. There should be a provision for dedicated technical expert at DPMU level
4	Women as a stakeholder may remain excluded	<ol style="list-style-type: none"> 1. The women participation has to be ensured through appropriate orientation and sensitization 2. Women organization and community level stakeholders i.e. women SHGs, ASHA activists, AWWs are seem to be active in all the study districts, they needs to be engaged for various grassroots community interactions and advocacy related to WATSAN
5	Lack of accountability	<ol style="list-style-type: none"> 1. Re-defining the functional at all level of stakeholders 2. Re-articulating their respective roles and responsibilities in the context of the WB supported project
6	Slip back of commissioned schemes	<ol style="list-style-type: none"> 1. Creating demand for improved piped water supply services 2. Payment of user charges on a regular

SI no	Risks	Mitigation Measure
		<p>basis is a practice at Assam, it needs to be sustained with introduction of new scheme</p> <p>3. Subsidy to be minimized in water supply with provision of community system for poor and needy and that has to be the responsibility of respective SLUC preferably not to be decided at the Apex level</p>
7	There could be procedural conflicts in integrating water with sanitation under the same committee	<p>1. Orientation of members at all levels</p> <p>2. Procedural streamlining for integration</p>
8	Lack of convergence may lead to duplication of work and resource use	<p>1. Coordination meetings to be organized on a regular basis for sharing of projects proposals</p> <p>2. Judicious allocation of funds for the purpose through strategic planning</p>

To sum up the best possible ways to mitigate the risks is to capacitating the stakeholders including community at a large using various communication tools and most importantly making them practice the same through Behaviour Change Communication.

B) CAPACITY BUILDING

Chapter 6: Capacity Building

Capacity Building is the **process** of strengthening procedural, organisational and institutional and intra-institutional capabilities of individuals, institutions and organisations in charge of a developmental task. It goes far beyond technical skills (it is not only training, **but training-plus**): it always includes elements of building awareness, strengthening cooperation and integration among agents and their institutions, strengthening knowledge and skills to do the job within a given project, strengthening the technical capabilities of institutions and organisations, strengthening the regulative and integrative framework.

It is an obvious statement that human resource is vital to the success of any development function. However, how people are helped to develop in order to contribute to that success is often approached in a piecemeal manner, rather than as part of an overall strategy. **Capacity building requires three factors** to be in place if they are to reach their full potential:

- Organisational structure (in terms of, allocation of responsibilities and supporting resources, Orientation of staff, Discipline, Supervision, Communication, Innovation and Change).
- Appropriate capacity including , skills, attitudes, knowledge and experience for the task, activity or job and motivation for participating, for a desired outcomes)

Capacity building strategy and implementation action plan for the RWSS sector institutions and the Panchayati Raj Institutions, in accordance with the requirements of the Sector Development Program was accomplished through a capacity building cycle tracing the following steps

- Defining the Capacity Building Objective
- Profiling of target group in terms of institutional and manpower capabilities.
- Gap or need assessment
- Review of Government HRD Initiatives
- Capacity Building strategy Development
- Monitoring and Evaluation

6.1 Capacity Building Objective

The objectives of capacity building in the case of water and sanitation projects to ensure proper implementation is:

- To build and strengthen the capability of rural water and sanitation service delivery institutions (PRIs and RWSSD) and other partners (NGOs, Contractors, Consultants) to integrate sound environmental management into water and sanitation service delivery.
- To orient the service delivery staff and elected PRI representatives to the requirements of the project's environmental management framework.

6.2 Profiling of target group in terms of institutional and manpower capabilities.

The project intervention will be at all four levels:

- National Level
- State Level

- District Level
- Village Level

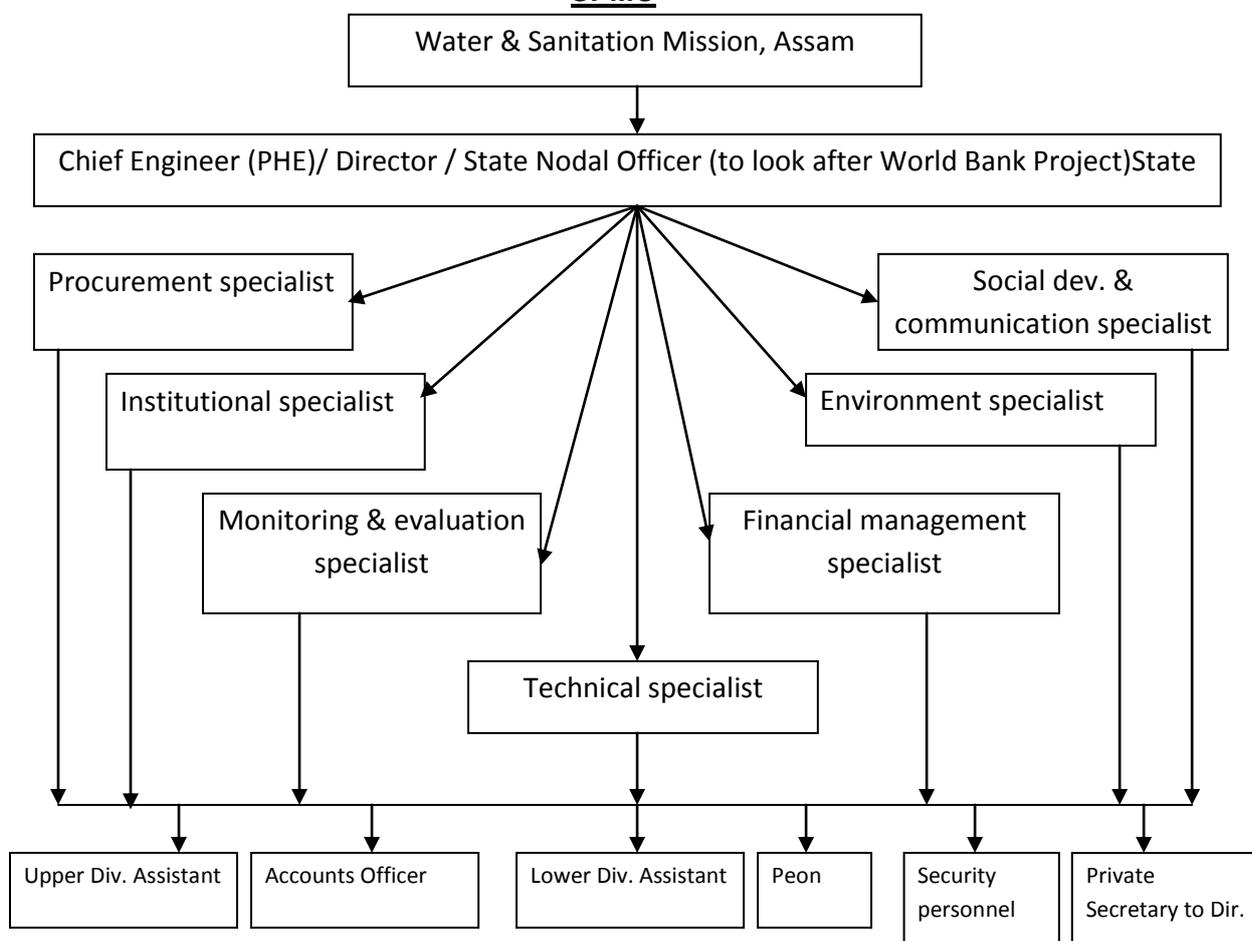
National Level

- National Level Project Monitoring Unit (NPMU) is the set-up at national level

State Level

- The SWSM is presently the State-level nodal body in Assam for Rural Water Supply & Sanitation activities in State for the Government The Mission is managed by an Apex Body and a State Level Executive Committee (SLUC).
- PHED is the implementing agency and the main role of the PHED and the SWSM under the sector is to facilitate the release of funds, formulate a State Action Plan on water supply and sanitation, and ensure Inter-sectoral coordination between concerned departments. Also, besides UNICEF, MoEF, carrying out training programmes, PHED is responsible for conducting regular Training and capacity building exercises for the community, SLUC, GPWSC, etc.
- WSSO, an unit under the folds of the State PHED is in charge of trainings and communication for capacity building and awareness. It is being thought of if the service of existing WSSO is utilized, some more separate position may have to be added to facilitate functioning of WSSO for WB Assistance project activities.
- The SPMU is the dedicated state agency for the World Bank supported project.

ORGANOGRAM OF SPMU

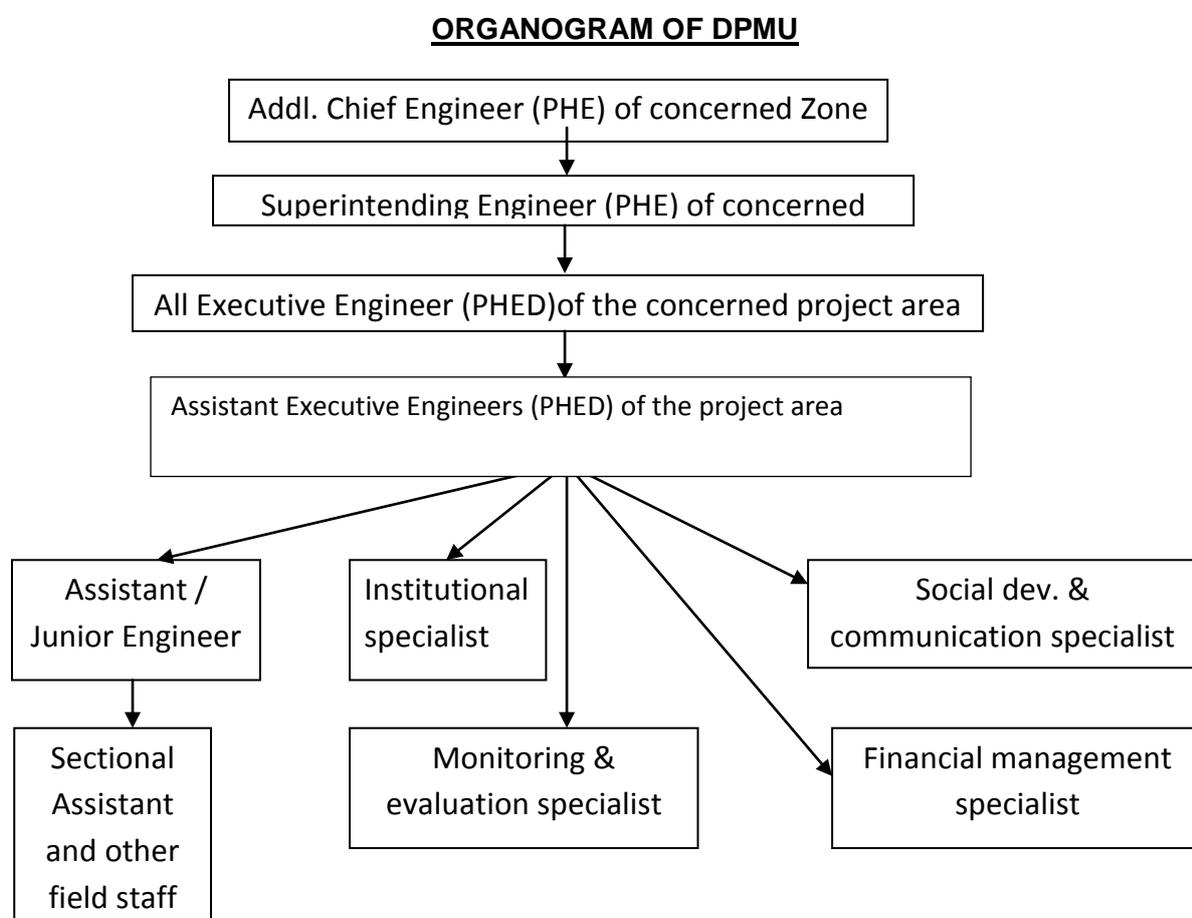


The SPMU is currently handled by the Project Director in the rank of Chief Engineer and is supported by 6 Engineers from the PHED (vide notification: PHED 335/2011/47). They will be supported by a team of experts. Hence the SPMU is operating at sub optimal capacity which needs to be strengthened for overseeing implementation management.

The PHED engineers engaged in the SPMU have the requisite skill and knowledge for implementing such water supply programmes. However there is definite scope for capacity building through best practice sharing.

District Level

At the District level under the project Seven District Project Management Units (DPMUs) with positions for Monitoring & Evaluation (M&E), Institutional, Social dev. & communication and Financial management will be formed, for the seven districts, Kamrup, Morigaon, Bongaigaon, Jorhat, Sibsagar, Sonitpur, Hailakandi, identified under RWSS-LS project. It is also envisaged that the DWSSM consultants already appointed under the Mission will be clubbed with DPMU positions. All field level functionaries within the project area will be a part of the implementation team



The DPMU is yet to be commissioned in the districts. The existing set up comprising the AddlCe, SE, EE, AE/ JE , SA and other field staff are already in place , not yet under the folds of DPMU though. The specialists would be engaged on contract. Interactions suggested that **there is need for a dedicated Technical Specialist at the DPMU level.**

In terms of technical capacity, the existing DPMU staffs are equipped to handle the functions given in the table below. However they need to be trained on the World Bank supported RWSS program and also on operation and maintenance management applying the Community Driven Development approach.

Block level

As mentioned in the earlier section, Anchal Panchayat (AP) Water and Sanitation Committees (APWSC) have been notified but not constituted. This committee will mainly look after the water and sanitation issues at the Anchal level. A **Block Resource Centre (BRC)** has been constituted and a coordinator has been engaged since December 2012. The Coordinator is engaged in conducting baseline surveys. The capacity of the Coordinator needs to be strengthened to develop BRC as an information resource centre handling monitoring issues

Village Level Committees

For the World Bank funded RWSS-LS project in the seven districts of Assam, it is proposed that there be two committees formed at village and GP level looking after both Water supply and Sanitation. At present, two grass root level committees are functioning in the villages, one for Sanitation – Gaon Panchayat (also Gram Panchayat) level Village Water & Sanitation Committee (VWSC) and the other for water supply namely Scheme Level User Committee (SLUC).

Village Water and sanitation Committee

GP level Village Water Supply Committee (VWSC) representing communities of a village are responsible for identification and program implementation on behalf of the GP. They are also responsible to conduct Baseline Survey which reflects the demand for Sanitation.

Scheme level user Committee (SLUC) / User committee

The User Committee generally Registered under Societies Registration Act has to maintain all the statutory formalities to run the Organisation as a Society. The user committee comprises of 15 members appointed by the villagers from amongst themselves.

Such committees are specific for specific schemes and thus for multi-level schemes, which provide water to more than one village there will be representations from all the villages covered under the scheme. Women are also a part of the user committee.

Support Organisations

Many Non-Government Organisations (NGOs) are working in Assam in advocating and educating on health and hygiene issues at State, district and GP levels.

Other service providers

Other service providers like health and ICDS functionaries often lack the orientation on convergence issues and conceiving WATSAN in the totality.

6.3 Capacity Gap and Needs Assessment

Capacity needs assessment has been carried out to assess the training / learning requirements of the personnel of the RWSS sector institutions and Panchayati Raj Institutions at various levels (based on an identification and analysis of the gaps), for enabling them to perform their functions effectively, efficiently and economically.

In general, Assam in general, faces the constraints of

- a. institutional capacity for involving community and Panchayats in planning, implementing and managing their own drinking water supply schemes and
- b. Technical capacity of the State Rural Water Supply Dept for supporting and implementing the decentralization programme.

Consultations were held at the State and district levels to understand the capacity needed for implementing the World Bank Project. In general engineers mentioned that they have the requisite technical skills needed for implementing the project although they mentioned of the need for capacity strengthening in the context of the particular project. However the newly engaged experts at SPMU and DPMU will need orientation in their respective domains .A summary of the consultation on training needs vis a- vis envisaged roles and responsibilities has been provided below.

SI.No.	Activity / Phase	MVS Common Facilities	MVS – In village facilities	Technical Oversight over works of MVS	Training needs
I	Preplanning				
1	Decide on source	PHED		DPMU	<i>No training is required at any level</i>
2	Identifying technology options, Preparing feasibility report with approximate capital and O&M cost	PHED		DPMU	
II	Planning				
1	Recruit agencies for total station survey, GIS, geo physical and geo technical investigations	PHED	PHED	DPMU	
2	Conduct field survey including geo physical for ground water source	PHED	PHED	DPMU	
3	Preparation of Water Security and safety plans for the village	PHED	PHED	DPMU	
4	Design of scheme	PHED	PHED	DPMU	
5	Preparation of DPRs	PHED	PHED	DPMU	
6	Administrative Approval	PHED & govt of Assam	PHED & govt of Assam		
7	Technical sanction	PHED	PHED	DPMU	
III	Implementation Phase				
1	NCB or ICB as applicable				<i>Training needed</i>
2	Invite bids in national newspapers	PHED	PHED	DPMU	<i>Training needed on World Bank related</i>
3	Receive bids and evaluate	PHED	PHED	DPMU	

Sl.No.	Activity / Phase	MVS Common Facilities	MVS – In village facilities	Technical Oversight over works of MVS	Training needs
4	Issue of work order	PHED	PHED	DPMU	<i>implementation procedures</i>
5	Prepare contract documents and sign contract agreement	PHED	PHED	DPMU	
6	Implement works – day to day construction quality monitoring	PHED	PHED	DPMU	
7	Ensure quality of supervision by DPMC Engineer/s	PHED	PHED	DPMU	
8	Independent Construction Quality Surveillance (ICQSC) – concurrent	ICQSC	ICQSC	SPMU	
9	Develop source	PHED	PHED	DPMU	
10	Conduct source water quality tests	PHED	PHED	DPMU	
11	Conduct source yield tests	PHED	PHED	DPMU	
12	Review the water quality and yield test quantity reports and take corrective action	PHED	PHED	DPMU	
13	Record measurements and Prepare bills of contractors	PHED	PHED	DPMU	
14	Check measurements and Authorise payments to contractors	PHED	PHED, GPWSC	DPMU	
15	Make payments	PHED	PHED	DPMU	
16	Obtain power connection	PHED	PHED	DPMU	
17	Commission the water supply scheme and take corrective actions where required	PHED	PHED	DPMU	
18	Trail run-Ensure equitable distribution of water	PHED	PHED	DPMU	
19	Prepare as built drawings and completion report	PHED	PHED	DPMU	
IV	Operation & Maintenance Phase				
1	Preparation of O&M budget at start of O&M	PHED	PHED	DPMU	
2	Approve O&M budget and Calculate tariff	PHED	PHED	DPMU	

Sl.No.	Activity / Phase	MVS Common Facilities	MVS – In village facilities	Technical Oversight over works of MVS	Training needs
3	** Decide subsidy for O&M if required	GOI, GOA			
4	O&M during defect liability period of 12 months	Construction agency	Construction agency	DPMU	
5	O&M beyond defect liability period for five years or as decided	PHED, GPWSC	PHED, GPWSC	DPMU	
6	Alternatively Selection of private operators to carry out O&M if required	PHED, GPWSC	PHED, GPWSC	DPMU	
7	Alternatively Train and Place in position the operators	PHED	PHED	DPMU	
8	Monitor pumping operations, disinfection and equitable distribution and Check for residual chlorine	PHED	GPWSC	DPMU	
9	Water quality monitoring and surveillance	PHED	GPWSC	DPMU	
10	Rectification of leaks and service interruptions	PHED	PHED	DPMU	
V	Post implementation phase				
1	Technical support for the GPs	PHED	PHED	DPMU	
2	Capacity building	PHED	PHED	DPMU	<i>Development of a resource cell to handle trainings</i>
3	Financial support	GOA, GOI	GOA, GOI		
VI	Sector wide				
1	Sector management information system	PHED			<i>Training required on MIS and GIS systems at the State and</i>
2	With GIS base maps for the rural water supply systems	PHED			

Sl.No.	Activity / Phase	MVS Common Facilities	MVS – In village facilities	Technical Oversight over works of MVS	Training needs
					<i>District SPMU and DPMU levels</i>
3	Hardware for storage and processing of MIS data	PHED			
4	Procuring base maps and PGS instruments	PHED			
5	Identification and capture of the location of drinking water sources	PHED / GPWSC			
6	Water Quality Monitoring & Surveillance				
7	Results from the sources / habitations to be put on the web based database	PHED, GPWSC			

Interactions and field consultations further revealed the specific capacity gaps and subsequent needs which have been indicated below:

During consultation process, the state, District, Anchal and Gram Panchayat level institutions of the State, stated there is a capacity constraint at all level i.e. at institutional level as well as the capacity of personnel engaged in the water and sanitation sector which needs to be addressed to enhance the capacity of the stakeholders for implementing sustainable rural water supply projects.

The capacity constraints are mainly in terms of institutional capacity for 'involving community and Panchayats in planning, implementing and managing their own drinking water supply schemes, and technical capacity of the State Rural Water Supply Departments for supporting and implementing the decentralization program' by involving community and community level institutions.

The World Bank supported project in Assam, seeks to ensure water security of rural communities, particularly in terms of their access to safe, reliable and sustainable water supply and sanitation services in this region of the state.

The existing water supply scheme is managed adopting decentralized management of these services and this is also the key focus of this Bank supported initiative. It is envisaged that the concerned communities would be actively involved in planning, design and implementation of large water supply schemes under the program.

The understanding is that this would ensure effective operation and maintenance and sustainability of schemes and services. But at the same time it presents many challenges, particularly in terms of capacity building of managers and functionaries involved at various levels.

As per stakeholder consultation and analysis undertaken during the study, the following issues are of importance for designing CB strategy:

- In the existing system, the community is responsible for management and operation of the programme after execution is completed, the community in general was not involved in planning, design and implementation phase
 - During public consultation, the beneficiary community as well the other community level stakeholders mentioned that they have no information about the proposed World Bank assisted RWSS programme.
- Existing institutional capacity is not adequate to address the emerging capacity building needs following the proposed changes in approach and strategy. For example, there is no sector specific departmental training institution for RWSS Sector in the State. The PHED stakeholders are generally responsible for imparting training
 - During public consultation, it has been reported that Pump operators has received only 2 days orientation training on maintenance of Pumps
- Even in the WASH Report published in 2009, it has pointed out the inadequacy of capacity building support of PHED Department is, mainly due to the fact that frequency and duration of training programme for the government employees is very less or sometimes unsatisfactory. In the absence of regular trainings the Engineers often lack the appropriate skills to implement water supply and sanitation projects with respect to environmental parameters and in co-ordination with the Gaon Panchayats, User Committee and local people participation.
- At present, the existing PWSS schemes handled by PHED are small in nature and the department is handling the project through a small team with direct intervention of field Engineers which is largely supplementing the limited experience and skills of SLUCs
- WSSO is targeting sanitation at large while water issues were not addressed adequately. Most of these training and activities (organized as awareness campaigns/ meetings) were primarily targeted towards informing people about the sanitation programmes and safe handling of water.
- Awareness on the World Bank Project linked operational procedures has yet to be disseminated at a great extent. During field consultation, in all the study districts, the grassroots. PHE stakeholders as well as all other stakeholders expressed that they are not fully aware of the proposed Piped water supply project
- At the State level, convergence of all stakeholders has initiated but has not yet translated at the grassroots. It is applicable for District as well as Block level also
- GP and particularly VWSC functionaries lack capacities in the following
 - Orientation in the community demand driven approach to water and sanitation management and the integrated style of management
 - Managing the water supply schemes
 - Methods of taking over of completed schemes
 - Managing statutory VWSC/ GPWSC and integration of various committees
 - Liaising with APWSC as well as with User Committee

- Formalising the procedure of lodging complain regarding major as well as minor repairing issues with PHED
- VWSCs and SLUCs often lack technical skills in taking up operation and maintenance of water supply and sanitation systems. VWSC in some areas like Bongaigaon, Morigaon ,Hailakhandi and Sibsagar expressed their views regarding lack of capacity in managing the programme and mobilising community and that they would be interested in more capacity building to manage their systems better. However in some VWSCs of Kamrup and Jorhat the members were equipped enough to mobilise community and manage the projects.
- SLUCs and VWSC with the GP President as Chairman often lack the understanding on
 - ✓ Formation, Functioning and Management of GPWSC
 - ✓ Participatory Planning skills and ability to assess own problems and priorities
 - ✓ Community mobilization skills for generation of community contribution
 - ✓ Negotiation skills for negotiating project benefits, services and access
 - ✓ Conflict Resolution skills for resolving inter and intra stakeholders' conflicts and personal differences
 - ✓ Advocacy skills for creating demand for services
 - ✓ Data management and monitoring
- Regarding maintaining transparency and accountability issues, no such efforts have been made till date regarding social audit, proactive disclosure related to discharge of water, timings of water supply, water quality report in a permanent board and such issues
- Grievance Redressal mechanism not adequately addressed. No records maintained at the project site regarding registering grievances as well as no register is there to maintain records on how many grievances resolved
- Women and in general orientation in membership of women in SLUC's and managing the maintenance of schemes is lacking
- The community in general is clueless about functioning of User committees, linkages between Gram Panchayat and User Committee, their role and interaction as well as liaison with PHED department.
- Social institutions are active but not oriented toward WATSAN management issues. SHGs exist but they mainly practices thrift activities and engaging them in project management or community contracting is not yet thought of
- To address the issues of safe sanitation and water practices community as well as PRI needs to be capacitated. Ownership building, creating knowledge base through strategic capacity augmentation plan seems to be important
- There is often lack of integration between the different stakeholders which restricts overall capacity.
- Community in general and youth and women groups in specific lack the orientation towards community management of schemes and sanitation systems.

6.4 Capacity Development Initiatives by the State Government

According to GOI guidelines, the State WSSO needs to hold Training Needs Assessment workshops make an in-depth study to ascertain the training needs for different stakeholders on different issues of rural water and sanitation programme. Based on the need assessment report CCDU, in co-ordination with STA and other State and national Resource Centres, needs to develop "Training modules" for different stakeholders on different related subjects. Every year a Capacity Building Plan has to be prepared for training of the following stakeholders at Village, block, district and State level.

The following HRD Activities been carried out in the Year 2012-13/2011-12

State level workshops / Training / Orientation :- Training of DWSSM functionaries ,Training of BRC functionaries, Training of Cluster Co-coordinators, Training on Process of installation of Deep Tube-well, Training on identification and training of Mother NGO / NGO, Re-orientation of Lab Personals Training on computer literacy, Training on Engineering Design Software (AUTOCAD), Training on use of GPS hand held device , Training on GIS Application, National / regional Workshop & Seminar, Training on Accounts Keeping / Audit etc.,Bi-monthly Review cum experience sharing programme for District Consultants / BRCC / CRCC and others field functionaries, Zonal level workshop / Training / Orientation on RTI for PHED functionaries, Zonal Level Training on use of Customized Software developed by NIC. raining of Cluster Co-coordinators (Old), State level workshop on rainwater harvesting and water recharging & follow up piloting work, Hand Washing and SSHE Activities among school children at State Level, Orientation / Preparation / meeting on Script for Theatre (mobile theatre / puppet shows), Inter-State Training Programme cum exposure visit on WATSAN sector, Orientation of PHED Field Functionaries on WATSAN Management Plan During Disaster ,Inter-district Training Programme cum exposure visit on WATSAN sector Development, Printing & orientation of Training modules / Training Material Pilot project on menstrual hygiene at schools, Training of PHED functionaries on WATSAN facilities at different schools of 5 district of the State (pilot project and to be performed at the district level), Training of CRCC of SSA on WATSAN Sector (to be performed at the 5 districts), Training of Teachers on WATSAN Sector, Master Mason Training for Woman , Design, Implementation and maintenance of Spot sources of PWSS, Pilot project on Solid & liquid waste management and documentation of result, Orientation of DPE, JE, TRP of SSA on WATSAN Facilities of School.

In the study, it has been reported that though capacity building was attempted on water and sanitation by PHED as well as under NBA but still there is a gap on sustainable capacity building to translate the same in behaviour change.

Capacity building programs will be required for communities particularly the scheme beneficiaries to monitor and prudently use their water resources. Sustainable service delivery mechanisms will be a central feature of the program, with State institutions or Zilla Panchayats implementing and managing large multi-village schemes, delivering bulk water to villages in water stressed areas, and GPs implementing and managing in-village and intra-Panchayat schemes.

The strategy highlights monitoring and surveillance, service agreements with operators, convergence of different development programs and building a professional capacity at all levels. There is also a potential for increase in job opportunities related to plumbing, maintenance etc.

6.5 Development of a Capacity building strategy

Development of a capacity building strategy and plan is based on the above assessments. The capacity building plan for building capacity in sector institutions and PRIs will include:

Who will be trained	Capacity building content	Capacity Building methods
State level stakeholders	Orientation to SPMU stakeholders on Community driven development (CDD) approach -	<ul style="list-style-type: none"> ✓ Sensitization workshop ✓ manual preparation and training on using the manual
	Convergence of programmes - integrated approach to WATSAN	<ul style="list-style-type: none"> ✓ Interdepartmental workshop and manual
District level stakeholders	Orientation to stakeholders on Community driven development (CDD) approach - the district PHED officials acts as guiding principles to the community ,	<ul style="list-style-type: none"> ✓ Training of Trainers (ToT)
	Institutional set up in the context of RWSS and roles and responsibilities	<ul style="list-style-type: none"> ✓ Training of Trainers (ToT)
Gram Panchayat	Orientation to stakeholders on Community driven development (CDD) approach	<ul style="list-style-type: none"> ✓ Orientation workshops
	Participatory Planning process	<ul style="list-style-type: none"> ✓ Training ✓ workshop and intensive IEC on issues i.e. Gram Sabha, participatory planning approach, sensitization of newly elected PRI body on Panchayat Act, Rules and Regulations with a focus on Community managed Water system
	Integration of water and sanitation with existing schemes and programmes	<ul style="list-style-type: none"> ✓ Training and case sharing
	Details roles and responsibilities of stakeholders at Block, GP, Village and scheme level	<ul style="list-style-type: none"> ✓ Training and Manual
	Motivational training for GP members to ensure participation of all villagers including Tribal population	<ul style="list-style-type: none"> ✓ Motivational workshops
Other stakeholders	NBA Coordinator, district and Block level, Sanitary Mart personnel and other stakeholders	<ul style="list-style-type: none"> ✓ Trainings
GPWSC and VWSC	Community mobilisation techniques for generating community contribution	<ul style="list-style-type: none"> ✓ Training ✓ Field orientation ✓ Case study sharing
	Participatory monitoring mechanism	
	GPWSC set up, formation, Registration formalities	
	Management of GPWSC	
	Integration with VWSC	
	Community level monitoring system in the implementation phase	

Who will be trained	Capacity building content	Capacity Building methods
	Social audit	
	Proactive disclosure	
	displaying board at the Pump House on details of water discharged and water quality report	
	community mobilization techniques for generating community contribution	
	Grievance redressal mechanism	
Scheme level functionaries	Advocacy skills for demanding services	✓ Training
	Conflict resolution skills	
	Negotiation skills for negotiating project benefits services and access	
	Planning design and implementation of WATSAN activities	
	Community contracting for petty repairing and services through SHGs	
	Water quality testing, sample collection techniques etc. involving grass root workers i.e. ASHA	
User Committee	Formation of User Committee as per Year 1995 rules, explaining the rule and bye Laws	✓ Training ✓ Development of Manual
	Registration of User Committees	
	Water audit, water budgeting	
	Fund management, maintenance of Books of Accounts and record keeping	
	Pump operation	
	Recharging ground water	
Women in general, women's groups and women stakeholders	Role of women in User Committees	✓ Sensitisation workshops
	ASHA, ICDS, SHGs on WATSAN issues	✓ Manual, Posters, Flip Charts ✓ Training
	Safe WATSAN practices	✓ Training
	Technical inputs for O & M	✓
Community level identified youths	Gender sensitization	✓ Workshops
	User committee norms on gender representation	✓
	Technical training on Masonry , Plumbing , Electrical Repairing, O & M	✓ Training
		✓
		✓
	Community mobilization	✓ Training Workshops
	Community contracting issues	✓ Training and Field Exposure
Safe WATSAN practices	✓ Orientation programmes	
All stakeholders	Gender issues for ensuring required number of participation of women and	✓ Gender sensitization workshops

Who will be trained	Capacity building content	Capacity Building methods
	ensuring active participation	

Programmes would be participatory in nature and field oriented .Resource persons would be engaged for the job. Also, specific institutions need to be identified for carrying out the capacity building. Different institutions will be identified, with the possibility of an institutional linkage mechanism, including some institutions outside the State / country. Workshops and exposures will be planned as capacity building initiatives. Budget will also be indicated in the training plan.

6.6 Execution and evaluation

Execution and evaluation will involve delivery according to the training plan and evaluation based on the performance indicators drawn through a participatory exercise and included in the monitoring and evaluation chapter.

C) COMMUNICATION STRATEGY

Chapter 7: Communication Strategy for Rural Water Supply Sanitation Project in Assam

It must be recognized that the success of water and sanitation projects depends to a large extent on effective and meaningful communications designed under a strategic framework. Strategic communications approach is social process of dialog, negotiation, and consensus building through the use of a variety of methods and community, mass and interpersonal means of communication, as well as traditional and alternative modes. The framework seeks to foster social, political, and institutional changes at different levels by building trust among implementers and the users, promoting a two-way communication, exchanging knowledge and skills for a sustainable change in both availability of services and behavior that is consistent with fact on the ground. It is worth mentioning that the best technically designed infrastructure projects can fail or have weak results if decision makers and the beneficiaries are not duly consulted, informed and mobilized.

The approach to communication strategy design in the context of the RWSS programme has traced the following steps:

- Defining the Communication Objective
- Profiling of target group
- Gap or need assessment
- Review of Government Initiatives or inventory assessment
- Communication strategy Development
- Monitoring and Evaluation

7.1 Communication Objectives

The overall objective of the project is to provide Tap Water connection and Sanitary toilet facility to Households, with community participation along with O&M cost sharing at 24x7 services level in the quality-affected, least service level areas, where most of the existing schemes have crossed the design period. Therefore the key communications objective is to facilitate the overall objective of the project by raising awareness of the importance of safe drinking water and proper sanitation and resulting in increased demand for piped water services and toilet facilities resulting in behavioral change.

Key Objectives

- Initially, Create the demand for piped drinking water 24*7 in the quality-affected, least service level areas through active participation of User Committee, PRI and Gram Panchayat Water Sanitation Committee
- Create increased knowledge on the importance of sanitation and hygiene and their health implications with rising population generating demand for sanitary toilets
- Generate media interest to promote visibility and sway public opinion on WATSAN
- Increase public demand for quality drinking water and sanitation services through community mobilizations

- Promoting safe hygiene and sanitation behaviors and practices the at household level

7.2 Target Audience

The success of the communication strategy will be partially gauged by its ability to create awareness and knowledge related to need for safe drinking water and proper sanitation. It must be also admitted that the increased awareness is, however, not a means in itself but rather a stepping stone towards behavior and policy change. Additionally, an increasing visibility will keep the issue firmly in the wider spotlight to address the need for political commitment. Hence, it is important to fully understand the key stakeholders as well as to define the audiences as specifically as possible to contextualize and address the stated objectives and needs as above. Well defined audience segmentation allows for better designed, more focused and more effective messages. In the context of above objectives the audience may be profiled as primary, secondary and tertiary (illustrated in Table 1 below)

Table 7.1: Primary, Secondary and Tertiary Audiences

Stakeholder Group	Members
PRIMARY AUDIENCE:	
Households (HH)	1. Head of the family, Women and children of the quality affected populations in 7 district of Assam
SECONDARY AUDIENCE	
Village, block and district level functionaries of PHED/WSSO and inter-related departments (including Civil society organizations)	1. Panchayti Raj Institutions (PRI) 2. User Committees (Jal-Pani Samiti) 3. Gram Panchayat Water and Sanitation committee (GPWSC) 4. Village Health and Sanitation Committee (VHSC) 5. Schools Children and Youth groups (NYK) 6. Frontline health workers (ASHA, Anaganwadi, ANM) 7. School teachers etc), 8. Members of CBOs (i.e. SHG's and local level NGOs)
TERTIARY AUDIENCE	
Policy makers, media and civil society organizations	National Governments, State Governments, Local and regional Media, MLA, MP Governments & senior civil servants (Ministers, Secretaries, Directors, members of policy task forces/ committees) Local government authorities NGO's/INGOs, UN agencies /Bilateral agencies

7.3 Situation Analysis

Effective communications is recognized as a vital tool throughout the **World Bank Assisted Rural Water Supply & Sanitation Project in Assam**. Therefore, even before embarking on the design of a communications intervention, there was a need to be an analysis that investigates the key actors, means of communication and as well as local capacities for implementing strategies and communication plans, identifying existing social networks, institutions and the participation of the beneficiaries. Posing questions about communication during the early stages of design served the purpose of anticipating future difficulties and

facilitate the participation of the actors in the analysis of the situation and in the definition of objectives. In designing any communication strategy and selecting the most effective media combination, it is significant to recognize the reach of different types of media, media exposure pattern of different target groups, and the challenges in reaching target audience belonging to the most disadvantaged groups.

Key Analysis

Based on the Field Survey work, Interactions with Institutional Stakeholders, Audience Analysis, Communication Needs Assessment and Institutional and Inventory analysis the following qualitative and qualitative feedbacks are obtained.

The IEC strategies of the PHED in the last two years focus more on making the communication strategies more comprehensive. While the mainstream media from viz. print, TV and radio are included to cater to the general masses, there were strategies proposed to reach out more effectively to the masses residing in remote areas. State and district level awareness program were carried out through IPC, leaflets, wall paintings, mela etc. in the local language of either in Assamese or Bengali. Awareness programs on WATSAN in proposed districts were also carried out by the different stakeholders including local members of Panchayat, government officials and NGO's. These IEC materials were developed and disseminated in Assamese and Bengali. At the community level awareness PRI's, VHSC, GPVWC, NGOs were engaged to awareness programmes for the orientation on safe water and proper sanitation with the use different medium folk media, IPC etc

Key IEC strategy of PHED include:-

- Inter-personal communication (door to door contact)
- Audit-visual publicity
- Hoarding and wall writing etc.
- Slogans, picture frames, group meetings, street play, and exhibition etc.

Information, Education and Communication (IEC) are important component of the PHED's programme. These intend to create demand for safe water and sanitary facilities in the rural areas for households, schools, Anganwadis etc. The activities carried out under this component should be area specific and should also involve all sections of the rural population, in a manner, where willingness of the people to demand safe drinking water at households and construct latrines is generated. IEC is not a one-time activity. IEC strategy and plan have to be implemented not just to create demand but also for use, maintenance and up gradation, so that sanitation and hygiene become an integral part of rural life and thereby sustainable.

Channel of Communications

The channel of communications selected depends on both the target audiences that have to be reached out to as well as the message content. Typically, an assortment of channels is used to reach out the target audiences for maximum impact. Getting the correct media mix is crucial importance.

Mass Media (TV, Radio and Print Media)

The mass media are diversified media channels and technology that are intended to reach a large audience by the use of radio, Television, music and CD etc. It has great mass appeal as it is seen as a credible means of information and entertainment by masses. It brings

through images, pictures, videos that create inspirational values in the mind of viewers. It has enormous power to bringing about awareness on an issue. However, poor content and treatment can often cause serious misconceptions.

Similarly, print media also has great reach, but is restricted to literate segment of the target audiences. It constitutes newspaper, magazines, reports and best practice books etc.

In the context of Assam TV, Radio can certainly be effective channels to educate and entertain general as well as specific audiences of 7 districts in the proposed World Bank assisted RWSS scheme. However, community radio program in these districts can sought to bring sustainable impact by involving them in producing messages in their local culture and language. It must be also noted that Cable TV and CD's with songs and drama can also be used to generate need for safe drinking water and proper sanitations in Haikandi and Bogaigaon.

Folk Media

Folk media has great acceptance among target audiences and can be greatly tailored to suit programme/audience needs. This medium has huge potential in bringing about behaviour change as the product of communications through this form is close to audience allows two-way communications with target audiences. However, it is extremely challenging to conduct and monitor the quality of production.

Outdoor Media

The outdoor media is in the form of hoardings, paintings, bill boards, posters and wall painting etc,. This media creates the visibility around the key messages and the project. It works as recall and reminder to the target audiences. Outdoor media could be used during the course of communications intervention; however monitoring the quality is very difficult.

IEC materials

IEC materials are not often seen as separate channel of communication but greatly facilitate communicating specific thoughts and ideas. Poster, Banners, leaflets flipcharts, games and activities, CD's all help in attracting target audiences and creating enabling environment.

Interpersonal Communications

Interpersonal communications (IPC) provides a feedback oriented two way communications among target audiences. This is most effective as it clarifies doubts and queries. Specific and detailed messages can be provided which is not feasible to provide with other channels of communications. Literacy, technology and language are also not the bar therefore potentially most effective in bringing about and sustained behaviour. The flip side is that it is time consuming depends heavily on the skills /knowledge of the communicator. IPC by health workers, PRI members and other facilitators would be the key to the strategy as a great deal of IPC activities are envisaged through them. The Table 2 (below) in the context of proposed district of Assam IPC has the largest reach and most preferred mode of communications.

According to the findings from the (Table below) of the Out of the total sample of 2000 respondents in all the districts, majority were using at least one form of media (Media covered were TV, Radio and Newspaper) which indicated a strong presence of media and its use in these districts. An assessment of the effectiveness of media showed that majority

of people found TV 'very effective' in imparting information and in educating masses. Majority of people in Jorhat and Morigaon and Kamrup held the same opinion for TV programmes. However, majority of the respondent (74 %) preferred the interpersonal source i.e information shared through Panchayat as preferred mode of communications.

Table 7.2: Preferred communication channels

Districts	Radio	TV	IPC (through PRI)	IPC (through government workers)	Others (Ngo's, friend, internet)
Bogaigao	1.67	9.58	70.83	22.50	8.75
Hailakandi	0.56	5.56	90.00	7.78	3.33
Jorhat	2.22	32.22	61.67	8.89	11.67
Kamrup	1.67	36.67	72.22	1.67	11.11
Morigaon	7.22	23.89	77.22	11.67	6.67
Sibsagar	3.59	7.69	72.05	17.44	8.46
Sonitpur	-	5.00	79.58	16.67	5.00
Grand Total	2.45	15.22	74.47	13.58	7.86

Out of the responses in e majority has had an exposure to awareness messages on MGNREGS programme as presented in Table 7.3.

Table 7.3 Exposure to awareness messages on programmes

District	MNREGS	SSA	NRDWP	Sanitation	Hygiene	Responded Yes
Bogaigaon	81	25	1	1	3	111
in %	72.97	22.52	0.90	0.90	2.70	100.00
Hailakandi	30	58	1	2	1	92
in %	32.61	63.04	1.09	2.17	1.09	100.00
Jorhat	52	65		3	1	121
in %	42.98	53.72	-	2.48	0.83	100.00
Kamrup	49	65	19	28	1	162
in %	30.25	40.12	11.73	17.28	0.62	100.00
Morigaon	26	83		9		118
in %	22.03	70.34	-	7.63	-	100.00
Sibsagar	91	93		6		190
in %	47.89	48.95	-	3.16	-	100.00
Sonitpur	103	15			1	119
in %	86.55	12.61	-	-	0.84	100.00
Grand Total	432	404	21	49	7	913
in %	47.32	44.25	2.30	5.37	0.77	100.00

The Table 7.4 shows maximum number of door to door campaign took place in Sibsaagar. In case of handbill distributions Kamrup and Hailakandi are in a comparable position. The data also shows that in Hailakandi street corners or meetings happened in greater number.

Table 7.4 Details of comparable modes of communication

District	Door to door visits	Distributions of handbills	Wall posters/ wall writing	street corner meeting	Huge rallies/ public meeting	Others	Total Respondents in the District
Bogaigaon	159	9	17	15	90	8	240
in %	66.25	3.75	7.08	6.25	37.5	3.33	100
Hailakandi	161	23	31	51	39		180
in %	89.44	12.78	17.22	28.33	21.67	-	100.00
Jorhat	154		5	10	16	1	180
in %	85.56	-	2.78	5.56	8.89	0.56	100.00
Kamrup	134	10	29	11	16		180
in %	74.44	5.56	16.11	6.11	8.89	-	100.00
Morigaon	133	1	39	7	15		180
in %	73.89	0.56	21.67	3.89	8.33	-	100.00
Sibsagar	341		23	11	22		390
in %	87.44	-	5.90	2.82	5.64	-	100.00
Sonitpur	209		9	27	27		240
in %	87.08	-	3.75	11.25	11.25	-	100.00
Grand Total	1291	43	153	132	225	9	1590
in %	81.19	2.70	9.62	8.30	14.15	0.57	100.00

The sample respondents read the Newspapers; the most read news papers are “Ajir Assam”, Dainik Assam”, “Pratidin”. The mostly viewed channels are DD Assam, Rang, Neweslife etc. According to **NFHS-3 data**, about 56 percent women and 73 percent of men were exposed to any mass media: newspaper, radio, or television. Though the baseline analysis shows, in rural Assam, reach of mass media is quite limited, particularly among non-literate and poor women, who constitute the majority of target audience. The Interpersonal communication (IPC) with health workers and user committee members (wherever existent) better as majority of respondent have met an such workers to discuss water/ health-related issues; however, the FGD and Public Consultations study shows both content and quality of counselling was poor.

Analysis of the Focus Group Discussion-s

FGD conducted in all the study districts and the findings of the Focus group discussion suggest that Bihu” is perceived as the main festival celebrated 3 times in a year. Usually no external artists participate in the festival. No specific musical instruments are used. MrSarad Singh (Former Politician), Late Dr. Bhadan Nath (Writer) and Human Barbobhi (Writer) are the Key folk ideal in villages of Sonitpur. However, “Jubin Garg” and “Krishna Mani Sutya” are most popular folk artists in the area. Bihu dance is main folk art in the area..Some of the famous artists in your area Chetan Das (Comedian), Jatin Bora (Cinema Artist) , AnguriLata (Cinema artist) and Purbi Sharma(Cinema artist). Some religious speech is given by saint & guru and devotional singer like “Nagera Nam” is very popular for singing in Sonitpur , .Morigaon, Kamrup, Bongaingaon. Jubin Garg” and “Jayanta Hazarika, Pratima Pandey

and Usha Sarkar are most popular folk artists in the area. Bihu dance and Jhumar dance is main folk art in the area of Sibsagar, Jorhat districts. “Jubin Garg” and “Abdul, Sabina Ali, Usha Sarkar, Srauddin, Pratima Pandey, RameshwarPathak are most popular folk artists in the area. BIHU dance is main folk art in the area of Hailakandi

The Village Level Committee & Panchayat members are generally involved in mobilizing the people for common gathering. All the schemes and programme messages are disseminated by Panchayat members personally (IPC). Village level committee also involve sometime for conveying messages in village. However, only wall writing/ hoardings/posters related to Drinking water and sanitation are seen occasionally in the village. Television is very popular medium of that appeals the villagers of Sonitpur most and a Local channel News Live & Rang is very popular in the districts. The Villagers recognize the significance of WATSAN messages in changing the attitude or behavior of community

The observations of Focus Group Discussions (FGD’s) and the Public Consultations held in all 8 districts with stakeholder’s particularly in Hailakandi and Bongoigan show, while some focus of awareness is on NREGA and SSA, and still less on issues of safe water, hygiene and sanitation education; only one or two agencies address them all. IEC continues to be a vertical program, campaigns are short, and few institutions have integrated BCC in their programs. No rigorous evaluations have assessed BCC campaigns “impacts and most districts work in isolation with little or no sharing with other actors. Mass media is often the main BCC vehicle, with little interpersonal communication (IPC) or efforts aligning and reinforcing messages. Each district develops its own package of messages and IEC tools with little standardization of themes.

Analysis of the existing communications intervention and role of WSSO

WSSO works is an institutional arrangement under PHED to carry out IEC, social mobilization and human resource development activities to achieve the following goals:

- To develop state specific HRD and IEC strategy for reform initiatives in water and sanitation Capacity development of stakeholders at all levels.
- Networking with Government agencies, NGOs, CBOs, for social mobilization.
- Take up evaluation studies, impact assessment studies, R&D activities and share the finding
- Take up MIS and computerization programmes, GIS mapping and online monitoring systems, including those for water quality monitoring & surveillance

Key messages suggested as per the guidelines of the GOI (under NRDWP):

i) Use of safe and clean of drinking water	x) Water handling
ii) Judicious use of drinking water	xi) Wastewater and solid waste management
iii) Avoiding wastage of water	xii) Sustainability of water sources though various technologies
iv) Rainwater and rooftop water harvesting, recharge of ground water	xiii) Hygiene behavior
v) Reuse and recycling of water	xiv) Water quality & testing
vi) Protection of drinking water sources	xv) Gender specific water issues
vii) Involvement of Panchayats and community	xvi) Water resources and treatment
viii) Formation of VWSCs with women and	xvii) Operation & Maintenance of water systems

SC/ ST/ minority members and it's capacity building ix) Water borne diseases	xviii) Management and planning of water services xix) Low cost technological options xx) Safe water in schools and anganwadis xxi) Equity issues (SC/ ST/ minorities) xxii) Cost effectiveness of various options
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In the last year budget (2011-12), about Rs. **326.14 (in lakhs)** was allocated for communication activities. It was mostly spent on printing modules and books for training, printing advertisements in newspapers, TV and radio spots, printing pamphlets and posters.. In the current PIP (2012-13), Rs. **585.02 (in lakhs)** has been allocated for IEC/BCC activities (WSSO 2012-13). In a recent study in Assam information was collected from WSSO on the availability of educational materials or leaflets for distribution. The key stakeholders to have received these communications /training material includes the PRI', GPWSC and in in certain cases the members of User Committee. Almost of the User committee/ PRI/PHCs/ICDS etc surveyed did not have any Information, Education and Communication (IEC) materials either for its beneficiaries or service providers. Wall paintings informing about RWSS were hardly observed. However, in only a few the schools/ICDS/PRI surveyed, information/chart on services available was displayed. It was learnt that no relevant communication materials on sanitation and hygiene education exist for use at the village level. The material that was said to be present are leaflets and posters produced by the PHED. Also, very little effort is done at the advocacy level and there is need to enhance this.

However, the observation and findings from districts clearly show there is no post or person responsible for IEC/ BCC at district or block level. District Water and Sanitation Commission however at the district level does conduct occasional campaigns on an ad-hoc basis. It must be noted that SWSC (WSSO) usually not asks nor do the districts report on any IEC/BCC activities. There is no separate activity specific budget allocation. The district budget is provided based on the area or need for specific activity. WSSO at the district level is instructed by the state WSSO office to use the budget for IEC/BCC, for activities allocated by them.

It must be however recognized that UNICEF supports the WSSO in developing their communication capacity. For the WSSO UNICEF supports the hiring of the consultants (Communications and Training).However, the consultant's position is vacant presently. The Consultant is required to support the WSSO in developing communication materials (posters, leaflets, wall paintings, hoardings, tin plates, bus panels, etc.), pre-testing them, finalizing them and developing specifications for the reproduction of these materials. The state training Consultant is required to help develop a State specific Training strategy and material, facilitate training of district level stakeholders, support training of user committee, PRI's, GPWSC and health workers like (ANMs and ASHAs) for building their IPC skills, preparing district wise communication plans and guidelines for their implementation, planning and monitoring communication activities at the district and sharing the status of implementation of communication activities.

Key findings

- The respondents could not recall any effective message on WATSAN. Only 30% vaguely tried to recall.
- The household level survey revealed that whatever awareness is generated on various social issues that mainly happened through Interpersonal Communication
- The persons who could recall some of the visuals were on Sarva Shiksha Abhijan (SSA) and Mahatma Gandhi NREGS.
- Within the village the respondents have seen posters mainly on MGNREGS, SSA and to some extent NBA
- It is evident from the findings that majority have exposure and non exposure has been more or less uniform except in Jorhat, Kamrup where nearly 70% and 90% have seen posters or other means of communication. In general larger percentages have had an exposure.
- Low levels of awareness and misconceptions of the scheme including fears that the scheme may result in increased cost of water, most poor people lacking access to water,
- Most of the people who are aware of upcoming schemes are generally positive about them.
- Relatively high dissatisfaction with current performance of water and sanitation services.
- Relatively low customer understanding of the need for responsible use of safe drinking water and accountability for payment of water consumption.
- Low conservation practices at community level, although the majority of the people believe that
- Water conservation is important, and they recognize their role in managing water resources.
- Low understanding of proper sanitation and hygiene practices and the link between adequate water and sanitation and the health and wealth of the nation.
- Poor overall coverage of water and Sanitation issues by the media

Gap/ Need identification

Gaps have been identified at the beneficiary level as well as the service provider level

At the beneficiary level the following points emerged:

- Low levels of awareness and misconceptions of the scheme including fears that the scheme may result in increased cost of water, most poor people lacking access to water,
- Low conservation practices at community level, although the majority of the people believe that
- Low understanding of proper sanitation and hygiene practices and the link between adequate water and sanitation and the health and wealth of the nation.
- Poor overall coverage of water and Sanitation issues by the media
- Mass media approaches and reach is very poor

At the service provider level following issues emerged:

Based on the available data, discussions with diverse informants at different levels, and our field level observations indicate that the present, WSSO is not in a position to reach all of its target audiences or implement an integrated comprehensive communication strategy.

- The IEC activity is mostly dependent on mass media and a major portion of the budget goes into giving advertisements in newspapers and radio or TV spots.
- The planning, training and effective implementation of inter Personal Communications (IPC), which may be emphasized in the communications strategy (and mass media to support and reinforce the messages), faces several challenges due to lack of understanding in the approach and required human/technical resources .
- Most health/ PHED workers lack communication skills and do not have user-friendly counselling tools and technique to be used when meeting families.
- Use of mobile phones preloaded with information appears to be an innovative approach for developing and strengthening both counselling skills of health workers and providing them with counselling tools. This may be explored.

Given the fact that reach of mass media is very poor in rural areas and worse for women, the impact a newspaper advertisement or messages from radio/TV would having is questionable. On the other hand, health workers reservation and limitations to serve the most disadvantaged groups seems to continue. To reach all intended audiences and create demand for services, other change agents and social platforms provided by other departments need to be explored and utilized. While adding with a minimum number of trained human resources at the state level, and operationalizing the WSSO at district level, are essential steps, the health system also needs to address barriers to strengthening existing IEC activities, with better supportive supervision of community mobilizers, monitoring their performance using measureable indicators, providing checklists to water managers to help their monitoring work, and providing minimum travel and mobile phone recharging costs.

7.4 Strategic design

Five important aspects must be understood when conceptualizing the framework for developing a communications strategy for this WATSAN project. First, WSSO has to take the lead role in bringing about desired awareness, knowledge and practices. For that, urgent actions are required for revamping the WSSO and related human resources at all levels. Second, WSSO is not the only department responsible for IEC activities related to the WATSAN sector. Other programs and departments such as the ICDS program of the Social Welfare Department and NRHM program of Health and Family Welfare department also have program objectives of promoting safe drinking water and healthy hygiene practices. While PHED manages provision of supply of safe drinking water, proper sanitation at households and in the community, the ICDS and PRI promotes healthy practices related to hygiene and health program under other programs of Government. A convergence of message and concerted effort may yield better impact. Communications strategy implementation should be a collective responsibility of all departments whose programmatic achievement of goals is contingent on adoption of healthy practices and sustaining them for long enough to make them community norms. Fourthly, Strengthen existing WSSO at state,

district, and block levels by hiring IEC/Training experts and conduct advocacy and social mobilizations activities at state level. Finally, communication always requires innovation at the level of the communicator. The simplest of messages needs to be understood, given a local context or meaning as it is expressed. Also, most field persons realise that when we approach people with a specific message to have a discussion, the discussion is likely to extend to other areas of health and hygiene.

Key communications approaches to be applied in the project

- Use multiple channels to disseminate and reinforce message
- All the messages shall be specific to the need of well defined target audiences and stakeholders
- It would build skills and provide with the tools required by the implementers and beneficiaries of the project to meet its objective
- Build a supportive environment (through Advocacy) that help generate demand of safe drinking water and adopt better hygiene practice

The Strategy

This framework is intended to provide guidelines for communication and advocacy strategy development at the state, district, block, Panchayat and households level. Although the framework has been divided into distinct phases which build upon each other and some may even overlap, state level implementers (in this case WSSO) should be aware that communities are not homogeneous and not everyone is at the same stage of knowledge, attitude and behavior. For instance, there are individuals in the communities that are not aware of the importance of safe drinking water and practicing key sanitation and hygiene behaviors, whereas or others could be aware but not doing anything and others could be in the process of adopting some of the desired practices. Similarly, many might be aware of the need for healthy behavior but the services were not available to facilitate their practices. Therefore, it would be important to first analyze and understand in which phase individuals or communities are before communicating with them.

Based on the above assumptions, the strategy has been purposely divided into distinct phases to facilitate strategy design and implementation at the macro level in a logical sequence. However, when working at the micro level i.e. at the level of individuals/communities, the above-mentioned element of understanding which individual / community is in, needs to be taken into account to make the communication more relevant to their needs.

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- **Communication for Raising Mass Awareness**
- **Advocacy**
- **Social and Behaviour Change**
- **Strengthening Behaviour and Practices to Enhance Supply**

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Phase 1: Communication for Raising Mass Awareness

The intended audience for the strategy is both large and diverse. The purpose of a targeted awareness raising is to ensure that the stakeholders are informed of the issues surrounding provision and importance of safe drinking water supply and sanitary toilets. In addition to the supply of quality water, the strategy will also focus on importance of active participation of user committee in collecting tariff, O & M functioning proper hygiene and sanitation through behavioral change and healthy practices using evidence, capacity building and policy influencing. The communication strategy therefore must employ a wide range of products, communication approaches and dissemination that serve the particular needs of the intended audience. The awareness campaign will raise awareness about importance of safe drinking water and proper sanitation. Behavior change will come at the end of a longer and more complex communication strategic process.

The strategy for the awareness campaign includes a varied set of communication mechanisms. While each is distinct and serves an individual purpose, they are inter-related and together form a holistic package. Examples of a range of awareness building products/approaches are summarized below:

- **Media Interface**– Journalists and local media will be informed about the upcoming project and its significance. The communication package consists of human interest stories, fact sheets, photo essays and stand-alone pictures on the importance of safe drinking water, roles and responsibility of user committee in collecting tariff and O &

M functioning and demand for proper sanitation. The package creates awareness among all stakeholders on safe drinking water and sanitation and its health implications. A resource CD containing photo images and graphics on status of water and sanitation for easy replication will be included.

- **Local Fair or Festivals-** Village fairs, which are held frequently in villages, provide a good opportunity to interact, inform and entertain the households towards the need for safe water and proper sanitation. This could provide with an opportunity to interface with various stakeholders on the upcoming project. Folk songs and dances may be used to create awareness about the project by info-tainment.
- **Public Consultation-** Public consultation is a regulatory process by which the public's input on matters affecting them is sought. Its main goals are in improving the efficiency, transparency and public involvement in large-scale projects. It usually involves notification to publicize the matter to be consulted on. The consultation is two-way flow of information and opinion exchange) as well as participation (involving interest groups in the drafting of policy or legislation.
- **Human interest stories** – Human interest stories are a powerful medium to communicate and provide a human face on hygiene and sanitation and how it impacts communities. Stories can also generate media interest and can be targeted to specific media outlets and modes of communication. This will be a continuous process with a target of one story each month using evidence from the field to also address policy makers and implementers.
- **Audio-visual communication** – Video packages can be used as advocacy tools and can also serve to generate media interest. Partnerships with key media (in print, radio, television and internet) should be leveraged to need for piped water household connections which promotes need for safe drinking water, proper hygiene and sanitation issues over the duration of the campaign.
- **Process documentation** - Four distinct process documentation products will be developed: 'Good Practices', 'Lessons Learned', 'Innovations', and 'From the Field.' The focus will be to choose one or two particularly valuable examples on safe drinking water facility and proper sanitation. The write-ups need not represent an entire intervention or programme e.g. an overall programme may not be completely successful but there may be valuable lessons and good practices in a particular component. The process documentation is an important component of monitoring and evaluating the strategy.
- **State level Celebrity Spokesperson** – A state level celebrity spokesperson could be identified to promote the campaign. The spokesperson needs to be someone of national stature who will be comfortable talking about the issue and recognized at all levels of society. The spokesperson should also be available for the duration of the campaign.
- **Public consultation and Government Spokesperson and Experts** – There must be a government spokesperson who will be available for comment and get back to journalists in real time so that they can meet their deadlines. A mobile telephone number should be made available to the media and comment on the record given out. A roster of experts should be developed as a resource for media available for interviews, television or radio appearances and media workshops.

Certain products are intended for broad dissemination, such as brochures or leaflets and will be written in a style that will enable widespread understanding. Other products, such as thematic briefs or process documentation are intended for an audience that already has a good understanding of the issues and who desire more substantive and sophisticated analysis. As a general principle, however, all publications will be written using a plain and straightforward style and translated into local languages.

In all cases, however, these products will be based on solid experience and/or evidence to raise awareness and stimulate interest as an essential precursor for change. Materials will be pro-actively pitched to the media to disseminate messages to the wider public.

Phase 2: Advocacy

The purpose of the advocacy strategy is to mobilise government, donors, international organisations, civil society, implementing agencies and other stakeholders to strengthen support for the supply of safe drinking water and sanitation programming and policies – translating commitments into concrete actions. The advocacy strategy builds on the platform created through communication but is intended to influence the attitudes and behavior of key identified decision-makers.

The Partnership will target social and behavioral change communication at the user community. In addition it will focus much of its advocacy work around leaders and decision-makers, within governments and influential bodies, and constituencies who can assist in this drive for change, such as civil society, the media and communities.

This approach aims to encourage partners to speak with one voice regarding access to safe drinking water, roles and responsibility of user committee in collecting tariff and O & M functioning sanitation and hygiene. This approach focuses on influencing existing programmes, development initiatives and agendas to strengthen the position of sanitation and hygiene within country.

Phase 3: Social and Behavior Change

The next phase (which will complement the above phase, as already mentioned) will aim specifically at promoting behavior change around safe drinking water, water quality testing, judicial use of water, roles and responsibility of user committee in collecting tariff and O & M functioning and total sanitation. In order to be successful, the behavior change strategy will need to make sure a high level of awareness and understanding among the broader public has been achieved and that a supportive environment has been created to support change. This often means challenging existing norms and mobilizing communities and opinion leaders in support of change. Potential influencers to motivate communities could include in-laws, peers, frontline workers, User committee, VWSC, *Gram Panchayats*, religious leaders, teachers and students and District Magistrates.

Demand needs to be created for basic services in the water and sanitation sector. Communities need to know their rights and entitlements. When not addressed by service providers, mechanisms need to be put in place to meet community demand. Enhancing demand presupposes a level of awareness and empowerment that allows stakeholders at the local level to seek information and follow-up with action whenever that demand is not met.

Key Channels of Communications

Interpersonal Communication (IPC)

Training frontline workers and community leaders such as PRIs, religious leaders etc. to communicate effectively on benefits associated with safe drinking water and proper sanitation and hygiene can increase knowledge and understanding among family members

on the importance of sanitation and hygiene. Interpersonal communication should make effective use of existing social networks or interpersonal relationships (family, friends, acquaintances, neighbors and colleagues) that bind people together to enhance the communication process. IPC is a key tool in the drive for not only increasing awareness about safe drinking water, water quality testing, judicious use of water, roles and responsibility of user committee in collecting tariff and O & M functioning, proper sanitary toilets, its construction and usage.

Suggested Interpersonal Communication Activities

- Conduct face-to-face and small group counselling sessions to negotiate and discuss:
- Traditional beliefs and practices that might prevent families from access to safe drinking water and adopting toilets or hygienic practices
- Link between access to poor drinking water and unsanitary practices and diarrhoea and other illnesses
- Toilet options and subsidies
- Train frontline workers to improve interpersonal communication skills, in particular in counseling/negotiation and storytelling.
- Strengthen interpersonal communication skills among community volunteers so they can give information and counsel effectively during home visits.
- Produce a health education tool box for frontline workers.
- Organize community volunteer-led home visits, small group educational meetings, and other interpersonal communication activities.

Community Mobilization:

Most effective in rural settings, where communities form closely intertwined units and if supported by opinion leaders and other influential sources, change can be effectively introduced from within, making it stronger and more sustainable. Frontline workers can also play an instrumental part in promoting the mobilization in favor of certain practices. The limitation of this approach consists in the time needed and the difficulty in ensuring quality control given the huge number of communities in India.

Suggested Community Mobilization Activities:

- *Activate social networks* (user committee, VWSC, community leaders, volunteers, women groups) and encourage peer communication to reach remote areas in order to disseminate information about the benefits of clean drinking water sanitation and hygiene.
- Train community leaders in facilitating public educational talks and dialogues in their communities about safe (Household supply through pipe) drinking water, sanitation and hygiene issues.
- Promote and implement participatory planning processes to involve local stakeholders in supporting key interventions.
- Reinforce information given through other channels at religious gatherings

Social Consultation (an integral part of Community Mobilization):

These are open meetings, both at community or block level where some of the key stakeholders can participate and consult and discuss with stakeholders above the new

practices and behaviors. Here no messages are imparted, but rather themes are raised and knowledge is shared about what will the adoption of the proposed behavior imply and also what are the implications if those changes are not adopted. This approach aimed at having stakeholders face the issue themselves and realize the need to change. Once this happens they will become agents of change providing valuable support to the overall intervention.

Mass Media (in support of community level activities)

Although there are several media dark areas in the country including those in the proposed districts in Assam, there has been rapid progress towards increased TV and radio coverage and penetration. In this strategy mass media is expected to provide the type of support that has been extensively documented in public health. It can:

- Support community mobilization and interpersonal communication efforts.
- Promote specific behaviors through multiple activities and products such as radio and TV public service announcements, radio and TV magazines, and radio and TV shows.
- Enhance the credibility of non-professionals such as community volunteers as reliable sources of information and services.
- Convey important logistical information easily, e.g. about where applications for toilet construction can be submitted.

Suggested Mass Media Activities

Promote demand for safe drinking water / sanitation and hygiene issues on radio and television using drama, TV-Radio PSAs and magazines

Multi-Media Campaigns

According to the context, the stakeholders and the resources available, a mix of different media will be used to sensitize on key aspects of the TSC and promote key behaviors. The media to be used can range from the more common ones, such as television and radio to more innovative ones such as mobile phones as well as traditional ones, such as folk arts and theatre. Literature review shows that a mix of media is generally more effective in producing the intended change.

Entertainment-Education (E-E)

The most important element in any form of communication is that it has to appeal to the recipient. The make or break of any communication lies here. The more aesthetically appealing and engaging the communication is, the higher the chance of its acceptance by the recipient. Often, subtle hints, rather than overtly detailed and 'clinical' communication serves the purpose better.

E-E Operates at tactical and strategic levels within the broader context of development communication. Tactically, E-E comprises the production and dissemination of messages that are educational in substance, entertaining in structure, and popular in style. Strategically, E-E functions at the nexus of culture and development to achieve behavioural results through an interwoven package of mass, small-group, and one-to-one communication outputs that complement, supplement, and/or preface programme

Community-based and mass media entertainment-education (EE) activities have been widely used in the country. Several organizations have used street theater, radio dramas, school plays, songs, games and written stories to promote public health messages. The nature of E-E interventions will facilitate bringing together messages from all sanitation and hygiene components included in this strategy.

Suggested Edutainment Activities

Promote the value of safe drinking water through pipe /tape water supply, sanitation and hygiene, model key behaviors, and engage the public around sanitation and hygiene through theatre, storytelling, games, and TV/ radio dramas.

Produce a radio / TV soap opera dealing with key behaviors on issues of safe drinking water, water quality testing, judicious use of water, roles user committee in collecting tariff and O & M functioning sanitation and hygiene issues to be broadcast and replayed over local radio and TV stations and at community gatherings. Use edutainment products in small group discussions with tape recorder/CD player, loud speakers in public gatherings.

Phase 4 Strengthening Behavior and Practices to Enhance Supply

This phase will be implemented in parallel with phase 3. The objective here is to ensure that while the demand for improved hygiene and sanitation is created and enhanced, there is a corresponding capacity to satisfy such demand. Infrastructure must be available and in good order, that institutions are functional (i.e. able and willing) and that human resources are able to provide the needed service and have the skills to interact with public demand.

Much of the strategy will be based on an institutional strengthening (after a review of existing capacity) with a strong focus on training on how to address rights-based demand and how to ensure that needed corrective action will be addressed and reported in a timely way. This part of the strategy is probably the most crucial, because if the previous phases are successful and then there is no satisfactory delivery of services or even no customer service orientation, the increased demand can become a boomerang and hamper any future communication initiative. If planned and implemented effectively, institutional strengthening will complement the overall strategy and greatly strengthen the chances of achieving the agreed objective within the set timeframe.

7.5 Monitoring and Evaluation

A system for monitoring and evaluation of the communication and advocacy strategy should be put in place so that modifications can be made to the strategy as needed. Qualitative analysis will be implemented to guide advocacy efforts and assess progress towards enriching the discourse on sanitation issues. Partners agreed that a greater emphasis must be placed on analyzing budget allocations to make sure that money is spent appropriately and effectively and that implementers should be held accountable for their role and responsibilities. The monitoring framework has been presented in Chapter 9.

MESSAGE MATRIX- WATER

Key outcome/impact:

1. Every households demand access /provision of piped water /Tap connection and use safe drinking water every time they need it
2. The User committee and Gram Panchayat (GPWSC) actively involved in collecting user charges and O & M activities
3. Family and user aware about disease / loss due to lack of access to quality drinking water and benefits of tap water

Target Audience	Messages	Channel of Communications
<p>Primary – Users</p> <p>Head of the family, women and children, youths and quality affected populations in 7 district of Assam</p>	<ul style="list-style-type: none"> •Unsafe (contaminated/Inadequate) drinking water affects public health causing severe illness and even death. The immature immune systems and small bodies of young children cannot easily cope with the detrimental effects (i.e dehydration, fever and malnutrition) of diarrhoeal diseases. •Children under five are therefore more vulnerable than any other age group to the ill effects of unsafe water, poor sanitation and poor hygiene practice, particularly lack of proper hand-washing. •Washing the face and hands with soap and water every day helps to prevent disease, including diarrhoea and eye infections. Untreated eye infections can lead to trachoma, which can cause blindness. 	<p>IPC by members of user committee</p> <p>IPC by members of GPWSC</p> <p>IPC through Frontline workers//VHSC</p> <p>Group communications for community mobilizations through SHG's,PRI members, Religious groups and NGO workers</p> <p>-Local and mass media outreach radio, songs , drama, folks, cinema slides, TV/Cable</p> <p>-Outdoor media such as hoarding and wall painting in schools , Panchayat, Aanganwadi Centers, PHC and Schools</p> <p>-Miking on slow moving vehicles will be done to attract maximum people to attend the Health Days</p> <ul style="list-style-type: none"> · Posters will be printed and put up at strategic locations in the village · Pamphlets will be printed and handed over to the target group <p>-Folk media presentations</p> <p>Mobile phones preloaded</p>
<p>Secondary</p> <p>Village level, Block level and</p>	<ul style="list-style-type: none"> •Simple and cost-effective household treatment and storage reduces diarrhoeal disease. Water carrying and 	<p>IPC training (on critical hand washing and issues of water borne diseases) for frontline workers, Users committee and</p>

Target Audience	Messages	Channel of Communications
<p>District Level Functionaries from PRI, NRHM workers</p>	<p>storage containers need to be kept clean, including the water therein, and covered to maintain water quality.</p> <ul style="list-style-type: none"> • Improvements in drinking-water quality through household piped water supply, water treatment, such as boiling, filtration, solar disinfection, chlorination at point of use and adequate safe domestic storage, can lead to a reduction of diarrhoeal episodes. • Having a water source near the home decreases potential for contamination during transport and reduces the risks incurred and time that must be spent (mainly by women and girls) collecting water, thereby significantly improving safety and opportunities for education, productive activities and leisure time. <p>Judicious use of drinking water and Avoiding wastage of water</p> <p>Rainwater and rooftop water harvesting, recharge of ground water/ Reuse and recycling of water</p> <p>Need and benefits in the formation of User committee, VWSCs with women and</p> <p>Inclusion of SC/ ST/ minority members and it's capacity building and Different age groups and people viz. children, women, village elders and community leaders, etc.</p>	<p>Orientation for SHG's, PRI, User Committee , religious leaders and GPWSC</p> <p>IEC/IPC material and handbook on hand washing etc</p> <p>Radio, Theatre, CD shows and cinema slides</p> <p>Docu-feature</p> <p>Mobile phones preloaded</p>
<p>Tertiary</p> <p>Policy makers, media and civil society organizations eg (PHED, HRHM, NREGA, Ministers and Secretaries)</p>	<p>-A lack of water security is an increasing problem worldwide due to climate change, over-use and degradation of water supplies. Population growth, urbanization, and increased demand for food, energy and bio-fuels are also putting incredible strain on scarce water sources This makes it essential</p>	<p>Advocacy material Joint field visits Media articles/coverage/interface Regular briefing, workshops and orientations Documentaries Best Practice and Lessons learnt book</p>

Target Audience	Messages	Channel of Communications
	<p>to promote sustainable methods for managing water and extracting it efficiently, involving all users. Increased availability of safe and sufficient water reduces the risks to children's health and also encourages better hygiene practice.</p> <p>-Importance of reaching gender equality for water and sanitation systems</p> <p>-The quality water crisis is a health crisis and Challenges of sustainable water quality management in rural India</p> <p>-Equity issues (SC/ ST/ minorities, Cost effectiveness of various options as well as Low cost technological options</p>	

MESSAGE MATRIX- SANITATION

Key outcomes:

1. Every household have provision of toilet and Family members use toilet every time they need it
2. Caregivers and children wash their hands after defecation and before handling food
3. Mothers/caregivers safely dispose child excreta.

Target Audience	Messages	Channel of Communications
<p>Primary</p> <p>Head of the family, women and children, school children, youths and quality affected populations in 7 district of Assam</p>	<p>Proper sanitation facilities and services for the safe disposal of human excreta, garbage collection and wastewater disposal are crucial to maintain health and protect water resources.</p> <p>40% of bacterial disease possible through hand washing</p> <p>Benefits associated with sanitary toilets and loss due to open defecation</p> <p>Not washing of hands with soap before eating /handling food and after defecation causes germs from the human excreta to be transmitted into body causing infection and illness</p> <p>Children feces are dangerous as adult excreta therefore they need to disposed off properly and hands should be washed off with soaps after handling them</p> <p>Correct ways of washing hands</p> <p>Water need to be separately stored a place for keeping soap and water for hand washing</p>	<p>Provision of messages by members of user committee</p> <p>Provision of messages by members of GPWSC</p> <p>Provision of messages by Frontline workers/VHSC</p> <p>Interpersonal Communications (IPC) and mobilizations through SHG's, PRI members, Religious groups and NGO workers</p> <p>Local and mass media outreach radio, song , drama, folks, cinema slides, TV/Cable</p> <p>Outdoor media such as hoarding and wall painting in schools , Panchayat, Aanganwadi Centres, PHC/SC etc</p> <p>Miking on slow moving vehicles will be done to attract maximum people to attend the Health Days</p> <p>Posters will be printed and put up at strategic locations in the village /Folk media</p>

Target Audience	Messages	Channel of Communications
	<p>Inadequate sanitation is a major cause of disease , and diseases such as cholera, worms, diarrhoea and some malnutrition, among other maladies, that cause disease and death in millions of people are propagated by poor sanitary practices</p> <p>Animal and human excreta should be kept away from homes, water sources, food and children’s play areas. Dedicated areas for human defecation, especially if there is no option other than open defecation, should be planned so that even when faeces dry they cannot be inhaled by humans, particularly children, because pathogens can survive and be aspirated</p>	<p>presentations Pamphlets will be printed and handed over to the target group</p> <p>Mobile phones preloaded</p>
<p>Secondary</p> <p>Village level, Block level and District Level Functionaries from PRI, NRHM workers</p>	<p>-All excreta, including those of babies and young children, should be disposed of safely and in an environmentally acceptable manner. Making sure that all family members have access to a toilet, latrine or dedicated “chamber-pot” that is cleaned daily is the best way to reduce exposure to faeces. The use of sanitation facilities, together with good hygiene practice, form direct barriers to the faecal-oral transmission routes of pathogens.</p> <ul style="list-style-type: none"> • Unsafe disposal of human waste risks the contamination of unprotected water 	<p>IPC training (on critical hand washing and issues of water borne diseases) for frontline workers, Users committee and</p> <p>Orientation for SHG’s, PRI, User Committee , religious leaders and GPWSC</p> <p>IEC/IPC material and handbook on hand washing etc</p> <p>Radio, Theatre, CD shows and cinema slides</p>

Target Audience	Messages	Channel of Communications
	<p>sources. Water-borne diseases are transmitted through contaminated and unsafe water. Disposal of faeces in all cases should be done so that it does not contaminate water resources, particularly those used for household supply.</p> <ul style="list-style-type: none"> Involving children at school and home and considering them as communicators for behaviour change offers hope for sustainability. As the children grow, they will continue to implement and appreciate better sanitation and hygiene practices and influence their own children and community to do the same. <p>40% of bacterial disease possible through hand washing therefore it is extremely important for the functionaries /workers help promote the same</p> <p>Not washing of hands with soap before eating /handling food and after defecation causes germs from the faeces to be transmitted into body causing infection and illness</p> <p>Help in monitoring households have place for soap and water for hand washing at home</p>	

Desired Impact of communication and advocacy strategy

Audiences	Impact	Key communication/advocacy mechanisms
Households (Head of the family, women and children)	<ul style="list-style-type: none"> -Awareness on importance of safe drinking water and demand for household connections of piped water /tap water - Awareness among user committee and GPWSC on their roles and responsibility of in collecting tariff and their roles in O & M functions -Awareness of proper sanitation and hygiene and impact on their health of the communities (Sanitation) -Behavioral change and change in practice related to hygiene (Sanitation) 	<ul style="list-style-type: none"> -Interpersonal Communication - Radio, national and community Television - Bus Backs campaign - SMS campaign/ Mobile phones preloaded - Folk theatre - Goodwill ambassador visits - Community mobilisation activities like forming girls collectives, women’s groups, youth groups - Village fair
Secondary audiences	<ul style="list-style-type: none"> -Actively involved in generating Awareness, monitoring and evaluations on schemes of WATSAN and also sensitized on the importance of safe drinking water and proper sanitation and hygiene and impact on their communities -Active participation to engage community for safe/quality drinking water and proper sanitation in schemes at a local level 	<ul style="list-style-type: none"> - Newspaper articles - Website, Press pick-up - Photo library, Human interest stories - Evidence-based data, Media package - Website, DVD news clip - Films , Publications - Radio, national and community Television
Tertiary Audiences	<ul style="list-style-type: none"> - Sensitization on fact that the quality water crisis is a health crisis and Challenges of sustainable water quality management - Policy (budget and legal provision) to for universal coverage of Quality water, hygiene and sanitation and its importance to health and addressing the MDGs 	<ul style="list-style-type: none"> - Policy briefing, Evidence-based data, Process documentation products - Press releases, Field visits, Films - Human interest stories,-Articles in key national publications/ Features and articles appearing regularly in Media, -National and regional workshops - Website, Policy briefings, Process documentation - Press releases, Human interest stories, Articles in key, national, publications

Comparative Advantages and Disadvantages of Different Types of Media

Type of Media	Potential for Participation & Two-way communication	Target Audience	Advantages	Disadvantages
Television spots	<input type="checkbox"/> Mass media – can reach many people <input type="checkbox"/> High status	General public <input type="checkbox"/> Can also be tailored to Specific target audiences	Wide reach <input type="checkbox"/> High status and perceived credibility <input type="checkbox"/> Audio and visual (can see and hear) <input type="checkbox"/> Good for simple messages and slogans <input type="checkbox"/> Can help to generate interest, awareness and excitement	Expensive Programs not always on at convenient times <input type="checkbox"/> Not everyone has TV <input type="checkbox"/> No room for interaction unless linked to a TV calling show
Radio spots	<input type="checkbox"/> Mass media – can reach many people <input type="checkbox"/> High status	<input type="checkbox"/> Specific target audiences	<input type="checkbox"/> Medium to wide reach <input type="checkbox"/> High status <input type="checkbox"/> Good for simple messages and slogans <input type="checkbox"/> Can help to generate interest, awareness and excitement	Relatively inexpensive (compared to TV) <input type="checkbox"/> Programs not always on at convenient times <input type="checkbox"/> No room for interaction <input type="checkbox"/> Audio only, no visual Communication
Newspaper features/pages	<input type="checkbox"/> Little room for participation or input,	Literate public	<input type="checkbox"/> High status <input type="checkbox"/> Can review and re-read	<input type="checkbox"/> Little room for participation or input,

Type of Media	Potential for Participation & Two-way communication	Target Audience	Advantages	Disadvantages
			as needed	<input type="checkbox"/> Requires literacy <input type="checkbox"/> Not as deep reach as TV or radio <input type="checkbox"/> Publication depends on the whim of editors
Websites/internet & blogs	<input type="checkbox"/> Need to be computer literate, but otherwise lots of potential for participation through blogging, list-serves, enetworking, specific websites	<input type="checkbox"/> Literate public <input type="checkbox"/> Specific list serves and networks can be set-up for particular audiences/clients , such as the media directly	Global info can be obtained, not only local or regional <input type="checkbox"/> Youth becoming computer savvy <input type="checkbox"/> High-status <input type="checkbox"/> List-serves can be quite inexpensive <input type="checkbox"/> Can establish links to other sites (CFNI, FAO, etc and MOA, local networks) <input type="checkbox"/> Can also establish pages on	<input type="checkbox"/> Computers needed and may not be widespread <input type="checkbox"/> Listserves and websites require someone to manage and facilitate them and provide content as well as technical assistance
Mobile phones and text messages	Tremendous potential for two-way communication and oneon- one communication among public directly. Also provides timely current lost cost information. Good for 'reminder' messages.	Specific publics, teenagers in particular	Growing reach, especially in rural areas <input type="checkbox"/> Low cost for text messages <input type="checkbox"/> Highly popular	<input type="checkbox"/> Text messages must be short <input type="checkbox"/> Best if linked or tied to other Communication efforts
Posters/Brochures/Fact	No potential for feedback,	<input type="checkbox"/> General and	<input type="checkbox"/> Can deliver simple	<input type="checkbox"/> Requires visual and written

Type of Media	Potential for Participation & Two-way communication	Target Audience	Advantages	Disadvantages
sheets and flyers	unless widely tested or if produced together with communities through participatory processes	specific publics	messages and slogans <input type="checkbox"/> Not necessarily expensive and can often be produced in-house Can deliver more information than posters, good for instructional info	literacy <input type="checkbox"/> Generally better for simple messages and slogans -limited to specific information for specific topics – single facts or tips
Drama/IPC	<input type="checkbox"/> Lots of potential for participation and interaction, forum theatre and participatory drama especially – wherein audiences analyze the plot and characters and can revise scenarios and outcomes	<input type="checkbox"/> Target audiences and others	<input type="checkbox"/> Can present sensitive issues in a humorous manner to avoid confrontations <input type="checkbox"/> Encourages creative brainstorming for solutions <input type="checkbox"/> Highly interactive <input type="checkbox"/> Helps to support the building of relationships <input type="checkbox"/> Uses local talent <input type="checkbox"/> Breaks down barriers between formal and informal	<input type="checkbox"/> Not a permanent record unless videotaped and played back again <input type="checkbox"/> Usually significant preparation and upfront work to focus and get desired results <input type="checkbox"/> Requires a team of people/actors

Type of Media	Potential for Participation & Two-way communication	Target Audience	Advantages	Disadvantages
			expertise	<input type="checkbox"/> Can be costly if actors are all paid, but relatively inexpensive if local community talent is used
IPC	<input type="checkbox"/> Lots of potential for interaction and participation	Different audiences can be targeted directly	Encourages group formation and builds skills <input type="checkbox"/> Helps to publicize general and specific messages info and change behavior <input type="checkbox"/> Generates local ownership <input type="checkbox"/> Builds partnerships	Slow and time taking as Only good for one off moments in process <input type="checkbox"/> Need to be held when people are available (nights, weekends) <input type="checkbox"/> Don't always attract desired audience

Chapter 8: Performance Monitoring and Evaluation

Monitoring is a continuing process that aims primarily to provide the management and project stakeholders of an ongoing intervention with early indications of progress in achieving the desired objectives. It also serves to identify-and thus help to rectify-any problems with an ongoing programme. Monitoring of a program needs to be closely aligned with the evaluation of the project. Evaluation is an important monitoring tool and monitoring is an important input to evaluation. Thus monitoring and evaluation are supportive concepts and provides the basis of assessment of performance and outcome of a project based on an M& E plan.

The aim of the M&E plan is to “measure the progress in activity implementation as well as extent to which the activity will result in changes in accordance with the objectives”. Broadly, *monitoring* is defined as the regular collection of information to assess progress in the implementation of the work plan; and *evaluation* as the periodic collection of information to assess progress in changing the practices and well being of target populations. When designed together, these two functions should capture the various moments in the life of the project as resources get transformed into outcomes and impacts.

Point of Measurement	What is Measured	Indicators (examples)
Outputs	The products that result from the combination of inputs and processes.	Greater coverage through piped water, more number of sanitary toilets installed , Number of stakeholder members trained, number of IEC material developed and
Outcomes	The set of beneficiary and population-level results expected to change from the intervention.	Increased knowledge, improved practices in water and sanitation, improved capacity in technical and management areas in their respective areas, SLUC and VWSC functional
Impact	The set of beneficiary and population- level long-term results achieved by changing practices, knowledge and attitudes.	Improvement in Health Indicators, Reduced drudgeries of women, Inclusion Equity, Accountability , Cohesion

The choice of indicators is crucial in measuring output, outcome, impacts.

The Monitoring and Evaluation Framework

The monitoring of quantitative indicators of a multi-year development projects has been developed using a standardized “Performance Indicator Tracking Table” (PITT). Aside from its administrative function, the PITT provides a useful management tool that allows examining progress in implementation, assessing bottlenecks, and indicating possible next steps in resolving identified constraints.

The performance monitoring system based on the concept of PITT has been presented below.

Performance Monitoring Framework

INDICATOR	Base Line	YEAR 1			YEAR 2			YEAR 3			YEAR 4			YEAR 5			Year 6
		Exp	Act	E/A													
Outputs (Data available yearly)																	
Greater coverage through piped water,																	
More number of sanitary toilets installed																	
Number of capacity building programmes organised and Number of persons trained																	
Number of SLUC / VWSC formed																	
Number of IEC material developed																	
Number of awareness programmes conducted using IEC material and methods																	
Outcomes (Data only available for Baseline and second year onwards)																	
Use of safe drinking water																	
Proper utilisation of toilets and maintenance of																	

INDICATOR	Base Line	YEAR 1			YEAR 2			YEAR 3			YEAR 4			YEAR 5			Year 6
		Exp	Act	E/A													
toilets																	
Community coming up with requests for water and sanitary toilet connection and installation																	
Hygiene practices particularly hand washing being observed																	
Reduced incidence of water borne diseases																	
Reduced drudgeries for women																	
SLUC / VWSC members managing the water and sanitation projects by handling daily operations, collecting user charges and liaising with PHED																	
Women members involved in SLUC / VWSC																	
Strengthened																	

INDICATOR	Base Line	YEAR 1			YEAR 2			YEAR 3			YEAR 4			YEAR 5			Year 6
		Exp	Act	E/A													
PHED, State , District , GP level institutions to manage CDD project																	
GP ready to own the project																	
Impacts (Data only available for Baseline, Mid-Term and Final Evaluation Years)																	
Empowered community																	
Empowered women																	
Improved health indicators																	

Exp: Expected; Act: Actual; E/A: Expected over Actual

Each project will have an associated Performance Monitoring System to track the performance. The E/A will provide the efficiency of the project .E/A is expected to be around 1.If value is less than 1 then the project is performing well and greater than 1 indicates a lag providing pointers for action.

Social Audit system would be adopted for assessing qualitative indicators through beneficiary perception recording. The scope of social audit is very wide and not limited to a particular scheme or activities or area. It will be taken up at ward level or Municipality level depending on the nature of work and programme. Similarly it can be organized around a single activity or collectively, taking more than one activities going on in that specific area. However it would reflect the opinions of a wide variety of people affected by the programme.

Social Audit would be organized as a regular process and not as a one-time event. It will be organized at specific intervals depending upon people's preparedness and willingness. It may take place after the completion of each activity, or on monthly or bi monthly intervals or even once/twice a year depending on the need.

Annex – I: Study Tools

A. Gram Panchayat Level Questionnaire (SOCIAL)

District		Block	
Gram Panchayat		Total No. of Revenue villages in G.P.	
Total Population of G.P.		Total Household in G.P.	
Name of the respondent		Designation	
Address / Contact No			

1	How many elected PRI representatives are there in this GP	
1.1	How many of them are women?	
2	Is there any involvement of PRI to look after issues related to drinking water and sanitation?	1. Yes 2. No
3	Are you aware about the JRWSSP (Jharkhand Rural water supply & sanitation project) or any other scheme of rural water supply	1. Yes 2.No
3.1	Are you aware about any other scheme of rural water supply programe	1. Swajaldhara 2. ARWSS, 3. Other (specify..... ..)
4	Is there any sub centre/health centre in the G.P.	1. Yes 2. No
4.1	Do all Sub Centre have toilets	1. Yes 2. No 3. In some
5	Do all schools have toilets in your GP	1. Yes 2. No
5.1	If, Yes, Do schools have separate toilets for boys and girls	1. Yes 2. No
5.2	Do all schools have safe drinking water facility	1. Yes 2. No
	VWSC Related	
6	Have Village Water and Sanitation committee formed in this	1. Yes 2. No

	GP?	
6.1	If yes, How many VWSC have been formed	
6.2	Are there women members in the VWSC?	1. Yes 2. No
7	Are there Jalsahika in all the VWSC that are formed?	1. All 2. Some 3. None
8	How often do the VWSC organize meetings?	1. Monthly 2. Fortnightly 3. Quarterly
9	What are the activities that VWSC take up in a village? (List:....)	1. 2. 3.
10	Who approves the activities that the VWSC plans at the GP level	1. Mukhia, 2. Gram Sabha, 3. GP Meetings, 4. other
11	Do you think the Jalsahika knows and understands her responsibilities	1. Yes 2. No
	Gram Sabha Related	
12	Do you organise Gram Sabha meetings?	1. Yes 2. No
12.1	How often is the Gram Sabha Meeting Organised?	1 Quarterly 2. Half-yearly 3. Annually
12.2	In the last one year, how many Gram Sabha meetings were organised	(1)One, (2)Two, (3) Three or more
12.3	Do women also participate in Gram Sabha Meetings?	1. Yes 2. No
12.4	Do women raise issues related to WATSAN in the Gram Sabha Meetings?	1. Yes 2. No
12.5	What are the main issues that are discussed in a Gram Sabha Meeting	1. Drinking Water Issues 2. Irrigation Water Issues 3. Sanitation Issues

		4. Health Issues 5. Any other (Mention..) * * *
	Capacity Building	
13	Are you aware of any training programmes organised for the PRI member on water and sanitation aspects in the last one year	1. Yes 2.No
13.1	If yes, how many members attended the programme	
14	Are you aware of any training / orientation programmes organised for the VWSC members in the last one year	1. Yes 2.No
14.1	If yes, how many VWSC members attended the programme	
15	Are you aware of any training / orientation programmes organised for the Jalsahika in the last one year	1. Yes 2.No
15.1	If yes, how many Jalsahikas attended the programme	
16	Did you attend any training programmes organised on water and sanitation aspects in the last one year	1. Yes 2. No
	<i>If No in Q.16 then go to Q.17</i>	
16.1	Who organised training / orientation programmes related to water and sanitation	1. Government, 2. GP 3. NGO 4. Any other mention.....
16.2	Where is it organised?	1. Village 2. GP 3. DZP 4. Other city
16.3	Who were the trainers?	1. Engineers from Govt, 2. NGOs 3. Training institutes
16.	Did you receive any hand-outs or reference materials from the	1. Yes 2. No

4	training?	
17	Can the GP and VWSP together manage the O & M of water and sanitation assets provided?	1. Yes 2.No
17.1	If Yes, what type of capacities and information do you need?	1. Technical details 2. O&M training VWSC capacity Building 3. Any other
18	Do you have any annual training plan for the GP for WAT SAN activities	1. Yes 2. No
19	What measures can be taken to ensure proper operation of the water supply and sanitation system?	1-Routine technical monitoring 2-Training of technical monitors 3-Penalizing offenders 4-Other
20	Do you think women can also have a key role to Water Supply and Sanitation Activities?	1. Yes 2. No
21	Are you aware that there is BRC at the Block Level	1. Yes 2. No
21.1	Do you know the name of the organisation who manages the BRC	1. Yes 2. No
22	Are you aware of the role and responsibilities of the BRC	1. Yes 2. No
23	Are you aware of any programmes / events organized by BRC in your GP	1. Yes 2. No
23.1	If yes What types of programmes?	1. Training 2. Awareness 3. Meetings 4. Others -----
	Water Availability and Testing	
24	What are the major source of water availability in your GP 1) Surface Water Source:	1.Pond, 2.River,3. Canal,

		4. Other
	2) Ground Water Source:	1.Handpump, 2.Tube 3. well, 4. Well, 5.Tap, 6. Other
25	What are the issues villages face with the current status of water supply	1. Quality 2. Distance 3. Reliable Supply 4. Time Consumption 5. Other..
26	What are the key improvement do you want with regard to water supply and sanitation schemes?	1. Regular quality Water supply 2. Toilet in all HH 3. Ban on Open defecation 4. Community Monitoring & participation 5. Any other..... (mention as many)
27	Is your water treated with any means	1. Yes 2. No
27.1	If yes, by what	1. Chlorination, 2. Filtration 3. Defluoridation, 4. Other
28	Are samples of water tested regularly through the FTK	1. Yes 2. No
28.1	Who brings the samples	1. Yes 2. No
29	Do you send contaminated samples regularly to the districts	1. Yes 2. No
30	Do reports come on time	1. Yes 2. No
31	Who comes to repair if there is a breakdown of water supply (ask in case of piped water supply and hand pumps only)	1. JE 2. Local Mechanic 3. Village on their own 4. Nobody
	Solid Waste Management	
32	Is there identified places/sites for management/disposal of	1. yes

	wastes	2. No
32.1	If No, Where do you dispose your waste	1. On the roadside 2. In the farm fields 3. Anywhere
33	Have the GP ever organized any IEC programmes / events related to Water and Sanitation aspects?	1. Yes 2. No
33.1	If yes, what type of programmes were organized	1. Rallies 2. Miking 3. Meetings 4. Others ----- ----
34	Did GP take up any initiative for wall writing on Water and Sanitation aspects?	1. Yes 2. No
34.1	Who organizes it?	1. GP 2. VWSC, 3. NGO 4. Jal Sahaika
35	Do you develop any annual IEC plan for the GP	1. Yes 2. No
35.1	What measures can be taken to promote safe drinking water & sanitation in villages	1-Wall writing 2-Pamphlets & posters 3-Street play 4-Folk performance 5-Others
36	Have you undertaken any campaigns to 'stop open defecation' in the villages	1. Yes 2. No
37	Are you aware of Nirmal Gram Puruskar	1. Yes 2. No
37.1	Have you ever applied for Nirmal Gram Abhiyan	1. Yes 2. No
	Village Health Nutrition and Sanitation Day	
38	Are VHNSD organized regularly in this GP	1. Yes 2. No
38.1	If yes, is issues related to sanitation discussed	1. Yes 2. No
	Perception of women/girls	
39	What is the perception of women related to the availability of drinking water in the GP	1. Satisfied 2. Not satisfied 3. Cant say

40	What is the perception of women related to the quality of drinking water in the GP	1. Satisfied 2. Not satisfied 3. Cant say
41	What is the perception of women related to the availability of toilets in the GP	1. Satisfied 2. Not satisfied 3. Cant say
42	What is the perception of young girls related to the availability of drinking water in the schools in the GP	1. Satisfied 2. Not satisfied 3. Cant say
43	What is the perception of young girls related to the quality of toilets in the schools in the GP	1. Satisfied 2. Not satisfied 3. Cant say
44	What are the issues women face with the current status of water supply	1. Quality 2. Distance 3. Reliable Supply 4. Time spent 5. Other.. Mention
45	What are the key improvement women want with regard to water supply and sanitation issues?	1. Regular quality Water supply 2. Toilet in all HH 3. Ban on Open defecation 4. Community Monitoring & participation 5. Any other..... (Mark all responses)
	Displacement	
46	Is there any chance of displacement for establishing new water supply system	1. yes 2. No
46.1	If yes, what measures do you suggest to overcome that	1. RR 2. Monetary Compensation 3. Land and Livelihood 4. Similar or better facility
46.2	Who should take the lead for resettlement of people if displacement occurs?	1. GP 2. VWSC 3. SDO/AE 4. JE 5. EE
	IEC	
47	Do you know about the Helpline number for hand-pump repairing	(1)Yes (2)No
48	Have you listened to or seen any Government advertisement on drinking water and sanitation issues?	(1)Yes (2)No

49	During the last one year, did you orgaise or participated in any kind of activity where people were given information on drinking water, sanitation?	(1)Yes (2)No
50	During the last one year, did you organize any posters/wall writings/hand bills/hoarding carrying messages on health drinking water, sanitation aspects for villagers?	(1)Yes (2)No
51	Did your GP put up any stalls in any fair or festival/mela on water and sanitation	(1)Yes (2)No
52	Do you think that the members of the VWSC are providing adequate information on water and sanitation to people in the villages	(1)Yes (2)No If No, why.....
53	Do you know the name of the Jalsahika of all the villages of your GP?	(1)Yes (2)No If yes...note Who
	Impact	
54	What may be the positive impacts of the Piped water supply?	1.Increased income due to saved time 2.Improved health. 3. Less expenditure on medicines. 4. Improved school attendance for adolescent girls 5. Others
55	What may be the possible negative impacts of piped water supply?	1. Loss of land or any other asset. 2. Loss of livelihood(ie door to door water supplier) 3. Absence of social exchange. 4.over dependence on a mechanized system 5. Others
56	Do you think of any habitation that may not be covered due to inaccessibility	1. yes 2. No (if 1 name)

Critical Information

19. Stakeholder’s general view for existing water Supply and sanitation schemes in the villages

.....
.....
.....

20. What benefits can the villagers will get through this project of water supply and sanitation?

.....
.....
.....

Signature of the Field Investigator

Date:

B. Household Questionnaire (SOCIAL)

District		House no	
Division		Date of Interview	
Block		Name of the interviewer	
Gram Panchayat		Signature	
Name of village			
Habitation			

	Respondent Profile	
1	Name of the respondent	
2	Address / Contact No	
3	Name of the head of the Household	
3.1	Is the Head of the HH is female	1. Yes 2. No
4	Relationship of the respondent with the head of the household	
4.1	Age	
4.2	Sex	1. Male 2. Female
4.3	Can you read and write?	1. Yes 2. No
4.4	If yes, What is the highest grade you have completed? (RECORD GRADE)	1. Primary 2. High School 3. Intermediate 4. Graduation 5. Above graduation
4.5	If No, Have you ever attended any literacy classes?	1. Yes 2. No
4.6	Do you have a Job Card for MGNREGS?	1. Yes 2. No
4.7	What is your occupation?	1. Farmer 2. Labour 3. Landless labour 4. Seasonal labour
5	What is your HH monthly income from all sources?	1. Less than 1500 2. 1500-2500 3. 2500-3500 4. More than 4500
	Socio-Economic Profile Of Household	

6	Religious Group:	1-Muslim, 2-Hindu, 3-Sikh, 4-Christan, 5.Other.....
7	Social Stratification	1-SC, 2-ST (specify.....) 3-OBC, 4-General, 5-Others
8	Do you have BPL card?	1-Yes, 2-No
9	Do you own land?	1-Yes, 2-No
	If yes...please provide details:	(in Acre)
9.1	Irrigated	
9.2	Non-irrigated	
9.3	Barren	
9.4	Other	
10	Do you have Pucca house?	1-Yes, 2-No
11	Do you have a sanitary toilet in your house?	1-Yes, 2-No
11.1	If yes, used by MEN	1-Regularly, 2-Sometime, 3-Never
11.2	Used by Women	1-Regularly, 2-Sometime, 3-Never
12	Do you have electricity in your house?	1-Yes, 2-No
	Do you have following items in your house?	
13	Television	1-Yes, 2-No
14	Refrigerator	1-Yes, 2-No
15	Fan	1-Yes, 2-No
16	Two-wheeler	1-Yes, 2-No
17	Four-wheeler	1-Yes, 2-No
18	Telephone/Mobile phone	1-Yes, 2-No
	Drinking Water	
19	What are the source of water for drinking purpose	1- Well (Pvt.), 2-Well (Govt./Community), 3-River, 4-pond, 5. Personal tube well 6.

		Community tube well, 7-Hand Pump (Pvt.), 8-Hand Pump (Govt./community), 9. Pipe line used by the communities 10. Individual pipe line, 11- Other(specify)
19	What are the source of water for domestic purpose (cooking, washing, livestock, bathing/personal hygiene etc.)	1- Well (Pvt.), 2-Well (Govt./Community), 3-River, 4-pond, 5. Personal tube well 6. Community tube well, 7-Hand Pump (Pvt.), 8-Hand Pump (Govt./community), 9. Pipe line used by the communities 10. Individual pipe line, 11- Other(specify)
20	In case you bring water from community sources say for instance, Community tube well, community well-how far it is from your residence? (in mtr.)	1. less than 100 mtrs 2. More than 100 mtrs 3. Less than 500 mtrs 4. More than 500 mtrs
20.1	How much time do you spend? (in minutes/ hrs) for collecting water in a day? (all time together)	1. Less than 30 mnts 2. More than 30mnts 3. More than 1 hr 4. More than 2 hrs
20.2	Who brings/collect water to home?	1-Male member, 2-Female members, 3- Children 4. All
20.3	What are the key difficulties in general do they face in collecting water?	1 – distance 2 – water wastage 3 – fear of violence 4 – time consuming 5 – health related problems 6 – absenteeism in schools 7 – extra burden of work 8 - any other
20.4	In case of women and young girls collecting water what are the key difficulties do they face?	1 – distance 2 – water wastage 3 – fear of violence 4 – time consuming 5 – health related problems 6 – absenteeism in

		schools 7 – extra burden of work 8 - absenteeism in schools
21	Are you satisfied with the quality of water you get?	1. Yes 2. No
22	Is there water contamination in the water you get?	1. Yes 2. No
23	Do you think that water quality could be further and easily improved?	1. Yes 2. No
24	Do you treat water at home?	1. yes 2. No
24.1	If Yes, by what means?	1. Boiling 2. Filtering with cloth 3. Filtering available in market 4. Alum/herb mixing
25	How do you protect your water?	1. Use Ladle 2. Cover storage items 3. Have covered tank with tap
26	Are you aware of any major disease or epidemic that occurred related to water?	1. Yes 2.No
26.1	If yes, what are they	1. Malaria 2. Jaundice 3. Tuberculosis 4. Dengu 5. Cholera 6. Gastrioeontits 7. Any other
27	How often you/ your family members have fallen sick because water borne disease	1-Often, 2-Some times, 3- Regularly (every 1-3 months)
27.1	Where do you generally go for the treatment?	1. Professional Medical Doctor 2. Local Vaidya/Hakim 3. Any other
28	In case you want water connection, then what is your preference?	1- individual pipe water connection, 2-community connection (connection in the locality).
28.1	If Not, individual connection then why?	1. Will have to pay higher 2. Cannot afford connection

		3. Problem of maintenance
29	In case you want an individual water connection. Will you pay for it?	1. YES 2. NO
29.1	How many hours of water supply/day do you think will suffice your need? Individual house connection(Hrs/day)	1. 2 hrs 2. 2-4 hrs 3. 24X7
30	If there is any grievance with regard to water, whom do you contact	1. VWSC 2. Mukhia 3. JE 4. None
	Sanitation and Hygiene	
31	Do you have sanitary toilet in your home	1. Yes 2. No
31.1	If yes then which type of toilet it has	1. Toilet with septic tank 2. Toilet without septic tank 3. Dry latrine
31.2	If yes then if water is available inside or outside the toilets	1. Inside 2. Outside
32	If No in Q.31 then where do you go for defecation?	1. Community toilet, 2-Open field, 3-Other.....
33	Do you feel safe going out for open defecation?	1. Yes 2. No
33.1	How far is the place for open defecation	1. less than 500 mtrs 2. More than 500 mtrs
34	Do you want to have your own toilet,	1. YES 2. NO
34.1	In case you want a toilet in your house, what will be your contribution	1-Money, 2-Labour, 3-No idea
	WATSAN Activities	
35	Is there a Water and Sanitation Committee formed in your village?	1. Yes 2. No, 3- Don't know
35.1	If yes, how often the committee organizes meetings related to water and sanitation?	(1) Fortnightly, (2) monthly, (3) Quarterly, (4) Half yearly (5) Yearly, (6) Don't know
36	Are you aware of the existing Water and Sanitation programmes in your village?	1. Yes 2. No, 3- Don't know
37	Have you ever attended any awareness, orientation or	1-Yes, 2-No

	training programmes on Water and sanitation theme?	
37.1	If Yes, How many such awareness, orientation or training programmes on Water and sanitation theme have you attended	(1) 1, (2) 2-4, (3) 5 or more (4) None
37.2	Would you like to participate in the future Water and sanitation meetings /activities?	1. Yes 2. No
38	Is there any chance of displacement for establishing water supply system	1. yes 2. No
39	If yes, what measures do you suggest to overcome that	1. RR 2. Monetary Compensation 3. Land and Livelihood 4. Similar or better facility
40	Who should take the lead if displacement occurs?	1. GP 2. VWSC 3. SDO/AE 4. JE 5. EE
41	Will there be any change in the standard of life because of water and sanitation improvements?	1. Yes 2. No
41.1	If Yes, What	1. Saving on time in collecting water 2. Better livelihood 3. Less water borne diseases 4. Better Health 5. All the above
	WILLINGNESS TO PAY	
42	If community based water supply is arranged (treated water through pipe line) are you ready to pay user charge as fixed by VWSC?	1. Yes 2. No
42.1	If yes, how much could you pay for the water services?	1. Rs.100 > 2. Rs. 200>
43	Do you prefer individual water connection in your house?	1. YES 2. NO
43.1	In case you want house connection are you willing to pay user charge as per the meter reading	1. YES 2. NO
	IEC	

44	How do you come to know about different Govt. schemes?	(1)Radio (2)TV (3) Panchayat President/Ward Members, (4)Govt. Officials, (5)NGOs (6) Friends/relatives, (7) Villagers (8)Others_____
44.1	If you have any doubts about the Government schemes how/with whom do you clarify?	(1)Someone educated (2) Panchayat President/Ward Members, (3)Govt. Officials, (4)NGOs (5) Friends/relatives, (6) Villagers (7)Others_____
43	Are Gram Sabha Meetings organized	1. YES 2. NO
43.1	If yes, how often	1 Quarterly 2. Half-yearly 3. Annually
44	Did you attend the Gram Sabha meeting	1. YES 2. NO
45	Do women from your household also participate in Gram Sabha Meetings?	1. YES 2. NO
	Television	
46	What program do you watch on TV?	(1) Yes (2) No
46.1	When do you watch TV?	(1)Morning (2) Afternoon (3) Evening (4) Night
46.2	Which Channel do you usually watch?	(1)DD (2) Mention (3) Mention (4) Mention (5)Others_____
46.3	Do you watch news channel?	(1) Yes (2) No
46.4	Which is your favorite programme genre on TV?	(1)Serial (2)Reality show (3)Sports/Cricket (4)Music (5)Cartoon (6)Fashion

		(7)News (8)Talk-shows (9)Astrology (10)Religion (11)Nature/science/animal (12)Film/Film-based(13)No special preference
46.5	Do you watch the TV programmes produced by Government Departments? (prompt)	(1)Yes, always (2)Depends on the theme/content (3)Sometimes (4)Never
46.6	Do you know about the weekly phone-in programme in Door Darshan on Water and Sanitation	(1)Yes (2)No
46.7	If yes, Have you watched the weekly phone-in programme in Door Darshan on Water and Sanitation ever?	(1)Yes (2)No
46.8	If yes, Have you ever called and asked anything	(1)Yes (2)No
46.9	Have you seen any Govt. sponsored Advertisement on Drinking water and Sanitation?	(1)Yes (2)No
47	Do women in your family watch TV	(1) Yes (2) No
47.1	In your house, what programme is popular among women?	(1)Serial (2)Reality show (3)Sports/Cricket (4)Music (5)Cartoon (6)Fashion (7)News (8)Talk-shows (9)Astrology (10)Religion (11)Nature/science/animal (12)Film/Film-based (13)No special preference (14)Do not watch TV at all!
	Help Line	
48	Do you know about the Helpline number for hand-pump repairing	(1)Yes (2)No
48.1	Have you ever called in that number and sought assistance	(1)Yes (2)No
48.2	Do you know anyone in your village who has called that number and have received help	(1)Yes (2)No
	Radio	
49	Do you listen to radio?	(1)Yes (2)No

49.1	If yes, what are the stations you mostly tuned into?	List: 1. 2. 3.
49.2	At what time do you listen to radio?	(1)9am-12noon (2)12noon-2pm (3)2pm-5pm (4)5pm-8pm (5)8pm-11pm
49.3	What is your favourite radio programme?	(1)Film songs (2)News (3)Plays (4)Agriculture (5)General Knowledge (6)Stories (7)Interviews (8)Any other (9)No such favourite
49.4	Do you listen to the radio programmes produced by Govt departments?	(1)Yes, always (2)Depends on the theme (3)Sometimes (4)Never
49.5	Have you listened to any Govt. advertisement on drinking water and sanitation?	(1)Yes (2)No
	Newspaper	
50	Do you read Newspaper	(1)Yes (2)No
50.1	How often do you read	(1) Daily (2) only Sundays (3) Thrice
50.2	What is the name of the newspaper you read	1. 2. 3.
	IEC Activities	
51	During the last one year, did you see/ participate in any kind of activity where people were given information on drinking water, sanitation?	(1)Yes (2)No
51.1	If yes, What are the different activities did you see/participate?	1.

		2. 3.
52	During the last one year, did you see any street play carrying messages on drinking water, sanitation aspects?	(1)Yes (2)No
52.1	What are the different themes covered by each of the street plays?	1. 2. 3.
53.1	During the last one year, did you listen to any folk song carrying messages on drinking water, sanitation aspects?	(1)Yes (2)No
53.2	Through what medium did you listen to these folk songs?	1. Stage performance 2. Street performance 3. Radio 4. Television 5. CD/Cassette 6. Printed material 7. Any other (Specify
54	During the last one year, did you see (show some poster/hand bills) any posters/wall writings/hand bills/hoarding carrying messages on health drinking water, sanitation aspects?	(1)Yes (2)No
54.1	If, Yes, Which one did you see, posters, handbills or wall-writings?	RECORD ALL 1. Posters 2. Wall-writings 3. Handbills 4. Hoardings 5. Others (Specify)
55	During the last one year , did you see/participate in any rallies displaying/carrying messages on drinking	(1)Yes (2)No

	water, sanitation aspects?	
	Fairs and Festivals	
56	What are the important festivals in your village	1. 2. 3.
56.1	When are there fairs / melas in your village	1. 2. 3.
57	Is there any stalls put up by the Panchayat or the Government in the mela	(1)Yes (2)No
57.1	If yes, What information / services does that stall provide	1. WAtSA n Behaviur 2. Info on Health 3. Nutrition 4. Education, 5.Other
	Information	
58	Did anyone ever discuss with you about clean and safe drinking water?	(1)If Yes(note Who) (2)No
59	Did anyone ever discuss with you about individual household sanitary toilets?	(1)If Yes(note Who) (2)No
60	Did anyone ever discuss with you about washing hands	(1)If Yes(note Who) (2)No
61	Do you know who are the members of the VWSC in your village	(1)If Yes(note Who)

		(2)No
62	Do you know the name of the Jalsahika in your village?	(1)If Yes(note Who) (2)No

Critical Information:

17. What will you suggest or do if some displacement occurs because of water sanitation issues?

18. In case water meter is installed in your community (Mohalla), how you and your neighbors will maintain it so that no damage is done and you can avail water as per your family requirement?-----

19. How can you keep your water post safe and clean:-----

20. Do you think you need orientation related to maintaining the community water post? -----

21. Do you think women of the family members also able to maintain the community water post? -----

Key Questions for Social Assessment, Capacity Building, IEC and Gender Inclusion:

Describe the purpose of the FGD

General Community:

1. What is the current Status of Water Supply and Sanitation in your village
2. Are you satisfied with the current system and facilities of the Water Sanitation supply, If No, what needs to be done and how?
3. How will you benefit from water and sanitation project planned in your village?, List out some key positives and negatives
4. If all or some houses are connected with household piped connection/hand pumps, then what's your comment on its quality, quantity and regularity
5. Mention different kind of Capacity needed to be built for different groups and why
6. What are the difficulties do you face in the absence of nearest water source
7. Do you feel that construction of a stand post or household level water piped connection would solve the problem? If yes then in what way
8. Are there any kind of threats to water sanitation project in your village
9. What will you suggest if any displacement occurs due to water supply project
10. What do you suggest for their rehabilitation and resettlement or minimizing displacement
11. Do you think Panchayat can bring water supply and sanitation services to your village
12. Do you think that the community has any role to play in better service provisions of Water and Sanitation
13. What would you do if after a year the stand post or the household level piped connection would get defunct
14. Do you feel that construction of toilets at household level would solve the sanitation and open defecation problem?
15. How do you spend your leisure time?
16. The role of Village Water and Sanitation Committee and the role of Jalsahika
17. What according to each of you is the best way to communicate a particular message in the community

SHG

1. What is the current Status of Water Supply and Sanitation in your village or key issues related to water and sanitation in your GP
2. How will you benefit from water and sanitation project planned in your village? List out some key positives and negatives
3. If all or some houses are connected with household piped connection/hand pumps, then what's your comment on its quality, quantity and regularity
4. What will you suggest if any displacement occurs due to water supply project
5. What do you suggest for their rehabilitation and resettlement or minimizing displacement
6. What are the difficulties do you face in the absence of nearest water source.
7. Do you feel that construction of a stand post of household level water piped connection would solve the problem? If yes then in what way
8. What are the key benefits you would have as women from regular Water and Sanitation facilities
9. Are there any kind of threats to water sanitation project in your village
10. Do you think Panchayat can bring water supply and sanitation services to your village
11. Do you think that the community has any role to play in better service provisions in water and sanitation
12. Do you think you as women can play an effective role in O&M of the system

13. What kinds of difficulties and obstacles do you and young girls face during open defecation
14. Do women feel safe when you go for open defecation?
15. If there are any caste/gender related to violence against women while going to the open defecation sites.
16. Do you feel that construction of toilets at household level would solve the sanitation and open defecation problem?
17. How do you spend your leisure time?
18. What should be the ideal role of Jal-Sahiya for your village

Generic –Communications Related Questions to both General Community, VWHC & SHGs

1. For how many days is the village festival held in your village and who organizes it in the village?
2. Who are the artistes who participate in the festival?
3. How do you collect the people for a common gathering and how do you announce urgent news in your village?
4. Which are the folk ideal in your village and which one you like most?
5. Which are the art forms that take place in the temple festival?
6. Who are the folk artists in your area and who are the famous artists in your area?
7. Recently in your village for which Govt schemes newsreels/banners was shown?
8. What kind of music/folk performances/ posters and painting related to Drinking water and Sanitation have you seen or listened recently in your village?
9. What activities related to water and sanitation have you taken up in the last one year?
10. What is the significance of these messages in changing the attitude or behaviour of community
11. Which medium/media or channel appeals you the most and why
12. What kind of message would help you understand issues related to WATSAN better for changing the behaviour
13. How can we effectively communicate messages related to WATSAN
14. What according to you is the greatest barrier to drinking water and sanitation in your Village
15. Do you receive support from GP / Block PRI office promptly and adequately?

Annex – II: Glimpses of Public Consultation



Annex – III: Baseline Survey Report

Baseline Survey Data Analysis

A baseline study was conducted in seven districts of Assam to gauge the existing water supply and sanitation systems and the pattern of usage and the related knowledge, attitude and practices to prepare a status note on of the current water supply / usage, environmental sanitation and health & hygiene status.

The initial inquiry reveals that project beneficiary profile quite diverse comprising a number of sub-groups identifiable on the basis of their differential endowment, religion, gender, ethnicity, different economic groups and other regional features.

A preliminary socio-economic profile has been presented below.

A. Socioeconomic Profile:

Data has been collected from 1590 respondents from seven districts of Assam. There are 180 respondents each from Kamrup, Morigaon, Hailakandi and Jorhat districts. Bogaigaon and Sonitpur have 240 respondents each and Sibsagar has 390 respondents.

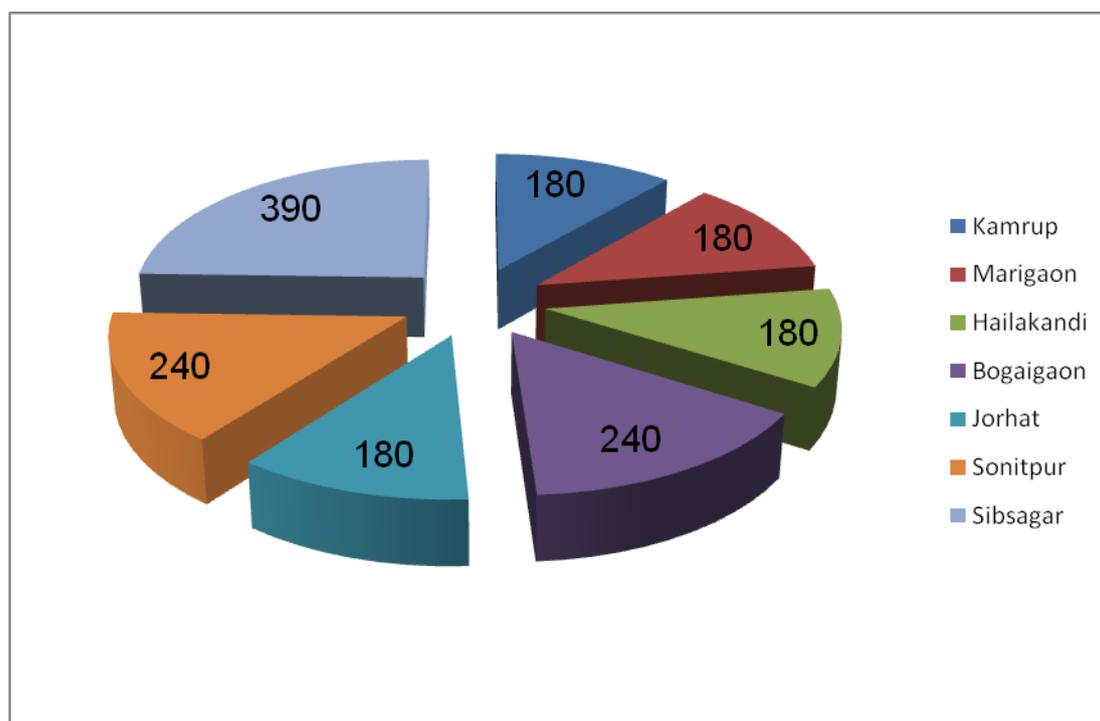


Figure 1 district wise breakup of respondents

Three blocks from Kamrup, Bogaigaon, Jorhat district and two blocks each from Morigaon Hailakandi and Sonitpur have been identified. On the other hand, four blocks have been selected from Sibsagar. Data has been collected from six villages from five G.P.s each from Kamrup, Morigaon, Hailakandi and Jorhat districts. Eight villages from seven GPs of Bogaigaon, eight villages from six GPs of Sonitpur and 13 villages from 10 GPs of Sibsagar district have been identified. Therefore, survey has been carried out altogether in 53 villages from 43 Gram Panchayats of 19 blocks of seven districts. Altogether, data has been collected from 877 male and 713 female respondents.

Table No: 1 details of survey area

District	Block	G.P.	Village	
KAMRUP	DIMORIA	TOPATOLI	TOPATOLI	
		DIGARU	GHUGHUA	
	BEZERA	DHOPATARI	MOLONG	
			DHOPATARI	
	CHANDRAPUR	PASCHIM MAYANG	GOBARDHAN	
		PANIKHETI	PANIKHETI	
MORIGAON	BHURBONDHA	AZARBARI	TETALIAGAON	
			SOLMARI	
		BOGHARA	TARANI KALBARI	
	MAYANG	GOVA	AMLIGHTAT	
		SILCHANG	SILCHANG	
		BORPAK	BORPAK	
HAILAKANDI	HAILAKANDI	BHATIRKUPA	BALIKANDI-KHASIAPUNJI	
		GANGPARDHUMKAR LAKHIRBOND	LAKHIRBOND	
	ALGAPUR		BORNAGAD	
		ALGAPUR	PADMARPUR – ROY PARA	
		SAIBOND	SAIBOND-SUKLABAIDYA PARA	
		CHANDIPUR	CHANDIPUR	
BOGAIGAON	BOITAMARI	BALAPARA	CHEDAMARI	
			KABAITARI	
		ODUBI	KACHUDALA	
	TAPATARI	BALAPARA	BALAPARA	
		MERRERCHAR	KUSHBARI – BAZAR COLONI	
	SRIJANGRAM		RANGAPANI	GHORAMARA
				DEOHATI
		DEOHATI		KERKHABARI
JORHAT	JORHAT CENTRAL	HOLOGAPARABAGAN	MELENG_HINDUBARI	
		MELENG BALI CHAPORI	CHOWTANG- DAKHIN GARAGURI	
	JORHAT	UTTAR NAMONI	NOWSOLIA	

District	Block	G.P.	Village	
		CHARAIBHAI	PAKHIMARI HABI	
		KARANGA	KAMAR HAJARIKA	
	JORHAT NORTH WEST	RAJA HAWELI	RAJA HAWELI GAON	
SONITPUR	CHARIDUAR	MISSAMARI	MISSAMARI	
		HELAM	ARIBHANGAPATHAR	
		KRISHNAPUR	AMLUKHIDOLANI	
			MAGANIKACHARI	
	PURBA CHARIDUAR	DUBIA	DUBIA	
			MORNOIGURI	
		KALABARI	KUKURACHOWA	
		BORTAMULI	CHIRAKHOW	
	SIBSAGAR	GAURISAGAR		DHULIAPAR
			RUDRASAGAR	BENSUWA – BANGAON
BARUAPUKHURI			AHOIPURIA	
AMGURI		BORBAM	BAGJAN	
		BORSILA	BORSILA	
		KHONAMUKH	CHINTAMONIGORH	
SIBSAGAR		DESANG DHAI ALI	BAGAL HABI	
		SANTIPUR	GATANGAPATHAR	
DIMOW		DIMOW	DIHAJANHABI	
			PAHUKHOWDOLONI	
		PANIDIHING	BAHUABANI	
		RAJABARI	DEHINGKALGHAR	
			JAMIRA	

1. Religion

In the seven districts nearly 84.5% of the respondents are Hindu. While little more than 13% belongs to Muslim community, only 2% respondents follow Christianity and 0.12% is Sikh.

Table No: 2 religion wise distribution of respondents

District	Religion				Total
	Muslim	Hindu	Sikh	Christian	
Kamrup	1	160	-	19	180
in %	0.56	88.89	-	10.56	100.00
Morigaon	-	180	-	-	180
in %	-	100.00	-	-	100.00
Hailakandi	86	90	-	4	180
in %	47.78	50.00	-	2.22	100.00
Bogaigaon	113	127	-	-	240
in %	47.08	52.92	-	-	100.00
Jorhat	6	164	1	9	180
in %	3.33	91.11	-	5.00	100.00
Sonitpur	2	238	-	-	240
in %	0.83	99.17	-	-	100.00
Sivsagar	5	384	1	-	390
in %	1.28	98.46	0.26	-	100.00
Total	213	1343	2	32	1590
In %	13.40	84.47	0.13	2.01	100.00

District wise data shows that hundred percent respondents of Morigaon district are Hindu, followed by 99% in Sonitpur, 98% in Sibsagar, 91% in Jorhat and nearly 89% in Kamrup. On the other hand, in Bogaigaon and Hailakandi percentage of Hindu respondents are 53% and 50% respectively. In those two districts, respondents who follow Islam are more or less comparable, i. e. 47% and nearly 48% respectively. However, in other districts Muslim respondents are less than 5%. Even in Morigaon district there is no respondent who follow Islam. Out of 1590 respondents only two are from Sikh community, one from Jorhat and another from Sibsagar district. Besides, 32 respondents belong to Christianity. Out of seven districts only Kamrup, Hailakandi and Jorhat have Christian respondents.

2. Caste and Ethnicity

Out of 540 respondents 38.49% (612) are from general caste. However there is a substantial portion of OBC population. Little more than 33% respondents belong to OBC. 18.05% respondents belong to Scheduled Caste community. Percentage of both STs is 9.69%.

In Kamrup ST respondents comprising nearly 51%, while 63% OBCs represented at Sibsagar district, SC respondents were nearly 33% at Jorhat and 27% at Bongaigaon.

Table No 3 Caste breakup

District	Social stratification					Total
	SC	ST	OBC	General	Other	
Kamrup	36	91	18	35	-	180
in %	20.00	50.56	10.00	19.44	-	100.00
Morigaon	19	35	10	116	-	180
in %	10.56	19.44	5.56	64.44	-	100.00
Hailakandi	17	2	43	118	-	180
in %	9.44	1.11	23.89	65.56	-	100.00
Bogaigaon	65	1	76	98	-	240
in %	27.08	0.42	31.67	40.83	-	100.00
Jorhat	59	13	31	70	7	180
in %	32.78	7.22	17.22	38.89	3.89	100.00
Sonitpur	32	4	107	97	-	240
in %	13.33	1.67	44.58	40.42	-	100.00
Sibsagar	59	8	245	78	-	390
in %	15.13	2.05	62.82	20.00	-	100.00
Total	287	154	530	612	7	1590
%	18.05	9.69	33.33	38.49	0.44	100.00

3. Type of Family and Female Headed Household

The study intends to see the type of family and the gender of the head of the family have any co- relation with access and the pattern of usage of water supply and sanitation systems and the related knowledge, attitude and practices.

Table No: 4 details of family structure

District	Type of family		Total
	Nuclear	Others	
Kamrup	132	48	180
in %	73.33	26.67	100.00
Morigaon	125	55	180
in %	69.44	30.56	100.00
Hailakandi	164	16	180
in %	91.11	8.89	100.00
Jorhat	126	54	180
in %	70.00	30.00	100.00
Bogaigaon	152	88	240
in %	63.33	36.67	100.00
Sonitpur	209	31	240
in %	87.08	12.92	100.00
Sibsagar	302	88	390
in %	77.44	22.56	100.00
Total	1210	380	1590
in %	76.10	23.90	100.00

The data reveals that more than 76% families are nuclear and the rest 24% are joint families. It is interesting to know that contrary to common belief in rural areas also families are primarily nuclear. While there are 380 (24%) joint families, no extended families are found among the respondents. Data reveals that in all the seven districts nuclear families are more than 60%. Highest percentage (91.1%) of nuclear families is found in Hailakandi and the lowest percentage (63.3%) is in Bogaigaon.

Table No: 5 Women headed household details

		Women Headed (%)	Total
District	Bogaigaon	9.58	240
	Hailakandi	7.78	180
	Jorhat	11.67	180
	KAMRUP	17.78	180
	MORIGAON	13.89	180
	SIBSAGAR	10.26	390
	SONITPUR	4.17	240
Total			1590

Regarding the gender of the head of the HH the data shows that little more than 10% (165) households are headed by women and the rest (90%) have male heads. Highest percentage of female headed households is found in Kamrup district (17.77%).

4. BPL Card Holding

Table No: 6 BPL Card Holding

District	BPL card		Total
	Yes	No	
Kamrup	72	108	180
in %	40.00	60.00	100.00
Morigaon	73	107	180
in %	40.56	59.44	100.00
Hailakandi	110	70	180
in %	61.11	38.89	100.00
Bogaigaon	79	161	240
in %	32.92	67.08	100.00
Jorhat	45	135	180
in %	25.00	75.00	100.00
Sonitpur	50	190	240
in %	20.83	79.17	100.00
Sibsagar	55	335	390
in %	14.10	85.90	100.00
Total	484	1106	1590

District	BPL card		Total
	Yes	No	
in %	30.44	69.56	100.00

The study shows that while little more than 30% respondents own BPL card, nearly 70% do not have. Highest percentage of BPL among the respondents is found in Hailakandi (61%) and the lowest in Sibsagar (14.10%).

5. Land Holding

Table No:7 land holding details

District	Land Holding		Total
	Yes	No	
Kamrup	141	39	180
in %	78.33	21.67	100.00
Morigaon	128	52	180
in %	71.11	28.89	100.00
Hailakandi	49	131	180
in %	27.22	72.78	100.00
Bogaigaon	207	33	240
in %	86.25	13.75	100.00
Jorhat	170	10	180
in %	94.44	5.56	100.00
Sonitpur	214	26	240
in %	89.17	10.83	100.00
Sibsagar	353	37	390
in %	90.51	9.49	100.00
Total	1262	328	1590
in %	79.37	20.63	100.00

It is to note that while more than 20% of the respondents do not own any agricultural land, the rest 80% has agricultural land which is cultivable. In Hailakandi, nearly 73 % respondents do not own any land, which is the highest among all the respondents. It also corroborates with the highest percentage of BPLs among the respondents in the district. On the other hand, the highest number of land owning among the respondents are found in Jorhat (94.4%), followed by Sibsagar (90.5%) and Sonitpur (89.1%).

6. Type of House

Table No: 8 Type of house

District	Respondents owning Pucca house		Total
	Yes	No	

District	Respondents owning Pucca house		Total
	Yes	No	
Kamrup	82	98	180
in %	45.56	54.44	100.00
Morigaon	66	114	180
in %	36.67	63.33	100.00
Hailakandi	37	143	180
in %	20.56	79.44	100.00
Bogaigaon	85	155	240
in %	35.42	64.58	100.00
Jorhat	80	100	180
in %	44.44	55.56	100.00
Sonitpur	75	165	240
in %	31.25	68.75	100.00
Sibsagar	130	260	390
in %	33.33	66.67	100.00
Total	555	1035	1590
in %	34.91	65.09	100.00

In case of residing in pucca house, it is found that out of 1590 respondents while 34.9 % (555 persons) reside in pucca house a vast majority (65%) do not have any pucca house. Supporting the data of highest number of BPL and lowest number of land ownership, respondents of Hailakandi have the lowest percentage (20.5%) of pucca house. Highest number of pucca houses is found in Kamrup (46%) followed by Jorhat (44%).

7. Regular Monthly Income

Table No: 9 Number of family members having regular monthly income

District	No of family members having regular monthly income					Total
	1	2	3	4	5	
Kamrup	127	34	17	2	-	180
in %	70.56	18.89	9.44	1.11	-	100.00
Morigaon	129	38	11	2	-	180
in %	71.67	21.11	6.11	1.11	-	100.00
Hailakandi	144	29	3	3	1	180
in %	80.00	16.11	1.67	1.67	0.56	100.00
Jorhat	136	36	7	1	-	180
in %	75.56	20.00	3.89	0.56	-	100.00
Bogaigaon	171	47	17	3	2	240
in %	71.25	19.58	7.08	1.25	0.83	100.00
Sonitpur	206	30	4	-	-	240
in %	85.83	12.50	1.67	-	-	100.00
Sibsagar	337	42	10	1	-	390

in %	86.41	10.77	2.56	0.26	-	100.00
Total	1250	256	69	12	3	1590
in %	78.62	16.10	4.34	0.75	0.19	100.00

Data reveals that out of 1590 respondents' family nearly 79% is single income family. While 16% respondents have double earners in the family and 4.34% have three earning members; less than 1% families have more than three earners. Double or more income reduces the vulnerability of the family and increases the chance of having disposable income.

Data also reveals that while little less than 50% think that their income is sufficient to run their family, the rest 50% feels otherwise. However, it is interesting to note that in Kamrup district only 4.4% respondents feel that their income is not sufficient. In case of emergency there is a trend to borrow money from friends and relatives as well as from money lenders. Relatively less number of participants tries other sources like bank or SHGs. It shows inadequate institutional credit delivery system across all study districts of the State.

8. Ownership of Consumer Goods, Conveyance and Productive Assets

To know the purchasing power of the respondents and to assess their standard of living as well as their production capacity the study intends to find out the ownership pattern of consumer goods and conveyance and productive assets among the respondents.

Three household items have been selected, namely, television, refrigerator and fan to assess the purchasing power and standard of living of the respondents.

Out of the 1590 respondents 65% own fans, 51% has television and only 5% has refrigerators in their house. It generally shows that people give more importance to entertainment aspect in general and television in particular than day to day household requirements like refrigerator.

In case of conveyance it is found that while 14 % respondents have two wheelers, only 2.26% has four wheelers.

Table 10 Owning of Consumer Goods, Conveyance

District	Television		Refrigerator		Fan		Two wheeler		Four wheeler		total respondents
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	
Kamrup	122	58	16	164	116	64	40	□□□	8	172	180
in %	68	32	9	91	64	36	22	78	4	96	100
Morigaon	125	55	14	166	147	33	25	155	7	173	180
in %	69	31	8	92	82	18	14	86	4	96	100
Hailakandi	49	131	4	176	61	119	8	172	2	178	180
in %	27	73	2	98	34	66	4	96	1	99	100
Bogaigaon	104	136	7	233	113	127	26	214	4	236	240

District	Television		Refrigerator		Fan		Two wheeler		Four wheeler		total respondents
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	
in %	43.33	56.67	2.92	97.08	47.08	52.92	10.83	89.17	1.67	98.33	100
Jorhat	111	69	18	162	136	44	40	140	6	174	180
in %	62	38	10	90	76	24	22	78	3	97	100
Sonitpur	119	121	1	239	184	56	33	207	6	234	240
in %	49.58	50.42	0.42	99.58	76.67	23.33	13.75	86.25	2.5	97.5	100
Sibsagar	182	208	20	370	281	109	52	338	3	387	390
in %	46.67	53.33	5.13	94.87	72.05	27.95	13.33	86.67	0.77	99.23	100
Total	812	778	80	1,510	1,038	552	224	1,366	36	1,554	1590
in %	51.07	48.93	5.03	in %	65.28	34.72	14.09	in %	2.26	97.74	100

Tractor, power tiller, thrashers sprayer and thrasher are the four major productive assets especially among the farmer community. Among the 1590 respondents from seven districts nearly 80% have land holding. However in case of owning of productive assets it is found the only 0.31% have tractor, 0.25% have power tiller and 0.19% have sprayer. However, no respondent have personal thrasher.

Table No: 11 details of Productive Assets owned by the respondents

District	Tractor		Power Tiller		Sprayer	
	Yes	No	Yes	No	Yes	No
Bogaigaon	-	240	-	240	1	239
in %	-	100.00	-	100.00	0.42	99.58
Hailakandi	-	180	-	180	-	180
in %	-	100	-	100	-	100
Jorhat	2	178	1	179	-	180
in %	1	99	1	99	-	100
KAMRUP	2	178	1	179	1	179
in %	1	99	1	99	1	99
MORIGAON	1	179	-	180	1	179
in %	1	99	-	100	1	99
SIBSAGAR	-	390	2	388	-	390
in %	-	100.00	0.51	99.49	-	100.00
SONITPUR	-	240	-	240	-	240
in %	-	100.00	-	100.00	-	100.00
Total	5	1,585	4	1,586	3	1,587
in %	0.31	99.69	0.25	in %	0.19	99.81

Respondents of Bongaigaon, Hailakandi, Sibsaagar and Sonitpur do not have Tractors while only 5 tractors reported owned by the respondents at Jorhat, Kamrup districts. None of the

respondents own Thrashers again a negligible 3 persons owns Sprayers at Bongaigaon, Kamrup and Morigaon districts. .

B. Water Use

1. Availability and accessibility of Water

Survey reveals that many of the respondents use water from different sources. Highest number of respondents, i.e. 491(30.88%) use water from hand pumps and 23.14% avail community piped water. However, it is alarming to note that i.e. 25.09% (399) use water from well, 9.81% use pond water and another 0.5% use either river or spring water for their daily needs. Therefore, nearly more than 34% respondents use water sources which are not considered as hygienic. Nearly 28% used piped water either from community sources or from individual connection (4.27%).

Table No: 12 Availability of water sources

District	Source of Water								Total
	well	pond	Personal tube well	Community tube well	Hand pump	Community piped water	Individual piped water	Other	
Kamrup	96	2	-	3	61	64	-	-	180
in %	53	1	-	2	34	36	-	-	100
Morigaon	41	-	-	-	86	68	18	-	180
in %	23	-	-	-	48	38	10	-	100
Hailakandi	4	139	1	8	23	11	-	6	180
in %	2	77	1	4	13	6	-	3	100
Bogaigaon	85	-	24	8	152	7	-	-	240
in %	35	-	10	3	63	3	-	-	100
Jorhat	10	11	1	-	40	97	20	-	180
in %	6	6	1	-	22	54	11	-	100
Sonitpur	120	-	-	11	76	34	-	1	240
in %	50	-	-	5	32	14	-	0	100
Sibsagar	43	6	3	45	175	87	30	1	390
in %	11	2	1	12	45	22	8	0	100
Total	399	156	29	75	491	368	68	8	1,590
in %	25	10	2	5	31	23	4	1	100

District wise data shows that out of 180 respondents, in Hailakandi 139 (77.22%) still use pond water for their daily use, while in, Bongaigaon and Sonitpur district, no use of pond water was reported by the respondents. In Kamrup (53.33%) and Sonitpur (50%) districts respondents predominantly use well. Other than well community piped water and hand pumps are prevalent. Among the respondents of Morigaon hand pumps (47.77%) are the primary source of water followed by community piped water (37.77%). Besides, 22.7% respondents take water from well. Among the total 68 respondents who have individual pipeline in their house, 30 are from Sibsaagar, 20 are from Jorhat and 18 are from Morigaon district.

Regarding the distance of the water source, the study reveals that the respondents travel maximum up to 400 mtr to collect water for their daily use. 60% respondents do not travel to collect water as they collect it from individual well, ponds and hand pumps. Among the rest 40%, 32.57% collect the water from within 100 mtrs. However, nearly 7.5% respondents use to travel 100 to 400 mtrs to collect their daily water.

Respondents shared that they have to spend five to thirty minutes time to collect water. However, they have basically mentioned the time spent for travel, but not the time they spend for collecting the water from public water source. That is why, those who collect water from individual well or private connection they have mentioned no time for collection.

Regarding collection of water it is found that in more than 70% cases water collection is the responsibility of women. In case of 29% respondents it is found that the water is collected jointly by men and women. And in less than 1% cases the male members of the household collect water.

2. Perception regarding safe water

Out of 1590 respondents more than 68% feels that the water they use for domestic or drinking purpose is safe. However, the rest 32%% feels otherwise. It is interesting to note that 63.88% respondents in Hailakandi district feel that the water is not safe. It supports the fact that a considerable number of people use pond water in Hailakandi. On the other hand, 90.5% respondents in Morigaon and nearly 76% of Jorhat and Sibsagar feel that the water is safe. In both the cases there are prevalence of hand pump and community piped water. Therefore the data supports the perception.

Table No 13 Perception regarding safe water

Perception regarding safe water used for domestic and drinking purpose			Total respondents
District	Yes	No	
Kamrup	121	59	180
in %	67.22	32.78	100.00
Morigaon	163	17	180
in %	90.56	9.44	100.00
Hailakandi	65	115	180
in %	36.11	63.89	100.00
Bogaigaon	162	78	240
in %	67.50	32.50	100.00
Jorhat	137	43	180
in %	76.11	23.89	100.00
Sonitpur	143	97	240
in %	59.58	40.42	100.00
Sibsagar	296	94	390
in %	75.90	24.10	100.00
Total	1087	500	1590
in %	68.36	31.64	100

C. Waterborne Diseases

Out of 1590 respondents, about 45.5% are aware about different waterborne diseases. However, even today the rest 54.5% are unaware of that. Their ignorance is one of the major reasons for their vulnerability and disease proneness. While in Kamrup, Morigaon, Hailakandi and Sonitpur major percentage of respondents are aware about the various diseases caused by the water, in other districts majority of the respondents are not aware.

Table No 14 Awareness about water borne disease

District	Aware	Not aware	Total
Kamrup	102	78	180
in %	56.67	43.33	100.00
Morigaon	107	73	180
in %	59.44	40.56	100.00
Hailakandi	130	50	180
in %	72.22	27.78	100.00
Bogaigaon	74	166	240
in %	31	69	100
Jorhat	56	124	180
in %	31.11	68.89	100.00
Sonitpur	133	107	240
in %	55	45	100
Sibsagar	122	268	390
in %	31	69	100
Total	724	866	1590
%	45.53	54.47	100

The study reveals that nearly 37% respondents have reported the occurrence of water borne disease in their families. District wise data shows that 68.3% respondents in Hailakandi and 44.5% in Sonitpur have informed that there were incidences of diseases after using the water. It justifies the need for immediate implementation of Rural Water and Sanitation project.

Table No 15 Occurrence of Waterborne diseases in family

District	Waterborne diseases in Family		Total
	Yes	No	
Kamrup	74	106	180
in %	41.11	58.89	100.00
Morigaon	57	123	180
in %	31.67	68.33	100.00
Hailakandi	123	57	180

District	Waterborne diseases in Family		Total
	Yes	No	
in %	68.33	31.67	100.00
Bogaigaon	69	171	240
in %	29	71	100
Jorhat	53	127	180
in %	29.44	70.56	100.00
Sonitpur	107	133	240
in %	45	55	100
Sibsagar	103	287	390
in %	26	74	100
Total	586	1004	1590
%	36.86	63.14	100

D. Willingness to Pay

One of the major aspects which have been included in this survey is to get the idea of respondents' willingness to pay for the water and sanitation facilities.

When respondents are asked about their preferences for water connection, nearly 90% respondents expectedly preferred individual connection and the rest 10% asked for community connection.

Table No 16 willingness to pay

District	Preference of water connection		Total
	Individual connection	Community Connection	
Kamrup	163	17	180
in %	90.56	9.44	100.00
Morigaon	149	31	180
in %	82.78	17.22	100.00
Hailakandi	142	38	180
in %	78.89	21.11	100.00
Bogaigaon	231	9	240
in %	96	4	100
Jorhat	156	24	180
in %	86.67	13.33	100.00
Sonitpur	229	11	240
in %	95	5	100
Sibsagar	358	32	390
in %	92	8	100
Total	1428	162	1590
%	89.81	10.19	100

Table No 17 Willingness to pay for type Water Connection

District	Willingness to pay for individual water connection		Willingness to pay for community water connection		Total respondents
	Willing	Not willing	Willing	Not willing	
Kamrup	132	48	78	102	180
in %	73.33	26.67	43.33	56.67	100.00
Morigaon	103	77	56	124	180
in %	57.22	42.78	31.11	68.89	100.00
Hailakandi	104	76	77	103	180
in %	57.78	42.22	42.78	57.22	100.00
Bogaigaon	108	123	83	157	240
in %	45	51	35	65	100
Jorhat	121	59	81	99	180
in %	67.22	32.78	45.00	55.00	100.00
Sonitpur	173	67	89	151	240
in %	72	28	37	63	100
Sibsagar	217	173	127	263	390
in %	56	44	33	67	100
Total	958	632	591	999	1590
%	60.25	39.74	37.17	62.83	100

Comparative data on willingness to pay for individual and community connection shows that while 60% respondents are willing to pay for the individual connection, only 37% are willing for community connection. In case of individual water connection 40% respondent are not willing to pay for individual connection. District wise data shows that 51.25% in Bogaigaon and 44.35% in Sibsaagar are not willing to pay for the proposed individual water connection. On the other hand, nearly 63% respondents have showed their reluctance for paying for community water connection and in all the study districts more than 55% respondents are reluctant to pay for community level connections.

Data also reveals that while 60% respondents are willing to pay according to meter reading the rest 40% are not willing. It shows that those who are willing to pay for individual water connection all are agreeable to make the payment according to the meter reading. In Sibsagar, and Hailakandi more than 40% respondents found reluctant while in Bongaion 55% are reluctant to pay water charges as per Meter reading

Table No 18 Willing to pay as per the meter reading

District	Willing to pay as per the meter reading		Total
	Willing	Not willing	
Kamrup	132	48	180
in %	73.33	26.67	100.00
Morigaon	103	77	180
in %	57.22	42.78	100.00
Hailakandi	104	76	180
in %	57.78	42.22	100.00
Bogaigaon	108	132	240
in %	45.00	55.00	100.00
Jorhat	121	59	180
in %	67.22	32.78	100.00
Sonitpur	173	67	240
in %	72.08	27.92	100.00
Sibsagar	217	173	390
in %	55.64	44.36	100.00
Total	958	632	1590
%	60.25	39.75	100

While respondents were asked about their plan to maintain the water meter, a few common answers which came from them are creation of community awareness and community participation. They also suggested for formation of village water committee and proposed for their own contribution for regular maintenance. They also recommended for construction of boundary wall for proper maintenance of the water meter. However, more than 43% respondents have showed their reluctance to give any answer.

Present Status of Sanitation

Open defecation puts people at high risk for water borne diseases. It contaminates groundwater used for drinking, cleaning, etc. and poses a serious health hazard in community and public areas where collection/disposal is unreliable. Terming India as world's

capital for open defecation, in 2012 Drinking Water and Sanitation Minister Jairam Ramesh mentioned that over 60 percent of all open defecation takes place in India.

In the present study data shows that in all seven districts of Assam open defecation is still in practice in their districts. Out of 1590 respondents nearly 90% have reported the practice of open defecation in their village. In Sonitpur (100%) followed by Hailakhandi, Bongaigaon and Jorhat the situation is worse with 90%, followed by in Kamrup (69%), and (68%).

Table No 19 Open defecation still in practice

District	Open defecation still in practice		Total
	Yes	No	
Kamrup	124	56	180
in %	68.89	31.11	100.00
Morigaon	123	57	180
in %	68.33	31.67	100.00
Hailakandi	169	11	180
in %	93.89	6.11	100.00
Bogaigaon	238	2	240
in %	99.17	0.83	100.00
Jorhat	173	7	180
in %	96.11	3.89	100.00
Sonitpur	240	0	240
in %	100.00	-	100.00
Sibsagar	350	40	390
in %	89.74	10.26	100.00
Total	1417	173	1590
%	89.12	10.88	100.00

In general, respondents do not have toilets in their house. Moreover, those are having toilets do not have any sewerage connection. No presence of sewerage connection has been found among the respondents.

However, when they were asked about new sewerage connection most of the people showed interest. Moreover, majority of them also agreed for their contribution. However, while little more than 27% respondents could categorically share the nature of contribution they would make for improved sanitation, nearly 73% could not say anything.

Table No 20 Nature of Contribution for having Sewerage Connection

District	Nature of Contribution for Sewerage Connection	Total
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	Money	Labour	No idea	
Kamrup	10	54	116	180
in %	5.56	30.00	64.44	100.00
Morigaon	17	37	126	180
in %	9.44	20.56	70.00	100.00
Hailakandi	5	77	98	180
in %	2.78	42.78	54.44	100.00
Bogaigaon	34	52	154	240
in %	14.17	21.67	64.17	133.33
Jorhat	27	32	121	180
in %	15.00	17.78	67.22	100.00
Sonitpur	14	20	206	240
in %	5.83	8.33	85.83	133.33
Sibsagar	25	28	337	390
in %	6.41	7.18	86.41	216.67
Total	132	300	1158	1590
%	8.3	18.87	72.83	100

Out of 1590 respondents, 8.3% have showed their willingness to contribute cash for improved sanitation facility. On the other hand, nearly 19% told that they would contribute in the form of putting labour. District wise data shows that except Sibsagar district in all other districts number of respondents wanted to contribute in form of labour is more than the people wanted to contribute cash. In Bongaigao, Jorhat, Sonotpur and Sibsagar districts, they opined of not having any idea about community contribution for construction of sewerage.