

# Gender and Water Poverty: Salinity in Rampal and Saronkhola, Bagerhat



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Voice of South Bangladesh**

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## Acknowledgement

The inspiration of this study originated in a field visit on February 29, 2016 at Perikhali union of Rampal Upazilla, under Bagerhat district, where GWAPB and VoSB went together to meet with the wives, mothers and daughters of fisher men and boys who go for seasonal work to the chars in the Bay of Bengal. They expressed some unheard stories of misery and vulnerability, worsened in recent years by severe scarcity of fresh water in the locality, related to extreme salinity. The description of adversity shocked me the core of my beings. Since then, I was thinking about what we can do for these vulnerable groups, especially in the field of safe water essential for their survival.

I am indebted to Joke Muylwijk, global expert on gender and water and Executive Director, Gender and Water Alliance, internationally, who kindly agreed to provide her support to make the study in the situation of women and men related to salinity a reality, possible by the financing of the Dutch Embassy.

I would like to thank all the members of “Gender and Water Programme Bangladesh” for their support, and cooperation to conducting the study. Since our two years long standing relationship with GWAPB as a member, we became familiar with the issues of Gender, Gender and diversity, 4 elements of empowerment, Gender equality that enhanced us to conduct the study in a convenient way.

My gratitude and thanks to controller of the study, A. Acosta, contract manager Ms Shaila Shahid, Team Leader, Mr Paul Modhu and Milena Nevolina from GWAPB and GWA for extending their support and cooperation to make the study feasible.

Thanks to all Research Assistants for their inclusive dedication to find out some unheard stories and data on miseries and vulnerabilities surrounding the scarcity of water and empowerment, which was amazing. During interviews, they became emotional as the misery of no fresh water and poverty touched their hearts, especially when they interviewed pregnant women and disabled children.

This study could never have been done without the cooperation of our hundreds of climate victim’s men, women and children in the study area. We realized from the field visit that they are working hard to survive whilst living in the most challenging environment through fighting with adversity. My heartiest gratitude to all the respondent of the study.

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## 1. Introduction and background

The evidence is clear, global warming is a fact and it is already started to create its adverse effects on coastal belt populations of Bangladesh by increasingly frequent and severe disasters, extreme temperatures, the rising in the sea level, lack of safe drinking water, which all are now experienced by men, women, children and the biodiversity of the coast. Water poverty is the consequence in a large part of the coastal belt. From our study, we found the following causes responsible for salinity and water poverty in our study area of Rampal and Saronkhola upazilla under Bagerhat district.

- The reduction in upstream freshwater flow from the Ganges, which has dropped off significantly in the Padma (Bangladesh branch of the Ganges River) since India's commission in 1975 of the Farakka Barrage. This has increased salinity levels in river waters near the coast. River water used to push the saline sea water back, but now the rivers lack that power.
- Climate change as a result of global warming makes the sea water rise and makes the salinity of groundwater increase and reach further into the main land.
- Due to the cyclones Sidr in 2007 and Aila in 2009, salinity flooded almost all the sweet water sources of the locality, which is now adding gradually day by day, due to sea level rise and increase of salinity even in the ground water.
- Lack of sufficient big ponds in the area for providing drinking water. There are many ponds where peoples are cultivating fish (especially shrimp) through using chemicals and fertilizer, which also makes the water unsuitable for drinking. There is no way to purify it.
- Nowadays it is very difficult to get safe drinking water even after boring deeply, whilst the major source of drinking water is deep tube-well water in these area. This is also contaminated by salinity.
- Of many families the men spend many months away as migrant labourers or as fishers in the Bay of Bengal, leaving women and children and elderly behind to care for themselves. They have a hard time without fresh water and with the land all turned saline.
- Rainwater harvesting needs strong and smooth rooftops, management, technical knowledge and big tanks with technology, which is unknown and inaccessible to extreme poor men and women.
- Women and girls remain responsible for fetching water to the house, but fresh water is very hard to be found. They have to spend much more time for this task than before.
- In some areas, the upper level of water is also full of arsenic. Now arsenic testing has turned into an individual issue. If anybody wants to test the water of their tube well, he/she has to visit the Upazilla DPHE office for testing, which is not possible at all for rural poor people.
- In recent years, safe drinking water turned in to a commercial product, however access of poor people is limited, due to un-affordability of buying it by men and women.
- Since 2015, the Government started dredging of the Ghasiakhali river. Salty sand is dumped on vast areas of land adjoining the river, which make the already existing salinity situation worse and vulnerable groups are hit hardest by this severe adverse effect.

In consideration with the mentioned issues, it is almost clear that water poverty is emerging as growing challenge in the south-west coastal areas. The most adverse impact of this water poverty is that vulnerable groups are excluded from all the interventions and development in the safe water sector. They have very limited access in either management or consumption. Local Government Institutes have financial constraint to supply water for all groups of the population of the country. In addition, they are not getting support from local influential people for designing a program for vulnerable groups, as solvent people only bring alternative options of safe water for themselves, without caring for anybody else.

Due to these severe scarcity of safe water, poor men, women and children's are migrating from the area which is already reported by the Guardian in its 1<sup>st</sup> December, 2015 circulation:

*“Every day, another 2,000 people move to the Bangladeshi capital. It's nothing new – for generations Dhaka has been a magnet for those escaping rural poverty – but now climate change is accelerating the race to the city.” ...the majority of migrants hail from coastal areas that are already experiencing rising sea levels, increased salinity, destructive floods and cyclones. ...They were struggling to find fresh water to drink, as rising seas spilled into rivers. ...Ten years back, the area was freshwater – now it is not,”*

### **IWM<sup>1</sup> and Professor Ainun Nishat, Emeritus professor of BRAC University**

have analysed the River Salinity in Coastal Bangladesh in a Changing Climate. They expressed that “Our estimates further indicate that a number of districts will be most adversely affected by the increase in river salinity in a changing climate. In particular, we find ... .. In the worst scenario (most change from the baseline, March 2012), *over 90 percent of fresh river water in Pirojpur, Bagerhat and in Barisal will be at risk. Under this worst scenario, river water (with salinity > 2ppt) will no longer be utilizable for dry season agriculture in Barguna, Bhola, Jhalokati, Khulna, and Patuakhali districts.* Even in the best future scenario, fresh water scarcity will be severe: for example, 98 percent of rivers in Khulna and 97 percent of rivers in Bhola will be adversely affected.”



They warned that due to increase in salinity it is expected to induce an overall shift in the World Heritage Sunderbans mangrove forest from Sundari (the single most dominant and important species) to Gewa and Guran.

From the above-mentioned study report findings and our latest study findings, it seems to us that the severe crises for the people is not only existing now, it is warned to worsen in future. We find-out from extensively traveling in the study area and interviewing with old aged citizen that the biodiversity is changing in Rampal and Sarohkhola. Sweet water trees are gradually reducing and saline resistance trees (pictures) are growing rapidly, which is not only creating water poverty, but also creating food insecurity and malnutrition in the area.

Due to these growing and emerging crises of humanity, we conducted the study to find-out the real situation of water poverty from the gender and empowerment perspective. Our target groups of this study are poor women and men, extreme poor, indigenous people (women and men), persons with disability and extreme poor expecting and new mother.

Through the study, we experienced with some new concepts, ideas, indigenous knowledge, and diagnosed water poverty with some new styles of deprivation, discrimination, misery and vulnerabilities of disadvantaged people, surrounding the scarcity of water. In this modern civilization, everybody can enjoy at least minimum facilities of water, however in case of some lower caste people, they do not have any access to the public water supply point. Even they are not allowed to touch the deep tube well. It is discrimination contradicting gender equality.

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<sup>1</sup> The Institute of Water Modeling in Bangladesh

Both men and women witness the negative impact of extreme salinity. With women being more vulnerable, the impact will be different. We have designed our study in such ways, so that nobody is left behind, in terms of gender, ethnicity, poverty-level, and background. Inclusion of all categories is one of the values of our study. Some villages of Rampal riverside areas are now facing another challenges of saline water logging, due to the Ghosiakhali River dredging, when the salty sands are dumped on village areas, which create another serious problem of saline water logging.

The study brought us in touch with gender and gender and diversity and we have tried to collect all relevant information in a valid way.

We experienced some limitations when travelling to remote parts of villages to find the most disadvantaged women and men. We had challenging riversides, dam sides, roadsides, and lakesides to travel with hazardous ways to reach them. However, our dedicated Research Assistants did make it happen and we achieved our target households for survey, FGD, Case studies, etc.

We have placed our research findings and recommendations in this study report through different styles of structure, tables and graphs. We firmly believe that, these study findings will be helpful to contribute to designing practitioner's implementation, influence policy makers' decisions, and strengthen advocacy and campaign through disseminating knowledge about the real water crisis in the study area.

### **Objectives of the study**

- To assess social, economic, political and physical empowerment of women and men due to their access to water
- To assess the existing sources of water
- Study the scarcity of water and find the gaps in the need for water
- Find out the different tasks women and men (of different categories) do related to water.
- To diagnose the available facilities and the access the vulnerable groups have to them, as well as the constraints.

## **2. Literature review**

Water poverty due to salinity and recent salty sand dumping in the locality, arsenic, lack of availability of sweet water sources, un-affordability of buying water, etc. have turned into an emerging crises in our study area since, couple of years back. Till now, no study was conducted to find out the recent water poverty situation with root causes and its broader gender-based impacts on the human life, livelihood as well as the economy.

I have reviewed some studies related to water poverty to find out the adverse effects of salinity on women's reproductive health. Some researcher and research organization conducted these; however, the specific issue of gender relations, water poverty and empowerment were not incorporated. I have travelled a long way to find-out literature on impact of water scarcity, among both men and women. However failed to get information's with specific impacts on men and women. Some studies I have reviewed which are related to the water salinity problem of the study area, mainly for women's reproductive health and rarely on men.

## **Gobeshona<sup>2</sup>**

Gobeshona is a knowledge sharing platform for climate change research in Bangladesh. It has conducted a Research on “*Impact of salinity on women’s reproductive Health in Saline prone Rampal Upazilla at Bagerhat.*,” which findings are that saline intrusion in drinking water has multiple impacts including on women’s reproductive health. They mentioned a series of critical reproductive disorder like , inability to carry baby to term, pregnancy compromise, birth defects, Leucorrhoea, Pelvic Inflammatory Disease (PID), Urinary tract infection(UTI), Abdominal Discomfort, Obesity, Disabled child birth etc, which is really alarming. It may be mentioned, that Gobeshona conducted the study in the year 2014 and provided an area wise chart of Sodium intake which is more excessive than WHO recommended and sodium excretion in urine connected with the reproductive disorder.

## **Eminence<sup>3</sup>**

The research conducted in climate vulnerable coastal areas of Bangladesh including villages of Saronkhola upazilla to generate evidences on how climate change affects women’s reproductive health behavior in the coastal areas in Bangladesh. They identified the same series of health disorder as Gobeshona. They find out that in the dry season in saline prone areas, women including pregnant women and adolescent girls, are compelled to fetch water that causes various health and gynecological problems.

## **Research Team BASTOB<sup>4</sup>**

BASTOB has conducted a study on Climate Change, Gender and Vulnerable Groups in Bangladesh in the year 2008. The research team’s findings are something different from above-mentioned research, as they mentioned the impacts of water scarcity and women’s role from different perspectives, especially in terms of collecting water from distant places and its consequences on general health condition of women.

Furthermore, they write that some women and adolescent girls are affected by gynecological problems by using saline water during menstruation. “Women, explaining their bitter experiences about menstrual hygiene management, reported that saline water creates pain during menstruation. The used clothes become hard after drying (due to the water salinity), which creates discomfort when next used. Further use of the same hard clothes can create genital injury, including bleeding, infection and other complications.”

Furthermore, they added that “When a poor family cannot afford to collect water due to sickness or because it does not have any member in the family to do the job, they have to buy water from water vendors at Taka 10 per pitcher. It is very difficult for them to spend Taka 300 per month for drinking purposes as their monthly income is typically Taka 500 to Taka 1500. Therefore, sometimes they have no choice but to use saline water for drinking purposes. Furthermore, females are the prime consumers of saline water within their family.”

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<sup>2</sup> gobeshona.net/wp-content/uploads/2015/01/Impact-of-Salinity-on-Women-Reproductive-Health-in-Saline-Prone-Rampal-Upazilla-of-Bagerhat-Bangladesh.pdf

<sup>3</sup> a national Bangladeshi NGO funded by Population Action International, (Published on the Financial Express 23 March,2013

<sup>4</sup> Initiative for Peoples’ Self-Development and Centre for Global Change (CGC), Bangladesh Ahsan Uddin Ahmed Sharmind Neelormi Neelopal Adri Md. Shaiful Alam Kazi Nuruzzama



## **DEB, ICL, BCAS<sup>5</sup>**

A research was jointly facilitated by the Department of Epidemiology and Biostatistics, Imperial College London, and the Bangladesh Centre for Advanced Studies on “Drinking Water Salinity and Maternal Health in Coastal Bangladesh: Implications of Climate Change.”

From their study, they shown that-“Salinity in surface and groundwater is determined by a complex combination of factors, including river flow, tides, precipitation, estuarine circulation, water and land management practices, and also sea-level rise and other climatic variables. The reduction in upstream freshwater flow from the Ganges, which has dropped off significantly in the Padma (Bangladesh branch of the Ganges River) since India’s commission in 1975 of the Farakka Barrage (Mirza and Sarker 2004), has increased salinity levels in river waters near the coast. “...*This man-made situation may be the main driver for the wider problem, but the mechanisms by which the water supplies—shallow groundwater and the numerous ponds—develop increasing levels of salinity are not completely understood.*”

During our visit to the study field, some senior citizens informed us that the salinity started to flow in the local river after completed the construction of Farakka barrage by the Indian government in 1975. The statement is relevant with the above-mentioned study findings .

In consideration with the literature review and our research findings of current situation of the area, it revealed to us that salinity is not created only by climate change, there are some other factors responsible for extreme salinity. However, effects of salinity are enhancing the water poverty at a large scale and it requires to take an urgent initiative for overcoming this environmental degradation surrounding scarcity of water.

The literature largely bypasses the specific tasks of women in the households, for which fresh water is necessary, also their lack of influence in decision making in the rural areas, regarding water management. Government water supply is not to be found in most places.

### **3. Description of methodology**

The population for our study is divided into 7 categories each with their own questionnaire: five category-wise field level respondents, one for the Focus Group Discussions (FGD), and others for representatives of Local Government institutes.

As per activity plan to conduct the study, at first we selected 14 young, energetic and required qualified persons among our existing volunteers as a paid ‘Research Assistant ‘for the field level survey. Two of them are Upazilla Team Leaders and 12 are Research Assistants. After the selection process was completed, we organized orientation sessions and testing of the questionnaires for them in both Saronkhola and Rampal upazilla. The following subjects were prioritized in our orientation---

- Gender, sex, Gender and diversity, 4 elements of Empowerment,
- Gender and its relationship with climate change and water scarcity- in terms of empowerment perspectives.
- Objectives of the study

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<sup>5</sup> <http://ehp.niehs.nih.gov/1002804/>



- Detailed clarification of data and its collection strategy,
- Interview with very congenial ways, in consideration with time and environment of respondents
- Designing case study formats and emphasized on listening local language, writing styles and not to add from Research Assistant's own opinions.
- Problem solving skill in the field.
- Avoiding interruption in any form.
- Role play on survey
- Other relevant issues.

Since completing the orientation, I personally visited the field with my teams and demonstrated the style of interviewing and of data collection. After two days we invited the research assistants again in the office and checked and revised their filled-up questionnaires. We helped them with necessary changes and suggestions.

The research methodology is designed to build understanding of both the quantitative and qualitative magnitude of water poverty, gender and empowerment - how many people are affected - as well as its qualitative impact on lives and livelihoods.

Two Upazilla level teams were formed consisting of 14 (7 per upazilla) contractual staffs and VoSB volunteers for the study deployed at Rampal and Sharonkhola upazilla for carrying out the field level data collection, FGD and case study preparation. Each team operated in one upazilla for the duration of the study. Teams carried out both the quantitative and qualitative aspects of the study for their respective Upazilla. The central research coordination team (Consisting with Researcher, 1 research associate, 1 Data entry operator) is based in Bagerhat and was responsible to check with each team at the close of every day to review progress and supported to conduct the study in its right track and making any change, if required. The central team visited the study spots regularly, and further communicated by cell phone, SMS and e-mail for following-up the progress.

Focusing on our objective of the study, we have completed to interview with five Categories of population as following

- **Poor Rural Household women and men**
- **Extreme poor people**
- **Indigenous population: women and men**
- **Poor expecting and new mothers**
- **Person with disability, blind, mentally disordered, autistic children, old aged (m/w)**

We have prepared five different questionnaires for above-mentioned five groups of population to diagnosis the real vulnerability by water poverty and the gender issues both in quantitatively and qualitatively.

However to assess the service providers, committed elected representatives, water businesses, NGO,s and other stakeholders' role and arrangements for gender and water issues, we have designed another questionnaire for FGD and UP representatives to cover relevant stakeholders as another priority and formulate appropriate recommendations in consideration with their roles and arrangements. This is in addition of information covered by category wise questionnaire for five categories of respondents.

#### ❖ **Key Features of the methodology “**

- Consistent methodology (each team in two Upa-zillas worked in the same way)
- Consistent teams (teams was the same in composition and size)
- Ensure high quality data collection and Focus group discussions through orientation.
- Gender-sensitive team formation in consideration with the respondents convenient.

❖ **The quality of the information is important so team members followed:**

- Not to rush, and not to visit only convenient sites,
- Good and quality case study collected and recorded from both men and women.
- No interruption in interviews
- Provide feedback & report to the central office.

❖ **Some Challenges, surprising incidents during field survey:**

During field surveys, our Research Assistants were facing some experiences, challenges and contributed very well in such situations.

- Our Research Assistant Lipy Akhter acted very well during her field visit to Dacra under Rampal upazilla. Since she was crossing the river on boat on June 08, 2016. The boat was running to near about its destination. Suddenly, she found that the boat men fell down on the banks of the river and the lower parts of his body remained on the boat whilst the upper parts fell down. People were shouting “help him, help him”, however everybody was busy to jump from the boat and went away. Lipy, on the contrary, went to bring the men on board whilst seeking help from others. Another three people came to provide their support. Through her initiatives, the body of boatmen was brought on board. Then it was found that the boatmen unfortunately expired. She asked local people to carry the dead body to his relatives. This created a very good image of Lipy and also of our organization. People appreciated her courage and sense of humanity.
- In some places Research Assistants faced problems from some husbands of women respondents “not to visit his wife”. Even they were not helping our research assistant to pass the shaky bamboo bridges with bags to reach respondents, however they convinced them through discussion and solved the problem without confrontation. Although it was difficult to reach and challenging to interview in some cases, they made it possible and did very well.

It may be mentioned here that we were very aware about any interruption which can misleading our objectives and we also trained our Research Assistants on these issue. They became congenial during interviews with respondents and facilitated to explore them with enough time and patience. The unheard stories of our case studies and data is an evidence of this. Furthermore, there are some women’s subjects and secret health issues our rural women will not discuss with male Research Assistants. In such cases, we deployed female Research Assistants, especially in interviews with expecting and new mothers.

In consideration with the time the research was enriched with diversity of information and recommendations, We have designed this brief and achievable research methodology. Each research assistant was responsible to take interviews with 30 interviewees at village level and 10 participants through 1 FGD. Two Upazilla team leaders were responsible for interviews and questionnaires filled-up with 4 UP secretaries in the unions covered by this study, and overall supervision of team, locally as well. As our study focus area is a specific group of households in

the society, hence we have interviewed 353 respondents from 12 villages, under four unions at two respective upazillas of Bagerhat district.

### ❖ locations of the Study area

The locations for the study were selected through the initial visit and observation of the gender-based vulnerability of water due to climate change induced salinity. The name of two Upazillas is Sharonkhola and Rampal under Bagerhat district, Khulna division. Six Villages from each upazilla were selected for study.

#### **Sarankhola Upazilla:**

The area is located about 169 km south of Dhaka, the country's capital place. Sarankhola Upazila with an area of 756.61 sq km, bounded by Morrelganj Upazila on the north, the Bay of Bengal on the south. The Sundarban covers major area of the Upazila. The Upazilla is consists of 4 union parishads, 12 mouzas and 45 villages with a population of over one lakh, with male 51%, female 49%. The study covered villages are Saronkhola , Bogi, Chalitabunia, Southkhali ,Jhilbunia,Lakurtala,

#### **Rampal Upazila**

Area 291.22 sq km,. It is bounded by Bagerhat sadar and Fakirhat Upazilas on the north, Mongla and Morrelganj upazilas on the south, Morrelganj and Bagerhat Sadar Upazilas on the east, Batiaghata and Dacope Upazilas on the west.

Population Total 178503; male 52%, female 48%; Muslim 78%, Hindu 22%, Buddhist 0,3% and others 0,02%. Water bodies Main rivers: Daudkhali, Ghasiakhali, pasur, Mongla, Paylahar.

The study covered villages are Perikhali, ,Bhojpatia, Dakara, Kumarkhali, Ronjoypur, Chandrakhali. Among these villages Dakra is a historical important place due to following causes.<sup>6</sup>

Both the upazillas located in South-West Region of Bangladesh is near to the Bay of Bengal and Sundarban is demarcated the area with locality. Both the upazillas were severely affected by two super cyclone named SIDR in 2007 and Aila in 2009. The scarcity of water in these upazillas is so severe, that peoples have started to migrate, desperate for a positive change. Often men migrate first, leaving the women and children behind, but after some time, also the families will have to migrate, when living becomes impossible.

The total number of villages under this study area is 12 from 4 union of two upazillas. The village selection was done prior to start the study and through consultation with Up representatives and assessing the gender and water vulnerability through group discussion with local people.

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<sup>6</sup> **History of the War of Liberation**“The most memorable and brutal event of Rampal is the mass killing at village Dakra of Perikhali union by the Pak army in 1971. On 21 May the people of the Hindu community assembled at Dakra Kali Mandir with an object of crossing over to India in the face of torture of the local Razakars an Al-Badrs. On this day the razakars under Rajjab Ali Fakir launched a concerted attack from two sides coming on two Chhip boats and taking positions near the Kumarkhali and Madartali canals of Kaliganj bazar and killing a huge number of people and also setting many houses on fire. During the [war of liberation](#), the razakars used to capture people from different parts of the upazila, killed them at the mass killing site near the river ghat and threw the dead bodies into water. Besides, another brutal mass killing was held at village DoaniaBelai of Rampalupazila. (Banglapedia)

### ❖ Research questions

To keep in mind our research objectives, we have designed 5 categories of questionnaires to understand the real degree of empowerment, water scarcity and its gender based impact at field level. Questionnaires were designed for collecting both the qualitative and quantitative information. We have tried to make questions for easy answering as the target interviewees are specific groups of women and men where most of them are without literacy and busy with their work. Furthermore, to learn more about the situation, we optioned an ‘others’ column of all relevant parts of questionnaire, which makes it possible for the respondent to tell more about their impressions and experience on the issue and enrich us to get more information as well.

## 4. Gender and Empowerment

Empowerment assessment based on its four elements is an important issue of our study. Hence, we have concentrated our attention to assess the degree of empowerment among these special group of disadvantaged men, women and children. We have set our questionnaire for both men and women to identify their roles, responsibilities, access to water, participation, power structure and activities based on social, economic, physical and political empowerment assessment.

Since we learned from GWAPB workshops that these four elements of empowerment are inter related and together they indicate the degree of empowerment of an individual or groups with their identity in the society. So, in consideration with the issues, we have tried to find-out the real empowerment status among the target groups of our study. The design of our study facilitated us to start from the lower side of hierarchy of society to assess the empowerment status.

### ❖ Social Empowerment:

We have assessed the social empowerment status of our target populations in study area by incorporating social empowerment issues in the research questionnaire.



It may be mentioned that our target populations of the study is not only poor, some of them are persons with disability. Most of cases of empowerment, we had to consider their social status and position in the society. Our findings through interviews, case studies and FGDs brought some different experiences for disabled households social empowerment issues. We can listen to Khadija Begum (35), a poor women of Southkhali village of Saronkhola Upazilla under Bagerhat district, in the southern coast of Bangladesh.

#### *Case Study 1 Khadija Begum (35)*

**‘My opinion was not heard: I am a victim of forced marriage’**

‘I am the elder daughter among six children of my parents. My father was a fisherman and most of the time, he was sick. I had great interest in education. However, due to my

father's sickness and as an elder daughter, I had to do domestic works and nursing of my father as well. Since I was 13-14 years age, some of my neighbors came to our home with a marriage proposal. My father agreed, however I did not agree and to save myself, I ran away to Dhaka city. One and a half year later, my father brought me home from Dhaka and gave me in marriage to a speech-disabled men who was previously married and had two sons. My life struggle started, since I married.

Now we have four daughters and two sons including the previous children of my husband. Therefore, it is very tough for my husband to run the family and I have to work outside for earning. My husband is sick, but he is not creating any obstacle for my movement. Furthermore, there are no safe water sources, surrounding our area. Hence, we are using river water for cooking, bathing and drinking. Since morning, during tides, we bring water from the river and put fitkiri (crystallized potassium alums, using to purify water) to it, after keeping sometimes we use it for drinking and other purposes. There is no tube well or PSF nearby. My elder daughter is autistic. Every day we need minimum 4-5 jars of water (75 liters). Since continuous carrying water me and my daughter became sick and many spot were created to our both sides of the water carrying place in the body. I have delivered three daughters one after another. Local people told me that "once a time, all these three daughters will leave you, then, what will happen. Male child is a light of generation." Since then I have decided to have more children and finally a son was born.

Due to my poverty and disability of my husband, I have to move to other places for work, however local people criticized me and my payment of work is less than men.

I can take all decisions in my family, because my husband cannot speak and he is sick. Scarcity of safe water is a problem, natural disasters, diseases and treatment everything is to be managed by me in the family.

Through this case study and our findings, it seems to us that poverty is the issue which denies Khadija's interest and right to education. She ran away to avoid marriage to a speech disabled and already married men, however due to social pressure her father brought her home and after one and half years Khadija had to accept the same destiny for which she had run away from home and completely against her will. Her opinion and voice was not heard.



In case of safe water scarcity, she has no inclusion in society and simply she is drinking the River water which is not only saline contaminated, however bacteria and others germs are there. She has to work for her family, hence she has to move and her husband is not creating barriers to that.

We have other findings from our study, with a cobbler family. Shipra (see picture), an abandoned women from her husband is living with her father's family in Dakra village under Perikhali union of Rampal. In her family, her main responsibility is to bring water for all the family members, which is not possible without Shipra and due to this reason her family is not thinking about giving her to marry, although she is a young women with a sick child.



This is the reality of social empowerment status, which we find-out from our study. It seems to us that social discrimination is more and bigger in the society among poor and vulnerable groups in comparison with the middle class and privileged group in urban and rural areas.

Almost same situation is prevailing among men. We asked Krishnopodo das, Age-70, village – Dakra under Perikhali union of Rampal upazilla (Case study is with the report): “Have you visited the UP member/chairman to tell your scarcity of safe water?” “Yes sir, the member told me that saline water is everywhere, you may choose one and take it from there. I think it is an indicator of social discrimination and the men who hid hardest by the adversity, however their voices are not heard.

Through our study and findings its seems to us that a lot of social work is needed to bring a positive change to improve the situation.

#### ❖ **Physical empowerment :**

Due to existing poverty and the newly added misery surrounding scarcity of water, poor people of our study area are struggling to get fresh water for their survival. In this situation, it is expected that men, women and children in a family will be more cooperative to each other for managing the crises. However, our study shows that women in poor families are more vulnerable in their physical empowerment than men. Moreover, the discrimination sometimes appears as violation of women’s rights. We have interviewed many women to assess the situation. Here follows a case study on the issue:

#### *Case Study 2 Runu Begum<sup>7</sup>*

**“Are you married with me? This is your duty to collect water.”**

Runu Begum, a pregnant women, wife of Faisal Sheikh of village Chandrakhali under Rampal Upazilla, Bagerhat district:

“I am Runu Begum. We have four members family. We need at least five kolosh (15 liter jar) of water per day, however I am getting two jars and we are managing the day somehow with this shortage of water. We have no water supply system in Chandrakhali village.

Nobody came to visit us because you see that to reach my home a long saline water way has to be passed, however this is our daily event to cross the long way through saline water. Hence, both of my legs are burning. The area is remote and we have to pass a shaky bridge on the way of our home to reach, however I have to visit Dakra for bringing water, which is 2 hours away from my



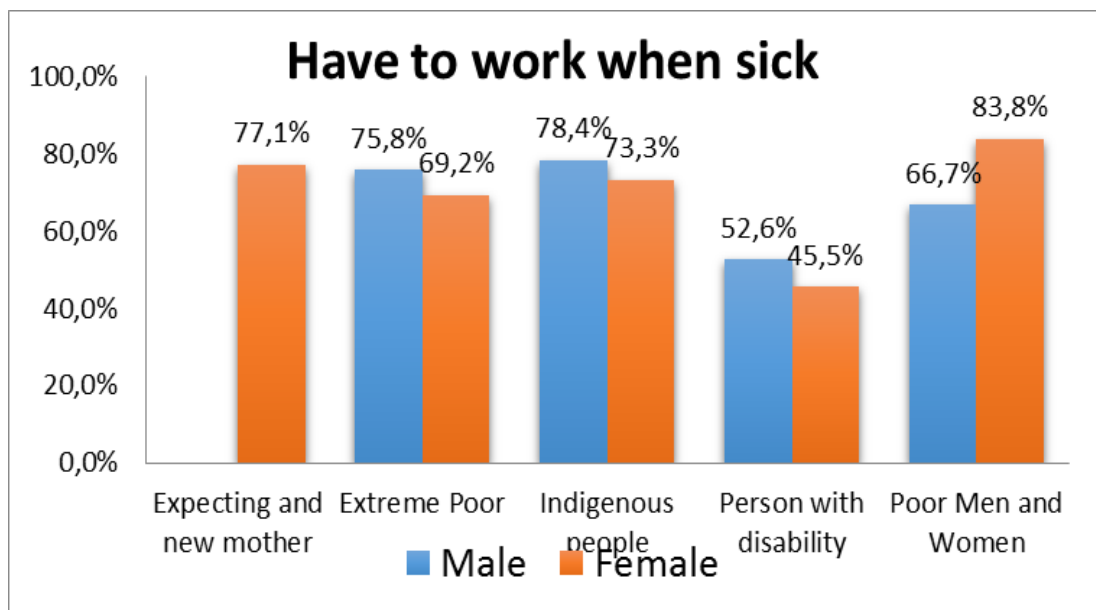
<sup>7</sup> Report by Lipy Begum, Research Assistant, Gender and Water Poverty study

home. Due to this long way travel, recently, I felt problems in my uterus. It is burning sometimes, and felt it at lower part of the abdomen. I do not know why this is, but it happens since the birth of my first son.



When my first son was delivered, I had to suffer too much pain in the uterus but there was no doctor or health worker to visit us. I think, the problem of uterus is due to visit long distance with full loaded jar of water. During menstrual period, we use waste cloths of family. If we washed it in saline water and dry in the sunlight, then it becomes hard and after its use I feel discomfort and feel some chulkani (allergic syndrome). I cannot tell it to anybody of the family. Once I told my husband, he laughed and insulted me and some days he avoided me to come close to him. No doctors visit us. There are some doctors in Dackra, but I could not tell him this most secret matter. There is no woman doctor nearby. In my family, different diseases are happening due to this salinity. I always tried to prevent my children to touch this water, however they do not follow me. As a result, they are suffering different diseases due to playing with salt water.

Apa, ki r komu ,(what I will say)? If I became sick and requested my husband to bring some water from Dackra, he became angry with me and told that **‘Are you married with me? This is your duty to collect water.’** Even sometimes, we had conflict with my husband. Apa, last year, when I visited the tube well for bringing water, my younger son fell into the water, God saved my son somehow. I placed my request to bring water to my husband by citing that example, but he does not care. Sometimes, when tidal water surrounded our home, I am not going the long distance for water, leaving behind my children, who do not know how to swim. During this period, I had to borrow water for drinking from the neighbour’s house. However, I could not convince my husband to bring water from the distant place.”





To assess the overall situation of physical empowerment, we interviewed both women and men to learn the status of physical empowerment, especially when they became sick.

From the above mentioned findings it seems to us that both women and men have to work for the family, even when they are sick. This is due to their status of poverty. However which is alarming to us is that 77 % expecting and new mothers have to work even when they became sick. During our field visit, we found many pregnant women carrying loaded water jars and most of our case studies show that several surprising incidents happened due to this carrying of heavy jars. Women are bearing that pain in their whole life. However it is the established culture in the society, that women are responsible for water collection. We asked both men and women regarding this discriminating culture. Most of the men replied that “it is the system in our society”. However most of the women told us with tears, “this is our destiny (kopal), as we are the married wife of our husband”.

In a family, our observation was that women in a family are the consumer of saline water after feeding all other members in the family with fresh water. Pregnant Runu Begum (case study 2) is still collecting water from a distant place and caring for her son by protecting him from falling down in the water. However her husband doesn't care. She has not a moment to take rest. Her children are not secured due to saline water all around them.

In consideration with the circumstances, it seems to us that the status of physical empowerment among disadvantaged women is more vulnerable than men. However, men also work when they are sick, because they are too poor not to work. Our study shows that those who are poorer have to work more with sickness and their level of physical empowerment is negligible.

➤ **Economic empowerment:**

Since assessing the economic empowerment of men and women in this study, it revealed that discrimination in wages among men and women are existing all over our study area. The same wage is not paid for the same work of men and women. Our interview and FGDs revealed that there is a big difference among wages. For instance, in the aquaculture field women are getting wage Tk 240, per day however male are getting Tk 300 per day. The difference in Tk 60 per day means taka 1800 per month. We asked these day laborers men and women to know is there any reason behind these differences and have you raised voice against this discrimination. Men labourers in the FGDs informed us that “this is the system in our area”. Female respondents informed us that they will be discharged from work, if they raise their voice against this discrimination. Therefore, they are afraid to protest and leave it as it is.



It may be mentioned here that during our interviews with women, we observed that most of male day labourers are handing over income money to their wives for family shopping, as he works in the field.

Among our disadvantaged target groups of the study both men and women are doing hard work for earning their bread and food. However, women's activities are not recognized as economic activities. Earning means in the family the men who bring cash.

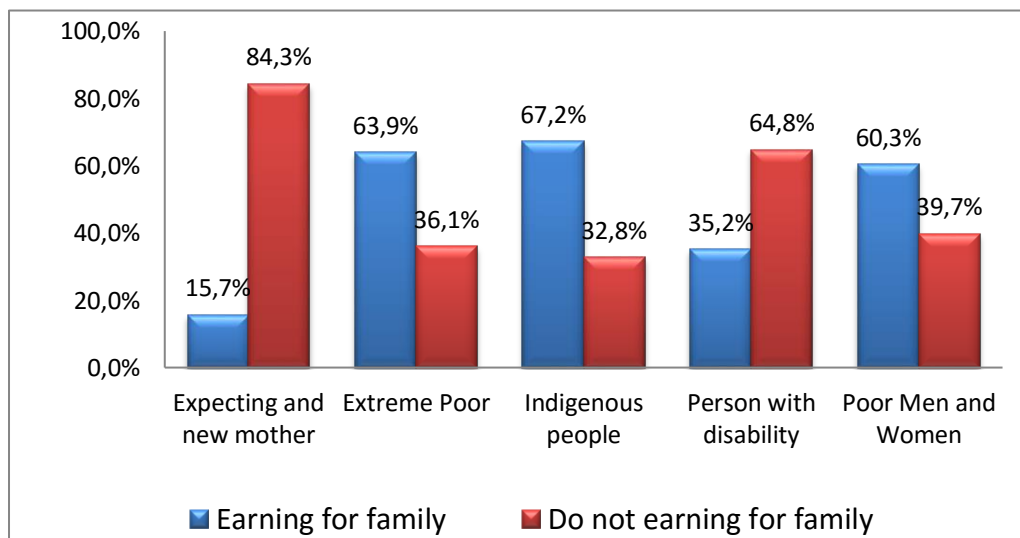
Many poor women are rearing poultry, working for their little farm, supplying water door to door and doing lot of hard work with economic value, however it is not recognized.

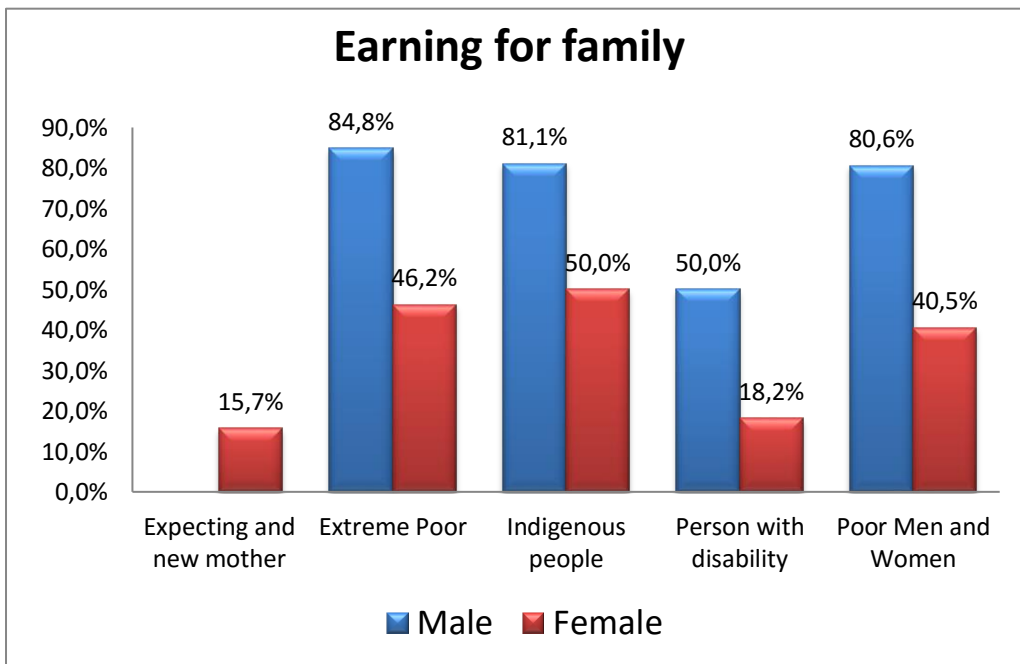
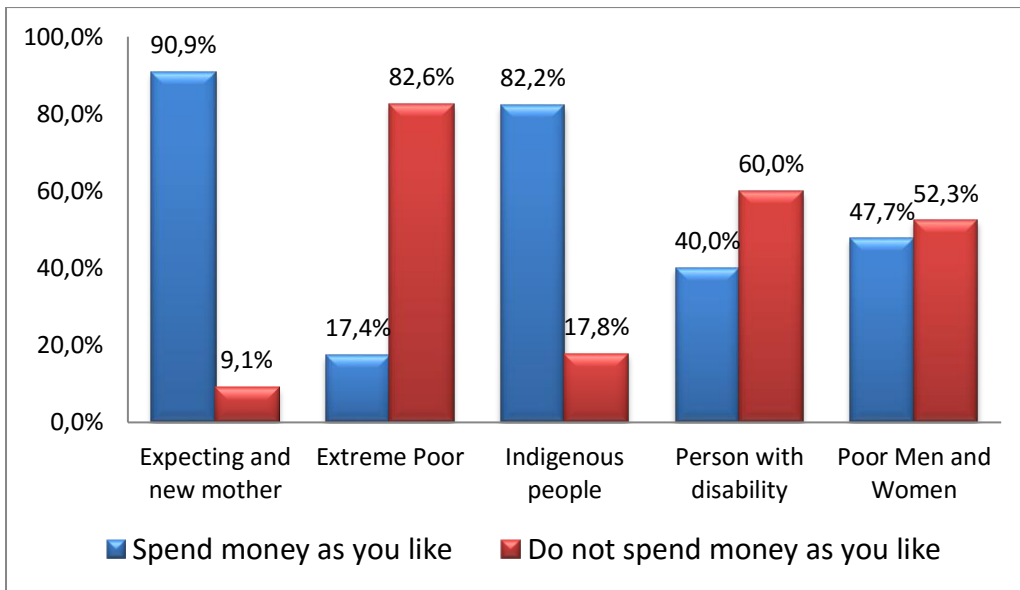
Advocacy is needed to count their activities as economic activity.

To assess the status of economic empowerment, we interviewed all 353 respondents both men and women. Our study findings show that 73% of male among the total respondents are working and earning money for the family and 27% of male respondents cannot work. However, 31% of the women among total respondent are working (cash income without considering their other economic activities) for earning money to their family. Among them 69% are not earning cash money for family.



In case of expenditure, 51% men among total respondents spend money and 49% is not spending money for their family. However, 49% women among total respondents spend money for the family and 50% of women are not spending money for the family. (Details in graph below). It may be noted here that in most cases women are spending money on behalf of their husband and they have to submit accounts to her husband. In cases of women labourers in aquaculture field, we asked questions regarding their status of income and power of expenditure in FGD, most cases 2-3 percent women told that they can spend money as they like, as their husbands is disabled or old aged. (case study 1 Khadija Begum).





Our study reveals that gender-based shifts in economic opportunities, women’s mobility outside the home, and income generation are increasing, however due to socio-cultural constraints their economic empowerment is not increasing and economic activities are not recognized. In our study area women are now playing a significant role to manage crises of water both in the family and for the society, however their role is not recognized by the sector.

➤ **Political empowerment:**

We have tried to find-out the political empowerment status of these disadvantaged groups of men and women.

We have collected both primary and secondary information from men and women to find out their involvement with Water Committees, or other committees, level of confidence for raising their voices, participation in democratic processes including voting and to be candidate for membership of UPs.



In case of Water Committees, we could not get any trace of their involvement in

any water management committee in any of the two study areas. But in practice, women are not only responsible for managing water for their families, Some of them are, in the meantime taken the responsibility and leadership of supplying water to men, women, children in the water scarcity area, During our field visit we found some poor women and men collecting water from ponds, supplies, deep tube wells and other relatively reliable sources and supplying these door to door, especially in those places, where scarcity is severe. Even women are supplying water to different hotels, restaurants, and offices on a regular basis. However, during our sharing meeting with local UP representatives, they did not mention the name of this group of people. Moreover, the name of this group as a supplier was not enlisted in the list of service providers and suppliers. The UP only informed us about this when we insisted. They are not the owners of such ponds, they are extremely poor men and women water traders, those who are supplying water door to door, collecting from source and at a minimum price. If anybody visits the area, they will find that side-by-side men and women are carrying heavy loaded water vans (plain water carrying transport as picture) with manual paddle. So it's a gender and inclusion issue which is to be addressed properly and designing advocacy to ensure their access to resources, needed for a local entrepreneur. Their work needs to be recognised too.

As our objectives are to assess the political empowerment issues of these vulnerable groups of people, hence we searched another way of study to learn their empowerment status by asking them any other involvement. Yes, they are involved with some local NGOs under samittee with some hierarchy and roles and responsibilities, which enabled them to increase their free mobility in the society, empowered to take financial decision and leadership practice and enhanced to raise their voice at least in a common platform.



We have collected encouraging information regarding the involvement of the voting process of our target groups of women and men. Almost all voters used their vote at the latest UP (Union Parishad) elections. We wondered how the percentage of voters could be so high. During the FGD local people informed us that during elections, the importance of such disadvantaged people increased at a large scale. Candidates and their supporters arranged local transport for attending them in voting centers. In case of old aged people and disabled people, most of the time candidates or their supporters carried them on shoulder and carrying to the voting center. Therefore, the percentage of poor voters became high.



From our questionnaire and interview with Voters, it reveals that almost all voters putted their valuable votes at last UP election. During our FGD, we asked men and women voters: “Did you ensure any commitment from the candidates for solving the water crises? Everybody raised their hands and informed that “this was our highest priority to ensure their commitment of arranging fresh water for us.”

It may be mentioned here that to understand the problem of water scarcity and to assess the status of commitment of supplying water by UP representatives, recently we organized a meeting with some newly elected members and chairman. We concentrated our attention to find out the gender based solution of the problem. Through our study, we realized that in Bangladesh one of the major roles of supplying safe water and hygienic sanitation are supposed to be played by Union Parishad representatives and female UP members have to raise voices on

behalf of gender-based discrimination and solutions. Hence as a part of our discussion with male members, we tried to talk also with a female elected member (name off the record), who was not present in the meeting. Our objective was to learn her feelings, expressions and new dreams with her respective wards and people. She simply handed over the phone to her husband for talking anything with him in this regard. Her husband talked with us, however, there was no issue of gender discussed at all. It was also absent to other UP members discussion. This was a very frustrating experience to us, as it is to the poor people who voted her. It is a very weak evidence of political empowerment as an elected women UP representative’s voice is restricted, regimented and controlled by her husband, how will she raise the voices of other women and girls, those who hit hardest by the exclusion, discrimination, violence, and scarcity of water.

From our research findings ,it is revealed that among our study target groups, there is some political empowerment, however this is not enough to improve her own identity in the society.

## 5. Water Poverty for women and men

Scarcity of fresh water in our study area is an adverse effect of climate change and of closing the river during the dry season. Our study revealed that the environment of the area is changing towards creating an ‘environmental degradation’, if it is not taken as a challenge, by all relevant entities, including environmentalists. Our observation and study is concentrated to people who are already victims to the severe disaster, due to scarcity of fresh water and they are fighting hard with environmental challenges for their survival. Salinity surrounded their life and livelihood through all of its area. Salinity is now in water, in the soil and even in the air. Hence, both men and women are living with misery. Men lost their income from cultivation of rice, crops, vegetables in the field, white (sweet water fish) fish cultivation etc. due to salinity. However women lost their family farming, poultry and livestock rearing, gardening, trees for fruits and for fodder, etc. During our visit, 65+ women showed us some forest trees in her garden where there were fruits and vegetable plants since a couple of years back. Scarcity of fresh water devastated all the hopes and dreams of poor families in the study area. Hence, we can summarize that water poverty affected adversely men and women, children and after all the whole crop- and biodiversity.

However, like other disasters, women are more vulnerable than men to the scarcity of water in our study area. Our observation proved that still in these crises of water, women are responsible for collecting, storing and managing safe water in the family and she is searching and carrying fresh water from distant places. We have studied a daily routine of water uses by men and



women through FGDs. It is shown that since morning to night women use water 15 times per day in and for the family. The number of uses will be increased, if we count some circumstances uses of water like- during illness, childbirth and menstrual needs. Whereas the uses of water by men is less than seven, and mostly for themselves, not for the family, They did not fetch that water themselves, it was brought to the house by the wife and daughter. Hence, it could be estimated that scarcity of water affected women at least double than men, but in fact it is even more. Furthermore, women are more vulnerable to disease due to salinity in comparison with men due to their biological character of life.

One more difference is, that men have more opportunities to leave the village for work elsewhere, and often the women are then obliged to stay back, to look after the house and the rest of the family.

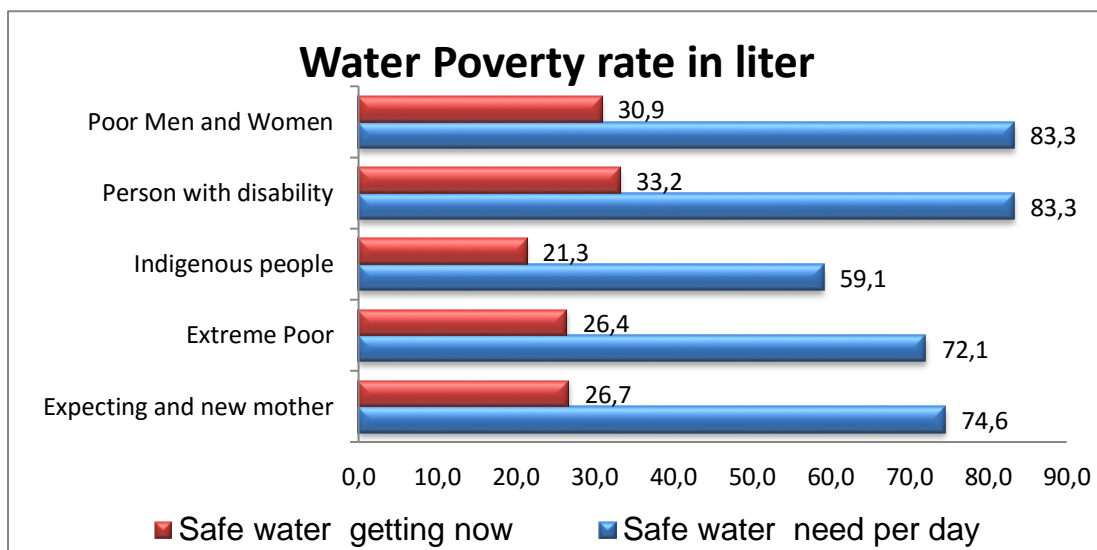
## 6 Findings, qualitative and quantitative

### 6.1 Quantitative information

#### ❖ Fresh water: Expectation and reality:

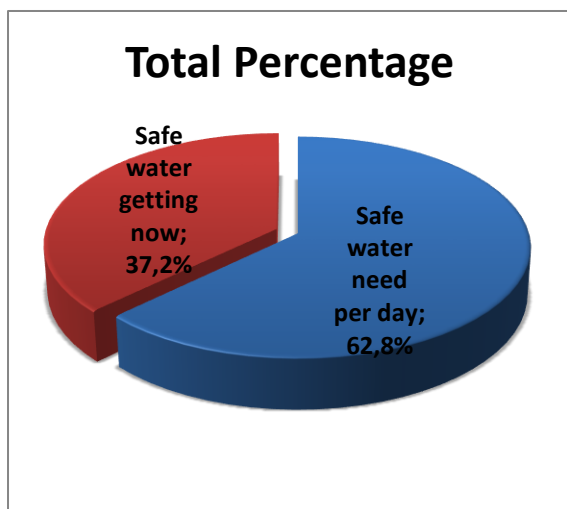
We have collected 353 samples from study area to measure the water poverty among disadvantaged households. They are divided in five categories of poor people. We have prepared this report based on their expectation and reality of getting safe water within the severe scarcity of water in their locality. Outputs of our study as following;

- **Water Poverty rate in liters:** Category wise water poverty in liter through our findings as follows:



The water poverty is the difference between the need and the available safe water.

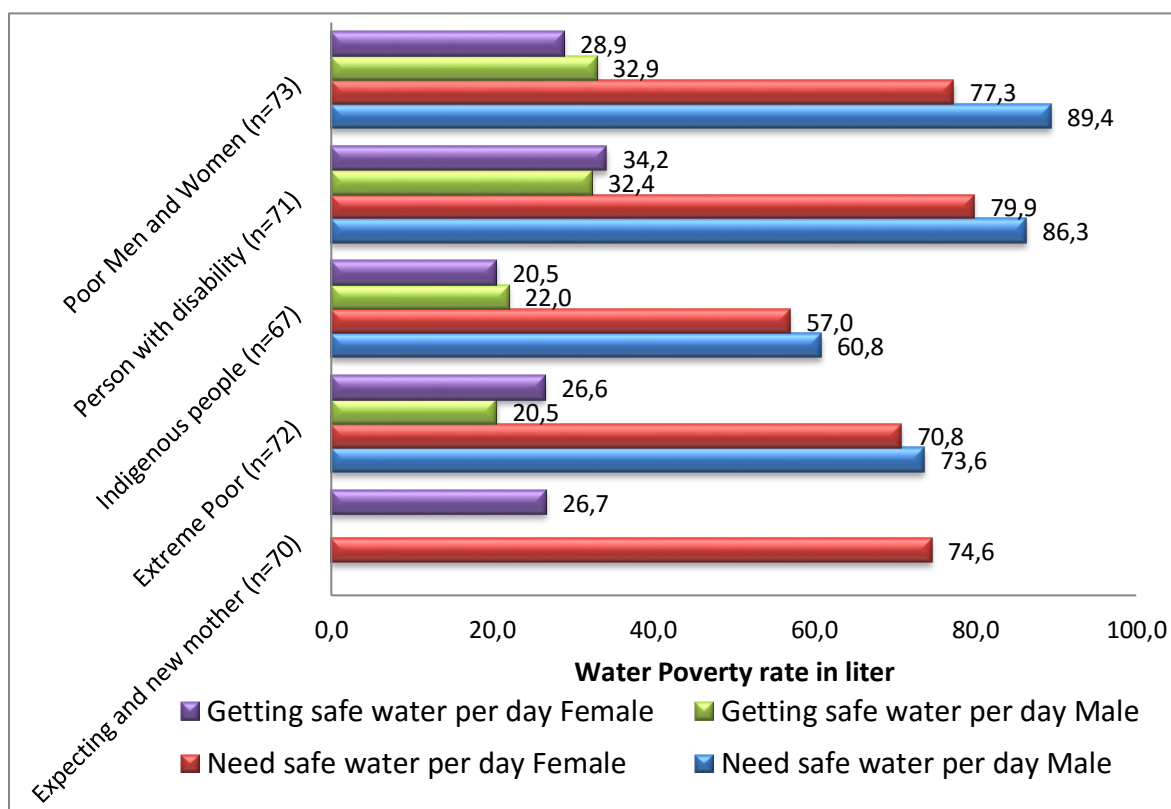
- **On an average total percentage of water poverty:**





➤ **Category-wise water poverty in liter among target groups:**

	Need safe water per day		Getting safe water per day	
	Male	Female	Male	Female
Expecting and new mother (n=70)	-	75	-	27
Extreme Poor (n=72)	74%	71%	20%	27%
Indigenous people (n=67)	61%	57.%	22%	20%
Person with disability (n=71)	86%	80%	32.%	34%
Poor Men and Women (n=73)	89.%	77.%	33%	29%



➤ **Water Poverty among men and women**

Scarcity and availability	Male (n=144)	Female (n=209)
You need liters safe water per day (n=353)	77.63	72.65
You getting liters safe water per day (n=353)	28.47	27.35

From the table above, it is revealed that 75 Liters of water is needed per day in a family, based on an average number of their family members. However, they are getting only 28 liter and shortage is 47 liter per household in our study area. Our study findings reveal that water poverty exists among poor, extreme poor, the indigenous population, extreme poor, expecting and new

mother and persons with disability in our study area. The percentage of shortage is 63%. Which we can define as a rate of water poverty among above-mentioned disadvantaged group of people.

It is necessary to clarify the measuring system of water needed and expectation among these families. In rural societies, the main jar of water collection is Kolosh (jar). Again, its sizes and storage capacities are different. Based on available use and standard size, we estimated a jar with 15 liter storage capacity and most of our respondent mentioned the word Kolosh during their interview. If we converted the liters in a kolosh, then at least five kolosh water are needed per family per day, however they are getting on average only two kolosh per day. To validate this information we had inclusively interviewed with women responsible for water collection, sharing information with FGD participants and UP representatives.

### *Case Study 3 Sandha Rani (50)*

**“Four times per day I have to pass the shaky wobbly bamboo bridge, always afraid to fall down in the canal with the loaded jar of water, for only two pitchers, whilst we need five.”**

Sandha Rani ,Aged 50, living in Perikhali union under Rampal upazilla of Bagerhat district told her stories of daily water uses and scarcity to our Research Assistant Hashiba Akhter as follows:

“Since morning, when people are supposed to visit Mondir (Hindu religious holy place) for prayer, I have to visit a two kilometers distant place for safe water very early in the morning. Because without fresh water, our breakfast preparation with drink of water will not be possible. On the way of collecting water, there is a wobbly, shaky bamboo bridge, which I am passing every day to collect water. It is too much risky to cross as it is sparking during crossing it. However, I had to pass it being afraid to fall down in the canal with the loaded jar of water. I had to take rest two or three times on the way of water sources at Guucco gram (Government donated house with land for landless) and my home. Furthermore, I always feel pain in my lower backbone and legs. Sometimes, I have to stand in queue for getting water one by one, which takes even more time. Furthermore, water is distributed by the owner through scheduled from 7 am to 11 am and from 1 pm to 3 pm. Due to late arrival, I cannot get piped water and in that case, pond saline water is our only way. We have to pay Tk 100 per month for getting this piped water from deep tube-well.



When I am back with a jar of water, I wash my dishes, which were not, washed last night and cook food for two times (Breakfast and lunch). In the meantime, Lunch time appeared, then we bath with saline water of nearby puddles or water basin. After lunch, I have not a moment to take rest. Again, I have to walk for water to cook food for the night and wash the dishes used at lunch. It is again taking a long time to come back home, as sometimes I have to wait in queue for getting my turn. Since the afternoon, I returned home with a jar of water, which is again exhausted for dinner at night, and nothing rests for the morning. So next morning again I have to walk for water. This is the daily routine of my water

collection and consumption of the family. By these ways I collected two jar (Kolosh) of water per day for the survival of our family.”

This is strong evidence of water scarcity creating a more adverse impact on women’s life than on men’s as her responsibility is to manage water and deal with the crisis.

## 6.2 Qualitative information

We have collected qualitative information from village level assessments in the living environment of the women and men affected by the scarcity of water and excluded from either safe water management or consumption, as well as suffering of lack of safe water for drinking and other uses. Gender-sensitivity and water scarcity, water collection, stored, management and empowerment are covered in this information gathering. Based on different category wise questionnaires, the following categories of population were interviewed:

### ❖ Poor Rural Household women and men

We have designed the questionnaire and study in a gender sensitive way. Each research assistant was assigned to collect information from three household men and three household women. By this way, we interviewed 30 poor household men and women from twelve villages with different levels of water scarcity.

### ❖ Indigenous population<sup>8</sup>

We have tried to find-out the indigenous groups of people in our study area and detailing the impact of water scarcity on their lives and livelihoods. Each Research Assistant was assigned to interview three male and three female households from these groups of population and total thirty from two-study areas.



### ❖ Indigenous women and men and their scarcity of water and sanitation

#### *Case Study 4 Cobbler community in Sharonkhola<sup>9</sup>*

**“We have a dream to get a chance to live with a piece of our own land we will construct a Mondir.”**

**“The new embankment will destroy our tiny houses in the name of protection and we will lose our everything.”**

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<sup>8</sup> As per WHO definition: “Indigenous populations are communities that live within, or are attached to, geographically distinct traditional habitats or ancestral territories, and who identify themselves as being part of a distinct cultural group, descended from groups present in the area before modern states were created and current borders defined...”  
[http://www.who.int/topics/health\\_services\\_indigenous/en/](http://www.who.int/topics/health_services_indigenous/en/)

<sup>9</sup> The following report is prepared by me, Shahidul Islam as a part of my study. The place of interview was riverside of Rayenda Bazar of SaronkholaUpazilla under Bagerhat district

Sharonkhola, Bagerhat is a severely Cyclone Sidr, 2007 affected area of the country. An indigenous community named Cobbler is living at the riverside of the Bhaloshor River, which became very furious during the time of cyclone. As they are estimated as a lower caste people, so normally general people do not come to them and mix with them. They were affected by the cyclone SIDR but they did not get any compensation and no house from any donor, because they have no land for their own. Each family is a very low-income family. The men repair shoes, but the work is reducing day by day. Female members of the family are trying to earn some money by sewing warm cloths and doing work outside.



Although their income is small, still they are happy with their small income.

Recently due to continuous river erosion and extreme cyclones (Sidr and Aila) their place of living became very congested. They don't know where will be their next destination of living. Because they don't have anybody to turn to. Some of them indicated us by showing the flowing rivers, the original home which they have lost, one kilometer distance away, due to River erosion. Different NGOs have provided houses for climate victims.

However, all these indigenous community people remained deprived from it, as they have no land to officially call their own. The water and sanitation situation of the community people is so bad that they cannot comfortably live with it.

There is a tube-well, but it produces sand mixed water, which is not at all usable for drinking or cooking food. On the other hand, river water turned into salt water during the dry season. Therefore, they are bound to use contaminated river water for their homework and become sick. Their children are not sound in health, due to this scarcity of water.

These ten families with at least 50 persons are living in a tense situation. One of them told us "Ganga ma (Hindu Goddess river Ganga) save us from disasters". Now we pray to Ganga Ma to crush everything of us, so that we can live a next life. General people hate us as we are lower caste. However, we have our Hindu religion. We have a dream to get a chance to live with a piece of our own land we will construct a Mondir (Religious centre) on it. So that we can pray as our wishes.

Although they are involved with some Micro Finance Institutions, these NGOs do not bother to provide them any house, water, health or sanitation support.

The Cobblers are living outside the embankment and close to the riverside. Even they are dependent on the low and high tides for going up and down to their own home on the Riverbank ways. However, they are under threat of eviction, due to a plan of building Rayenda Bazar protection dam by authority. Hence, I asked them "Do you need the embankment?" "No".

"Why not?" "It will destroy our tiny houses in the name of protection and we will lose our everything."



More than 200 hundred years ago these families migrated from Dhaka to Sharonkhola to search a way of living. Now they are living with misery and sufferings, especially due to lack of fresh water and sanitation.

#### ❖ **Poor expecting and new mothers**

Since our experience through living in the society, where there are disasters, poverty, scarcity, crises, shortage of food in the family, the first victim is the woman and her beloved child, either as a dream in the womb or as view finder with mother. Furthermore, most of women in our rural society are responsible for collecting, storing, managing and finally serving the water in her family and for guests. Hence, we have addressed this group of women to find-out their status of empowerment in terms of water and gender. At the same time, how they are solving their own problems in the growing challenges of the scarcity of water in this critical stage of life, when maintaining of hygiene by using safe water is an urgent need to save the life of mother and children.

We have selected 6 interviewees (three pregnant women and three new mothers) per research assistant for this study and total 72 households for the whole study.

#### ❖ **Women and Men with disability,**

The most vulnerable groups in our rural society is these groups of people. For convenient searching, we placed some examples of this group of people in front of our research assistants. They are blind, mentally disordered, autistic children, old aged, physically disabled, living with trauma, etc. In such situations of a human life, mostly the mother is the close relative for his/her survival in the world and through our field visit we have collected some amazing information, especially in terms of gender , water and empowerment. For example the mother of disabled Mukta cannot travel to long distance for water by leaving behind alone her speech disabled daughter due to being scared of culprits in the society those who can rape her daughter easily, without her power of speech. Therefore, they are bound to drink water whatever they can manage from neighbouring sources.

#### ❖ **Extreme poor Women and Men**

We have designed our study to start it from the bottom level of poverty, so that nobody can be left behind. Hence, we targeted extreme poor people like beggars, migrants, living on the roadside, riverside, dam side, boat men, fishermen in the river etc.

To diagnosis the gender and water poverty issue 12 Research Assistants interviewed all the above-mentioned groups of population. Total number of interviewees is 353. Each Research Assistant was responsible for taking 30 interviews of interviewees with diverse background. However seven indigenous household could not be found in the area.

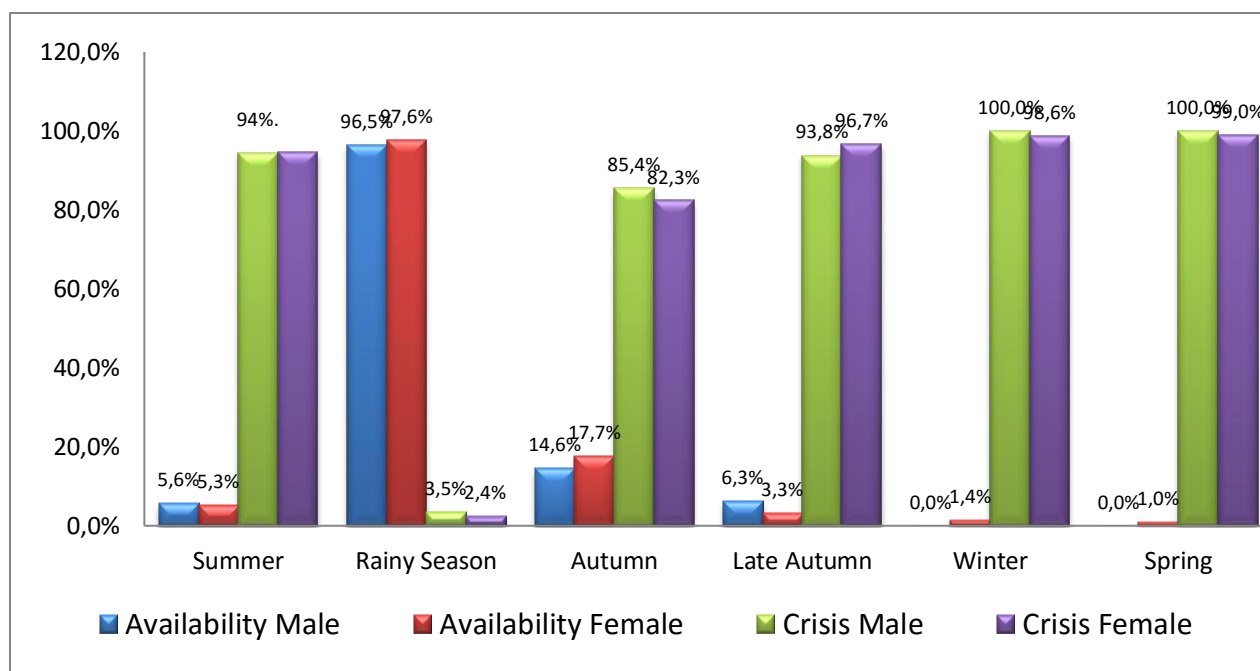
#### ❖ **Seasonal safe water scarcity and availability situation analysis.**

- **Percentage of scarcity of months on average:** As a part of our study, we tried to understand the seasonal scarcity of water for our five categories of people. Normally we know that the rainy season is the best time for availability of water, however we

experienced from villages of Rampal that people those who don't have any ways to rain water harvesting and dependent on pipe water supply, sometimes they face scarcity, due to absence of sunlight. Because pipe water supply is solar-based and it cannot run with cloudy skies. In consideration with their responses, we prepared the following chart on an average scarcity months.

- **Seasonal availability of water:** We have collected information from respondents based on local Bengali months and seasons, which we converted in to six seasons in English for better understanding. The report shows that the availability of fresh water is 97% during the rainy season.

	Seasonal availability		Seasonal Crisis	
	Male	Female	Male	Female
Summer	5%	5%	94%	94%
Rainy Season	96%	97%	3.5%	2.4%
Autumn	14%	18%	85%	82%
Late Autumn	6.%	3.%	94%	96%
Winter	0%	1%	100%	98%
Spring	0%	1%	100%	99%
TotalCount	144	209	144	209

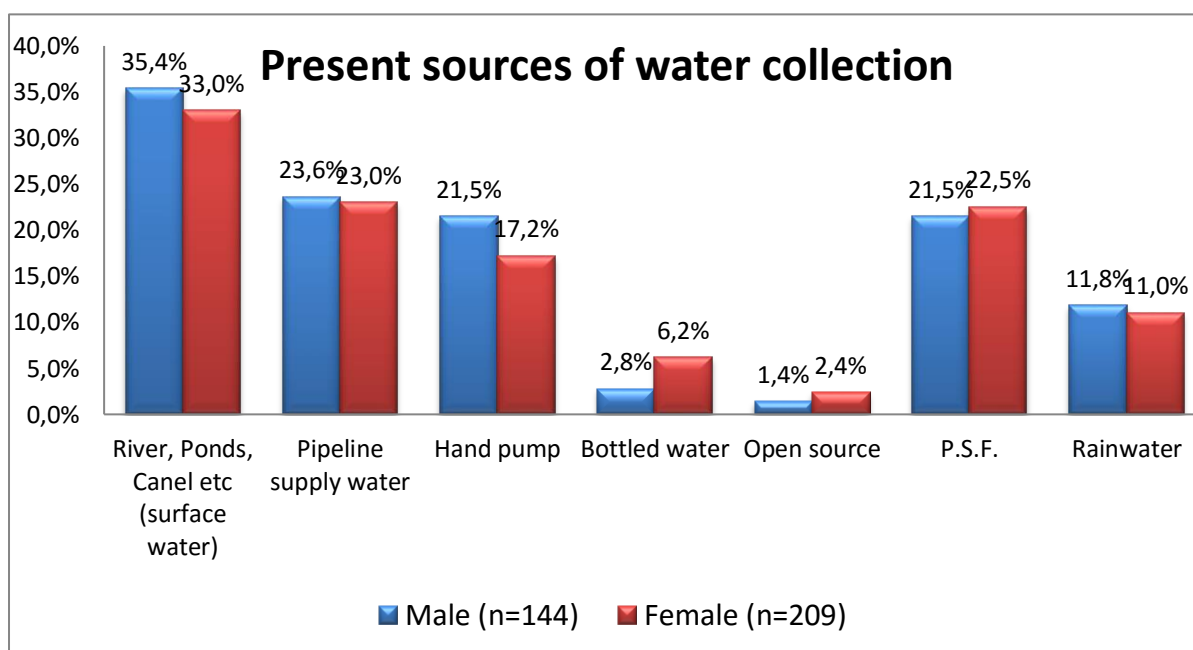


### Present sources of water collection:

Due to scarcity of water, poor men, women are searching fresh water around their jurisdiction. However, quite fresh and safe water is becoming increasingly rare in the area, day by day. In this situation, they are collecting water from different sources, which information we collected, and calculated category wise as following.



	Male	Female
River, Ponds, Cannel etc (surface water)	35%	33%
Pipeline supply water	23%	23%
Hand pump	21%	17%
Bottled water	3 %	6%
Open source	1%	2%
P.S.F.	21%	22%
Rainwater	12%	11%
Total Count	144	209



	Expecting and new mother	Extreme Poor	Indigenous people	Person with disability	Poor Men and Women	Total
River, Ponds, Cannel etc. (surface water)	30.0%	36.1%	46.3%	35.2%	23.3%	34.0%
Pipeline supply water	22.9%	20.8%	22.4%	26.8%	23.3%	23.2%
Hand pump (Linkage with ponds)	21.4%	19.4%	17.9%	16.9%	19.2%	19.0%
Bottled water	8.6%	1.4%	6.0%	2.8%	5.5%	4.8%
Open source (Dug well)	.0%	2.8%	.0%	4.2%	2.7%	2.0%
P.S.F.	18.6%	16.7%	19.4%	21.1%	34.2%	22.1%
Rainwater	8.6%	4.2%	19.4%	12.7%	12.3%	11.3%
Total Count	70	72	67	71	73	353

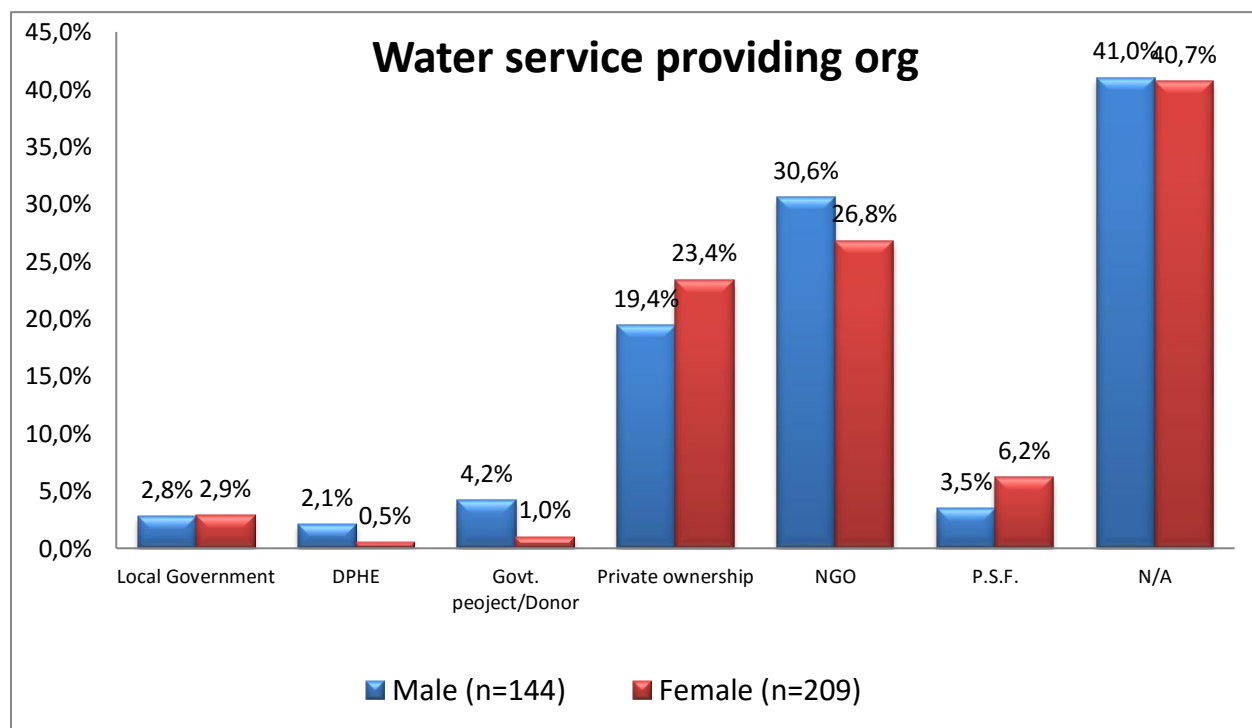


The information shown that the access of fresh water of our Target group of people is very limited, in terms of getting fresh water. Higher percentage (34%) of them is dependent on surface water. The second position of their sources is Pipeline water supply. Due to lack of their water buying capacity they do not have access to enough fresh water.

❖ **List of water service providing org in the study area:**

The following organizations are providing water service in the area as per knowledge of our target group of study and our observation. However, 40% of total respondent from disadvantaged groups of men and women do not know regarding service providers information.

	Male	Female
Local Government	3 %	3 %
DPHE	2 %	.5%
Govt peoject/Donor	4 %	1.0%
Private ownership	19.4%	23.4%
NGO	30.6%	26.8%
P.S.F.	3.5%	6.2%
N/A	41.0%	40.7%
Total	144	209



**Category-wise, Item-wise segregated information.**

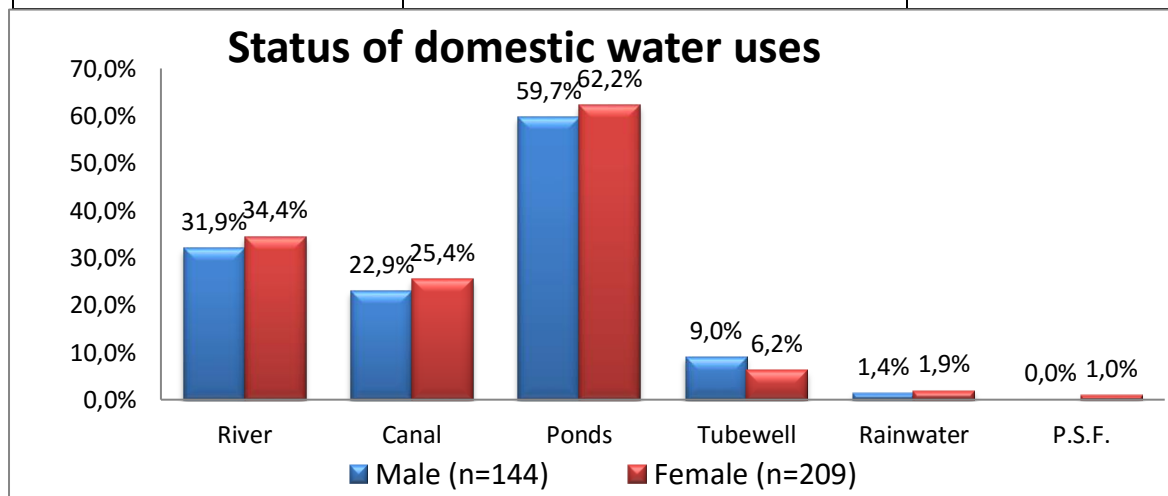
	Expecting and new mother	Extreme Poor	Indigenous people	Person with disability	Poor Men and Women	Total
Local Government	1.4%	.0%	4.5%	4.2%	4.1%	2.8%
DPHE	.0%	.0%	4.5%	1.4%	.0%	1.1%
Govt.project/Donor	.0%	1.4%	4.5%	4.2%	1.4%	2.3%
Private ownership	30.0%	19.4%	16.4%	21.1%	21.9%	21.8%
NGO	25.7%	26.4%	35.8%	23.9%	30.1%	28.3%
P.S.F.	4.3%	4.2%	1.5%	4.2%	11.0%	5.1%
Not known	38.6%	50.0%	37.3%	42.3%	35.6%	40.8%
Total Count	70	72	67	71	73	353

**❖ Status of domestic water uses:**

This is a common question. Within these scarcity situation, how are men and women managing their daily water related works like bathing, washing cloths and dishes, using toilet etc. The major respondents told that they are using pond water for domestic uses. The percentage is 62%. It may be mentioned here that some water basins located in the area they identified as a pond, however the number of real ponds, protected by embankments are rare in the area.

**Average status of gender-based domestic water uses.**

	Male	Female
River	31.9%	34.4%
Canal	22.9%	25.4%
Ponds	59.7%	62.2%
Tubewell	9.0%	6.2%
Rainwater	1.4%	1.9%
P.S.F.	.0%	1.0%
<b>TotalCount</b>	<b>144</b>	<b>209</b>



➤ **Category wise item wise gender-based uses of water as per respondents interview:**

	Expecting and new mother	Extreme Poor	Indigenous people	Person with disability	Poor Men and Women	Total
River	31.4%	40.3%	38.8%	28.2%	28.8%	33.4%
Canal	18.6%	16.7%	29.9%	28.2%	28.8%	24.4%
Ponds	70.0%	51.4%	56.7%	62.0%	65.8%	61.2%
Tubewell	10.0%	4.2%	3.0%	9.9%	9.6%	7.4%
Rainwater	2.9%	.0%	3.0%	.0%	2.7%	1.7%
P.S.F.	1.4%	.0%	.0%	1.4%	.0%	.6%
<b>Total count</b>	<b>70</b>	<b>72</b>	<b>67</b>	<b>71</b>	<b>73</b>	<b>353</b>

❖ **Status of getting safe water from service providing organization**

We have interviewed to learn the status of our target groups of study regarding water service from water service providers/NGO,s/DPHE,s and other stakeholders. The study shown that only 29% peoples are getting water from service provider and 71% is excluded from the facility (Facility is not also available). We have diversified our area of learning in this point for finding out gaps for not getting service from service provider and those who are getting in which ways.

➤ **On an average status.**

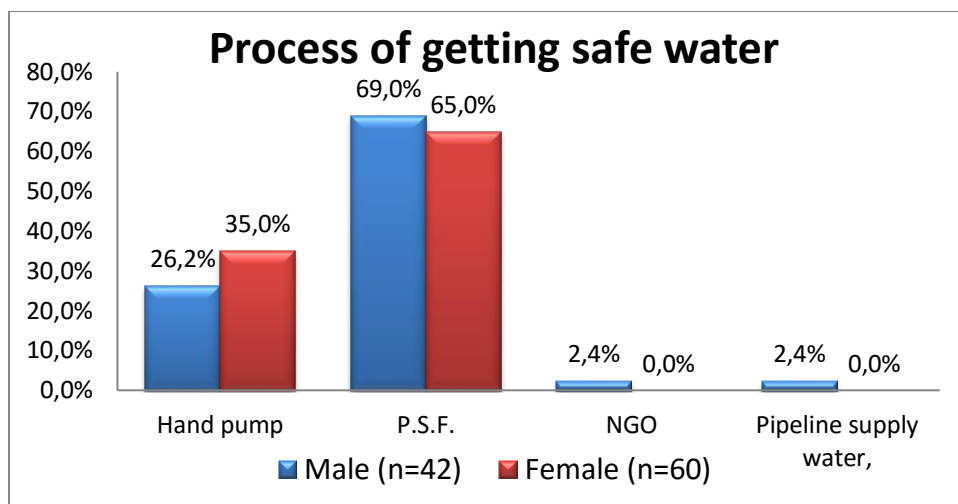
	Male	Female	Total
Yes	29.0%	28.0%	29%
No	71.0%	71.0%	71.0%
<b>TotalCount</b>	<b>144</b>	<b>209</b>	<b>353</b>

➤ **Category-wise segregation**

	Expecting and new mother	Extreme Poor	Indigenous people	Person with disability	Poor Men and Women	Total
Yes	28.6%	30.6%	22.4%	28.2%	34.2%	28.9%
No	71.4%	69.4%	77.6%	71.8%	65.8%	71.1%
<b>Total Count</b>	<b>70</b>	<b>72</b>	<b>67</b>	<b>71</b>	<b>73</b>	<b>353</b>

➤ **Percentage of sources, those who (29%) is getting water from service provider.**

	Male	Female	Total
Hand pump	26.0%	35.0%	31%
P.S.F.	69.0%	65.0%	66%
NGO	2%	.0%	1%
Pipeline supply water,	2%	.0%	1%
<b>TotalCount</b>	<b>42</b>	<b>60</b>	<b>102</b>



➤ **Item-wise, category wise gender based segregation**

	Expecting and new mother	Extreme Poor	Indigenous people	Person with disability	Poor Men and Women	Total
Hand pump	55.0%	36.4%	20.0%	30.0%	16.0%	31.4%
P.S.F.	45.0%	63.6%	73.3%	65.0%	84.0%	66.7%
NGO	.0%	.0%	6.7%	.0%	.0%	1.0%
Pipeline supply water,	.0%	.0%	.0%	5.0%	.0%	1.0%
<b>Total Count</b>	20	22	15	20	25	102

**Problems of not getting fresh water for 71% respondents**

	Male	Female	Total
Financial Problem	22.5%	25.5%	24.3%
Long distance & Communication problem	19.6%	18.1%	18.7%
N/A	57.8%	56.4%	57.0%
<b>TotalCount</b>	<b>102</b>	<b>149</b>	<b>251</b>

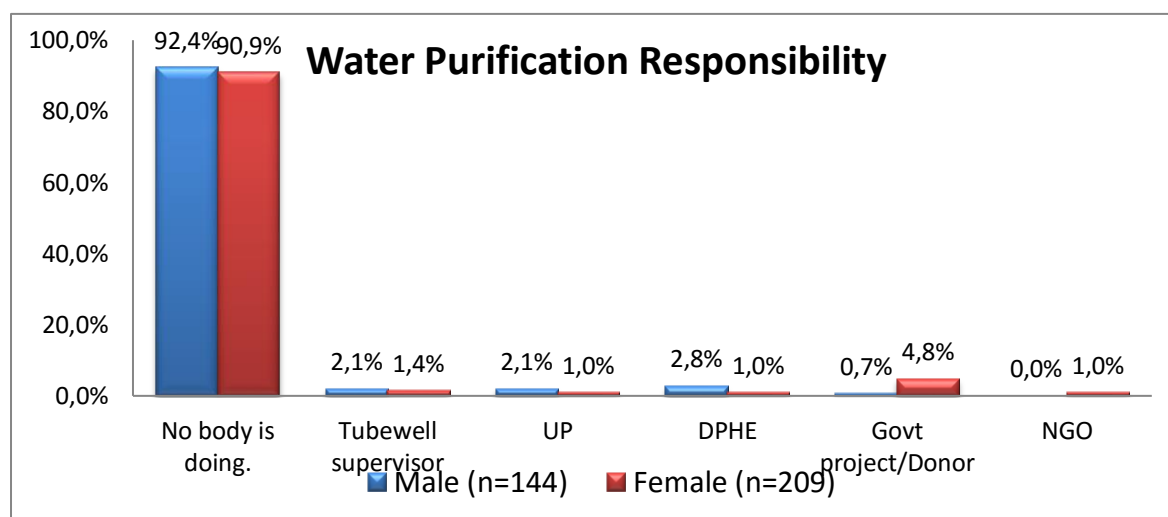
➤ **Item-wise, category wise gender based segregation**

	Expecting and new mother	Extreme Poor	Indigenous people	Person with disability	Poor Men and Women	Total
Financial Problem	30.0%	22.0%	17.3%	29.4%	22.9%	24.3%
Long distance & Communication problem	16.0%	8.0%	34.6%	11.8%	22.9%	18.7%
N/A	54.0%	70.0%	48.1%	58.8%	54.2%	57.0%
<b>Total Count</b>	50	50	52	51	48	251

❖ **Water Purification responsibility study:**

As the study area, mainly under Rampal is surrounded by contaminated water, hence, we have tried to understand the role of relevant stakeholders- responsible for water purification. However, responses are frustrating. 91% respondent answers *nobody* against this question. In consideration with the adversity and disease affected men, women and children an urgent need to address the problem either Government, donor, NGO or jointly.

PURIFICATION by	Male	Female	Total
Nobody is doing.	92.4%	90.9%	91.5%
Tube well supervisor	2.1%	1.4%	1.7%
UP	2.1%	1.0%	1.4%
DPHE	2.8%	1.0%	1.7%
Govt project/Donor	.7%	4.8%	3.1%
NGO	.0%	1.0%	.6%
<b>Total Count</b>	<b>144</b>	<b>209</b>	<b>353</b>



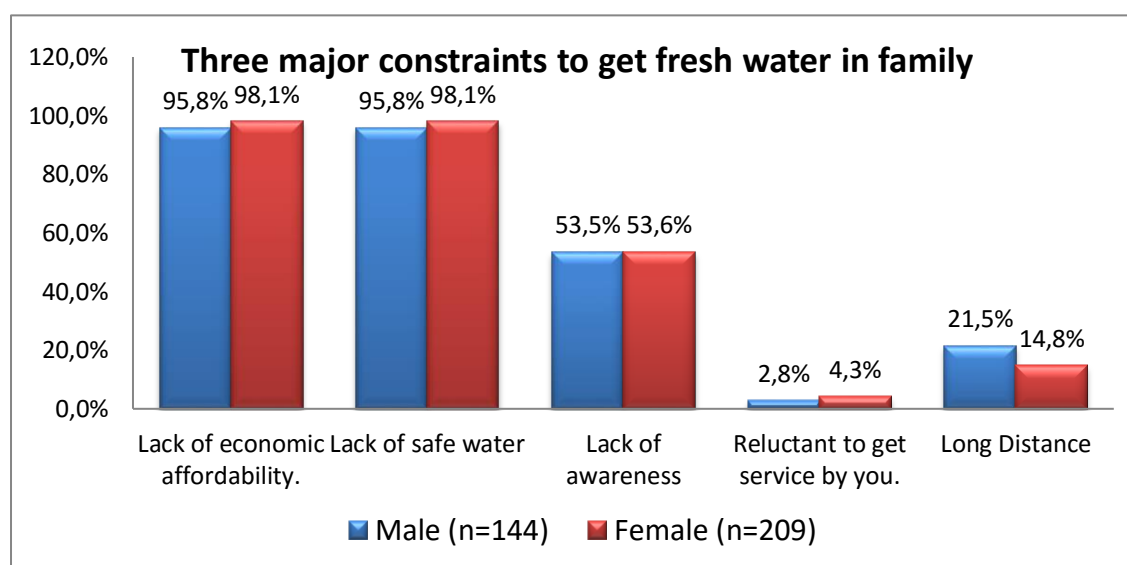
➤ **Category-wised and gender-based segregation:**

PRIFICATION by	Expecting and new mother	Extreme Poor	Indigenous people	Person with disability	Poor Men and Women	Total
Nobody is doing.	94.0%	93.0%	93.0%	93.0%	85.0%	91.0%
Tube well supervisor	.0%	5.0%	.0%	.0%	7.0%	2.0%
UP	.0%	.0%	.0%	1.0%	5.0%	1.0%
DPHE	1.0%	1.0%	1.0%	4.0%	.0%	2.0%
Govt project/Donor	3.0%	4.0%	6.0%	14.0%	1.0%	3.0%
NGO	1.0%	.0%	.0%	.0%	1.0%	.6%
<b>Total Count</b>	<b>70</b>	<b>72</b>	<b>67</b>	<b>71</b>	<b>73</b>	<b>353</b>

❖ **Three major constraints to get fresh water in *family level* among our target group of study:**

We have tried to document three major constraints to get fresh water in a family with some multiple questions among 353 respondents. The following figures are shown that the major constraint for poor groups is to lack of economic affordability and lack of safe water nearby. Lack of safe water and long distances are two related terms. Since scarcity is increasing, distance of safe water is geometrically increasing and sufferings of men (30%) and women (70%) are increasing as per our study.

Name of constraints	Male	Female
Lack of economic affordability.	96%	98%
Lack of safe water	96%	98%
Lack of awareness	54%	54%
Reluctant to get service by you.	3%	4%
Long Distance	21%	15%
Total Count	144	209



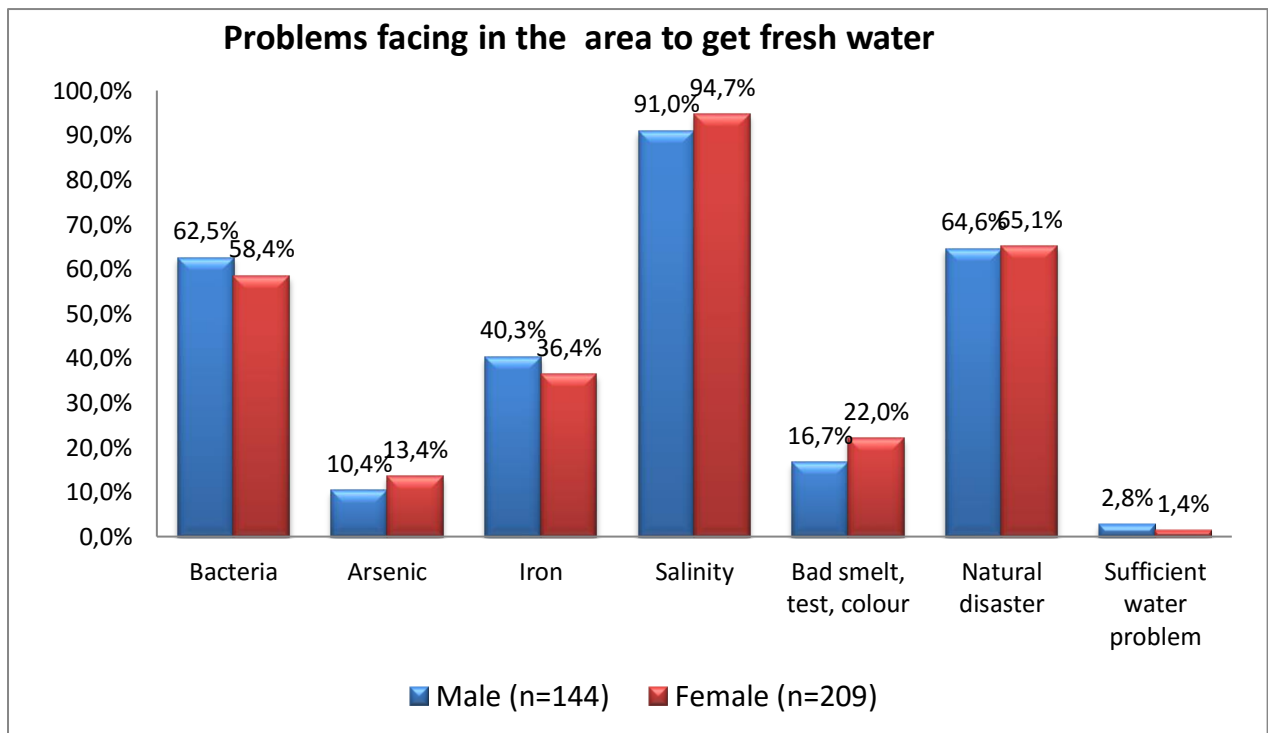
➤ **Category-wise segregation of family level :**

	Expecting and new mother	Extreme Poor	Indigenous people	Person with disability	Poor Men and Women	Total
Lack of economic affordability.	95.%	100%	95.%	96%	98%	97%
Lack of safe water	95.%	98.%	95.%	97%	99%	97%
Lack of awareness	51%	62.%	48%	56.3%	49%	53%
Reluctant to get service by HH.	1.%	3%	1.5%	7.0%	5%	4%
Long Distance	11. %	11%	21%	20%	25%	18%
Total Count	70	72	67	71	73	353

❖ **Problems facing by men and women in the study area to get fresh water**

To find-out the gaps of getting fresh water in the area and for making it evidence-based, we prepared multiple questions and interviewed with all respondent. As per their response 93% respondents thinks that the problem they are facing of water due to salinity. The variations are due to scattered problems between two different upazillas under study.

Problems area	Male	Female
Bacteria	62.0%	58.0%
Arsenic	10.0%	13.0%
Iron	40.0%	36.0%
Salinity	91.0%	95.0%
Bad smelt, test, color	16.0%	22.0%
Natural disaster	65.0%	65.0%
Sufficient water problem	3.0%	1.0%
<b>TotalCount</b>	<b>144</b>	<b>209</b>





	Expecting and new mother	Extreme Poor	Indigenous people	Person with disability	Poor Men and Women	Total
Bacteria	52.9%	72.2%	61.2%	53.5%	60.3%	60.1%
Arsenic	12.9%	9.7%	7.5%	19.7%	11.0%	12.2%
Iron	44.3%	50.0%	29.9%	36.6%	28.8%	38.0%
Salinity	92.9%	94.4%	91.0%	90.1%	97.3%	93.2%
Bad smelt, test, colour	22.9%	13.9%	25.4%	19.7%	17.8%	19.8%
Natural disaster	62.9%	58.3%	61.2%	64.8%	76.7%	64.9%
Sufficient water problem	.0%	.0%	1.5%	7.0%	1.4%	2.0%
<b>Total Count</b>	<b>70</b>	<b>72</b>	<b>67</b>	<b>71</b>	<b>73</b>	<b>353</b>

❖ **Knowledge on water purification:**

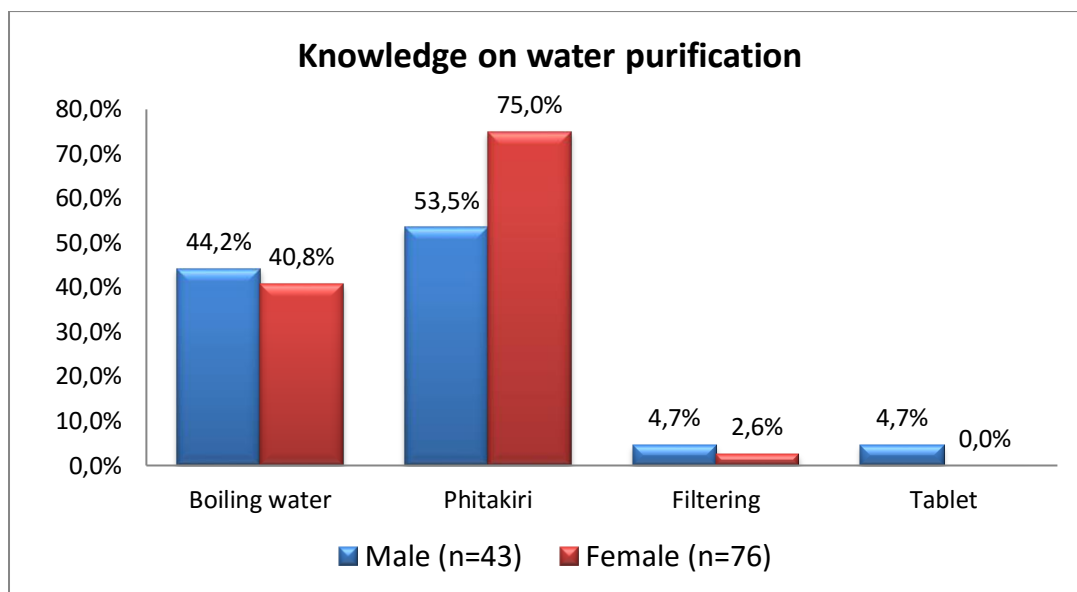
During our field visits and interviews with men and women in the study area, we found that they are suffering from different water born diseases. Hence, we have tried to learn the knowledge of water purification among them. So that they can make their water free from at least bacterial contamination. This is good that, from both Saronkhola and Rampal Upazilla 67.% respondents knows that fitkiri (a crystallized potassium Alums which is used for purifying water) is a good source for water purification and secondly boiling However our observation and information is that most of them are not known the technology of using fitkir, how to use it. So water purification methods can be taught to local rural people.

➤ **Gender-based overall knowledge on water purification**

	Male	Female	Total
Yes	30 %	36.%	34%
No	70%	63%	66%
<b>TotalCount</b>	<b>144</b>	<b>209</b>	<b>353</b>

➤ **Item-wise and gender-based segregation of knowledge**

	Male	Female
Boiling water	44.%	41%
Phitkiri	53.%	75%
Filtering	5%	3%
Tablet	5%	.0%
<b>TotalCount</b>	<b>43</b>	<b>76</b>



➤ **Category-wise segregation of water purifying knowledge**

	Expecting and new mother	Extreme Poor	Indigenous people	Person with disability	Poor Men and Women	Total
Boiling water	47 %	7. %	56. %	61%	26%	42. %
Phitakiri	67 %	100. %	44. %	48%	89%	67%
Filtering	3%	.0%	.0%	13.0%	.0%	3. %
Tablet	.0%	.0%	.0%	4%	4%	2%
Total Count	30	14	25	23	27	119

❖ **Adverse affects of salinity on men, women and children**



In consideration with the situation, we have designed our multiple questions to learn about the adverse impact of salinity towards health of local men, women and children. We have diversified the information for better understanding, as the issues seem to us are critical for humanity and development. The disease mentioned by our respondents is in the table below. It may be mentioned here that we converted some local names of diseases with the help of Dr Rezaul Karim from THAN Foundation, Banani, Dhaka.

It is very painful experience is that during our visit to study area and interviewing with men, a day labor, named Abu Meah informed us that he knows the sources of water he used to drink is arsenic contaminated, however he used that water for drink. Since a complaint with abdominal pain, recently he visited a doctor at Bagerhat. Through diagnostic, it was found one of his kidneys has already been damaged. Now the doctor advised him to drink fresh and safe water, however he could not manage it until the time of interview. Furthermore, many children are found to move in the area with several diseases, mainly skin disease.



Total 83% respondents among 353 household family members are somehow affected by the adverse effects of salinity and 17.% households’ family members are not affected. The number of affected persons seems to us quite alarming, and needing immediate action. Government, Non-government and civil society initiatives are very urgent to tackle the situation. We have placed our findings from the study as following:

➤ **Overall affected status of men and women by salinity:**

	Male	Female	Total
Yes	83%	83%	83%
No	18%	17%	17%
Total Count	144	209	353

➤ **Name of diseases and gender-based segregation**

Name of diseases	Male	Female		Name of diseases	Male	Female
Fever	36%	29%		Gastritis	5%	12%
Dysentery	26%	39%		Eye problem	.0%	.6%
General Weakness	.8%	5%		Dehydration	.8%	.0%
Waist pain (rhinitis)	9%	8%		Vomiting	.8%	.6%
Common cold	17%	8%		Cardio-vascular disease	2%	3%
Asthma	27%	22%		Mylgia	.8%	.0%
Abdomen pain	11%	8%		Uterus Problems.	.0%	12%
Allergy(Allergic)	13%	10%				
Migraine pain	3%	5%				
Hypertension	2%	2%		Total Count	118	172

➤ **Category-wise percentage of salinity induced diseases.**

	Expecting and new mother	Extreme Poor	Indigenous people	Person with disability	Poor Men and Women	Total
Yes	82.9%	81.9%	88.1%	84.0%	74.0%	82%
No	17%	18.0%	12%	15.0%	26.0%	18%
Total Count	70	72	67	71	73	353

➤ **Gender based segregation of salinity-induced diseases:<sup>10</sup>**

**Male**

Male	Extreme Poor	Indigenous people	Person with disability	Poor Men and Women	Expecting and new mother	Total
Fever	4.0%	25.0%	37%	31.0%		25%
Dysentery	16.0%	16%	31%	41.0%		26 %
Weak	4.0%	.0%	.0%	.0%		.8%
Amasa	8.0%	22%	6%	7%		11.0%
Waist pain	12.0%	12%	9%	3.0%		9.0%
Caught cold	8.0%	25%	15%	21%		18%
Asthma	36.0%	31%	19%	24%		27 %
Abdomen pain	12.0%	9%	9 %	14%		11.0%
Alargi	28.0%	3.0%	6.0%	21%		14 %
Migraine pain	.0%	3.0%	.0%	10%		3 %
High pressure	.0%	.0%	9%	.0%		2.0%
Gastric	4.0%	.0%	9%	10%		5.0%
Dehydration	.0%	.0%	.0%	3%		.8%
Vomiting	4.0%	.0%	.0%	.0%		.8%
Hart Problem	4.0%	.0%	3.0%	.0%		2%
Khichuni	.0%	.0%	3.0%	.0%		.8%
<b>Total Count</b>	<b>25</b>	<b>32</b>	<b>32</b>	<b>29</b>		<b>118</b>

<sup>10</sup> Fraction was not placed for convenient reading and understanding.

## Female

Female	Extreme Poor	Indigenous people	Person with disability	Poor Men and Women	Expecting and new mother	Total
Fever	9 %	22%	32%	20.0%	21 %	20%
Dysentery	44%	41 %	39.0%	44.0%	34.0%	39.0%
Weak	3%	11.0%	4%	8.0%	3.0%	5%
Amasa	12%	26 %	7%	.0%	5 %	9%
Waist pain	18%	.0%	18%	16.0%	.0%	9%
Caught cold	3%	4%	14%	12.0%	10 %	9%
Asthma	23%	11%	21%	20.0%	27.0%	22%
Abdomen pain	6 %	18%	4%	12.0%	5.0%	8%
Alargi	15%	4%	14%	8.0%	10%	10%
Migraine pain	.0%	4%	4%	12.0%	5%	5%
High pressure	.0%	.0%	11%	.0%	2%	2%
Gastric	18%	4%	11%	8.0%	15.0%	12%
Eye problem	.0%	.0%	.0%	.0%	1.7%	.6%
Vomiting	.0%	.0%	.0%	4.0%	.0%	.6%
Hart Problem	12%	.0%	7.1%	.0%	.0%	3%
Uterus Problems.	.0%	.0%	.0%	.0%	37.9%	13%
<b>Total Count</b>	<b>34</b>	<b>27</b>	<b>28</b>	<b>25</b>	<b>58</b>	<b>172</b>

Dr Reza told us that most of all these above-mentioned diseases are non-communicable diseases (NCD) and due to adverse impact of environment, salinity, arsenic etc.

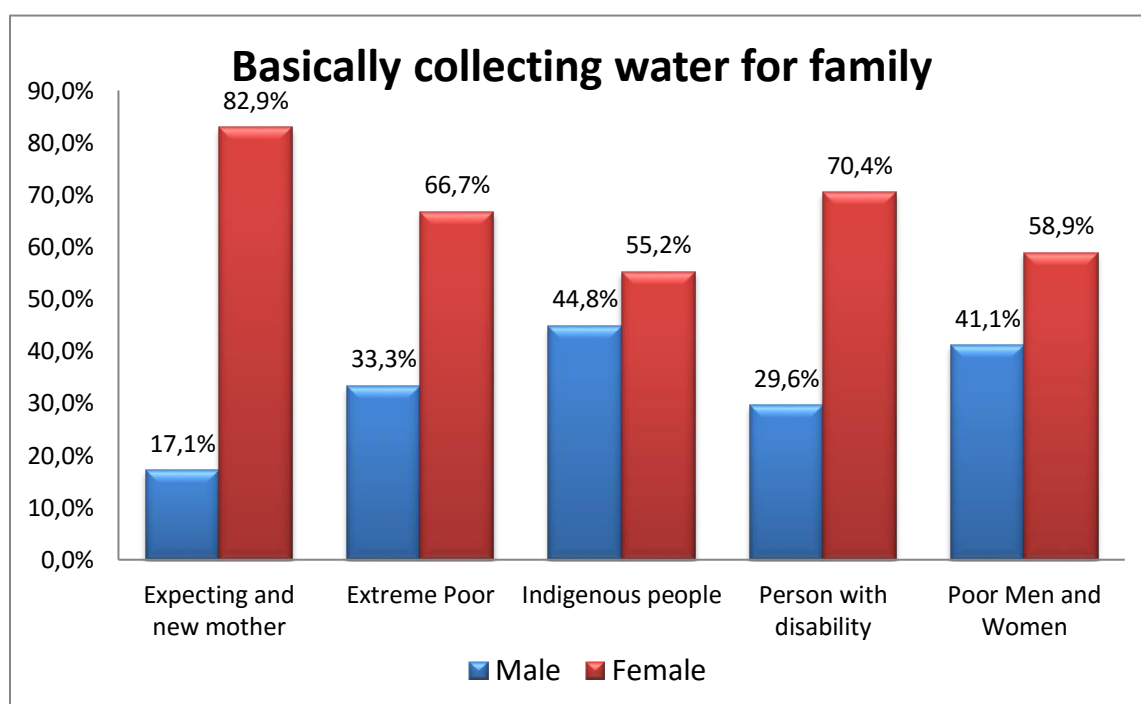
### ❖ Responsibility of water collection in family

We have designed a multiple question to find-out the list of actors, collecting water in the family through focusing on main responsible persons, either men or women and we interviewed with both men and women. Our study's finding, based on the response, is that 67 % women are responsible for collecting water in their families, however 33% male are bringing water to the family. Women group of water collectors are mother, daughter, and mother in law, daughter in law etc.

➤ **Segregation information based on male and female:**

	Expecting and new mother	Extreme Poor	Indigenous people	Person with disability	Poor Men and Women	Total
Male	17.0%	33.0%	44.0%	29.0%	41.0%	33.0%
Female	83.0%	67.0%	55.0%	70.0%	59.0%	67.0%
Total Count	70	72	67	71	73	353

➤ **Category-wise segregation of collecting water in the family:**



**7. To assess the existing sources of water**

We have travelled a long way through visiting villages, collecting information with questionnaires, Focus Group discussions, sharing meeting with local government institute representatives, collecting case studies for assessing the existing sources of fresh water (saline free). Surrounding the crises of safe water, our target groups of the study area also searching fresh water for survival. These are the sources of at least usable water in both Saronkhola and Rampal.

- **Pond Sand Filter (PSF):** There are some PSF in both of our study villages in Saronkhola and Rampal. However in cases of Saronkhola study area, there exists approximately eighteen PSFs, among these only four are working and the remaining fourteen are not working/Workable. On the other hand, in Rampal study area there are three PSFs, where two are not working and one is active.
- **River Osmosis, Perikhali Rampal:** It's a water desalination treatment plant which produces Fresh water. Its capacity is to cover 190 surrounding households, however, poor and extreme poor people have no access due to its price (50 paisa/liter). The plant is established by NGO



Forum for Public Health and the Local NGO Protiva under the technical assistance from Swiss Development Cooperation ( SDC).

- **GIZ pipeline water supply from Full pukur (Pond):** This is another source of safe water for three villages at Perikhali union. The plant is powered by solar panels. However, people collected water both from pipeline and directly from the pond. This is also saline, but less than water from outside like river or canal. During the rainy season when the skies are cloudy, this plant does not work.
- **Community-based Rainwater harvesting tank** – A Tank installed by NGO Forum and Protiva NGO jointly. At Perikhali, this can store 10,000 liter of water. Water is supplying from this plant among 10 families around the year. In case of marriage, local events these water are used among these families.
- **Shallow tube-well** – There is a shallow tube-well in Ranjoypur village, however it is under private ownership. Two rainwater harvesting plants are also established by Protiva NGO and NGO Forum.

- **Water treatment plant established by Prodipon:** In Saronkhola, Prodipan(NGO) established a water supply center, but through lack of awareness and due to poverty, people cannot buy it and it could not create enough demand among people. Their capacity is to produce 1,40,000 liters water per month. However, they are producing only 18,000 liters/month. This is shows the drawback of their program: they don't have any training or awareness program among women and men to use safe drinking water as they are consuming contaminated water and becoming sick. It is a major gap of the program, which can be better learning for others. Without concerning community women and men and without their enthusiastic participation and feedback such programs cannot succeed.



- **Rainwater Harvesting:** In both Rampal and Saronkhola, a very limited number of formal rainwater harvesting tanks are active under private ownership. However, a lot of harvesting pots were abandoned and scattered in some place both of Saronkhola and Rampal upazilla village level. In the current situation of Rampal and Bagerhat there is only one available source of fresh water for women and men and that is to harvest rainwater. People are using different strategies including indigenous knowledge for harvesting rainwater. But there is enormous scope to increase this practice.

## 8. Learning's

- Gender discrimination is not only about men, women or children of the society. The area of discrimination, deprivation exists between higher caste and lower caste of population,

and based on ethnicity, minorities, disabled and disadvantaged population. We have learnt it with practical evidences from the field of study.

- Disabled or dead child birth can be happening. It was unheard of to us before, but now that women are forcibly imposed the burden of collection of water even during her pregnancy period. We hear about such sad occurrences.
- I don't know why, however through the inclusive study with these disadvantaged groups of people, there is only one thing in my mind: "Poverty is the denial of all rights of men, women and children."

## 9. Cases and examples

**Unheard stories of misery, vulnerability and gender discrimination, surrounding the scarcity of water.**

### *Case study 5 Mukta Akter, a girl without speech<sup>11</sup>*

**Lack of physical empowerment, disability and crises of fresh water**

**"I can't leave her behind alone in the home. Culprits are moving surrounding us and I am afraid and want to save my daughter from them."**

Mukta Akhter, a disabled adolescent girl of Kumarkhali village under Perikhali union of Rampal Upazilla, Bagerhat district. Since Mukta is not speaking well, her mother facilitated the interview.

"I am the mother of Mukta. During my six months pregnancy with Mukta, I had to travel a long distant (WAPDA par) place to bring fresh water for my family as a routine work. Once a day, the sky was cloudy and I was busy to bring water from that place, so that I can avoid probable rainfall. Since my quick steps, unfortunately I had fallen on the ground and hit hardest in my body, especially my lower abdomen was affected by the hit. I felt serious pain in my body, especially in the lower part of abdomen. Despite of this situation I reached my home with that jar of water somehow.



After two months, I delivered two daughters as twins in a hospital. The other sister of twin Mukta died in the hospital and I returned home with Mukta with a very sad mind. The Doctor from the Hospital warned me to be careful as the symptoms of Mukta as a newborn were not like a normal healthy baby. We had nothing to do. I was taking care of my baby with all efforts. Unfortunately, we were observing some abnormal behavior of Mukta since her 4 months age and it was gradually increasing day by day.

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<sup>11</sup> Research assistant Shahida Akhter talked with her in the interview and learned details from her mother regarding their problems of safe water

Now she is an adolescent girl with disability, and she can do nothing without the help of others. Once a day, I kept her at the side of the pond for bathing and went to my house to bring dishes to wash. Suddenly I heard a sound of something falling down. I ran away to my Mukta and found that she fell in the pond water and tried to survive with her disabled leg. God save my daughter. Since then I became more careful.

My husband is a vegetable trader, he leaves the house in the morning, and comes back at night. I had to do all sorts of domestic work including bringing water in my family. Since my disabled adolescent daughter is growing day by day my tension for her security is increasing. It takes 20 minutes to fetch water in Dakra and I can't leave her behind alone in the home. Culprits are moving surrounding us and I am afraid and want to save my daughter from them.

The water in Dakra is also salinity contaminated, however highly regimented to supply only for drinking, not for any other purposes. If anybody violates the provision, his/her water supply will be stopped. We pay Tk120 per year to get the deep tube well water, (which is originally established by DPHE and renovated by GIZ. Now it is running under the management of Union Parishad of Perikhali.) Besides these, all sorts of other uses of water we do from extreme saline water from the river. Consequently, water borne diseases are turning into our lifelong hazards.

#### *Case study 6 Krishnopodo Das (70)<sup>12</sup>*

##### **Gender diversity and caste-based discrimination surrounding the scarcity of water**

**“We cannot raise our voice as we are under pressure to leave the village. Therefore we keep silent about any sorts of deprivation and discrimination.”**

Krishnopodo Das, Age 70, village Dakra under Perikhali union of Rampal upazilla, Bagerhat.)

“I am a cobbler. Since long back, we migrated here and since then we are living in this place. We have no land for our own to live on with my five members family. Here we have sufferings to stay, as it is the riverside and during tidal surge, we have to stay on road. Since the house is congested, we tried to extend it at the side, however the neighboring Hindu religious people prevented to give it rather they threatened us to leave the place immediately. They hated us and claimed that we are bearing bad smell in our body, which they cannot tolerate. Since passing the ways at the front of our house, they uses handkerchief to cover the face. We do not have any



<sup>12</sup> Report by-Shirin Akhter Research Assistant, Gender and water Poverty study

sanitation facilities. All of our facility members have to wait until night for open defecation. Due to this situation we are suffering several diseases. Since we tried to construct a latrine, neighboring people came to us and mercilessly uses rough words to us, even they assaulted us and threatened by words’’sala chotok togo gadia gondho ase’’ you people lower caste with bad smell, leave the area.

We need 5 jars of water (10 liter each) per day, which is collected, by my daughter Shipra Das and me. Shipra is an unfortunate woman. Her husband rejected her and the kids, and not taking care of all.

During our visit to the tube well for water, people leave the spot and stay apart from well. After our departure, again they come to the well and wash it with fresh water through citing rough uses to us. Despite of all these deprivation we have to bring water for life as there is no finding other ways. Except these five jars of water, we are using Gher (Shrimpfish basin of water) water for all the other usage like bathing, dish washing, cooking, washing clothes etc. Consequently skin disease, loose motion, dysentery these are our daily events in life. Can you find infections in my mouth and surrounding the body? This is due to using extreme saline water.

Since we visits the UP members and chairpersons for telling our problems, they also hate us and give us blame for problems of the villages. ‘’Togo jonno gramta kharap hoye geche’’-Due to your existence in the village-a bad impact is created in the area.’’

If we bring raw leather of cows or goats they prevent us to process it in the area, which is an obstacle to run our profession. We cannot raise our voices as we are under pressure of leaving the village. Therefore we keep silent about any sorts of deprivation and discrimination.

We do not have any big jar to harvest rainwater. Besides this, this thatched rooftop is not suitable to harvest rainwater. We have tried but the color and taste is different which is not suitable to drink. We go out from home in the morning and return at night.

### *Case Study 7 Rahima Begum<sup>13</sup>*

#### **Salinity and its adverse impact on reproductive health of women and children**

**‘‘When I married this yard was full of different fruits and green trees. My father in law sold baskets of mangos. Now the trees are dead and without leaves and mangoes. Previously, we were not poor.’’**

Rahima Begum of Romjaypur village under Perikhali union of Rampal upazilla, tells me: ‘‘Apa, please sit down. We are poor, what I will give you to sit on. I went to Perikhali market early in the morning. However, my husband even not closed the mosquito net from the bed. Konto (Say me) how I tackle the family alone, within this scarcity of water. Please see the Mosque on the other parts of the canal. We are bringing water from that place. Our surroundings were scattered by saline water. The Gashiakhali River channel dredging and dumping saline sand to our locality, added another misery and hazards for us.’’

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<sup>13</sup> Date of interview – 29/05/2016. Report by Nasrin Rahman, Research Assistant, Gender and water Poverty study



“I have two sons. Since my pregnancy of the second son, nobody told that after all it would be delivered as alive. Because I had a disease of fluid discharge (PaniVangto). I have visited doctors door to door, however it was not cured. God saved me, finally a son was delivered with less weight and thin. With the pregnancy and with a little child, I had to bring water from near about to one kilometer distance as there is no usable source of water nearby. I have a disease to burn my hand, leg and uterus, but any way I have to work for my housekeeping. The water we bring from one kilometer distance is not pure at all but iron and saline contaminated. We use it for cooking and other uses. Rice became black, since we used the water, but we have nothing else we can do. Since my child was one year’s age, serious skin disease attacked him due to this surrounding saline water. We visited doctors borrowing money from neighbours. Apa, we are living in a place which can be compared to an island, we are surrounded by salted sand and saline water.

However, since couple of years back, when I married and came in the house, it was full with different fruits and green trees. My father in law visited market to sell baskets of mangos and returned home with shopping. Now the trees are dead and still standing without leaves and mangoes. Previously, we were not poor.

My husband is a day labourer and works for earning for the family. Apa, (Sister) two of my children are always sick. Coolness, pneumonia, cough is almost all the time and they are suffering. Hence, I am not well in mind. Even I visited Bagerhat district town for the treatment of my children, but they are not cured. I am also sick and suffer from “maghe maghe batha hoy” (Pain in lower abdomen). We do not know what will happen in the future. Please help us to get fresh water.



#### *Case study Eight Sarat Chandro Basak (80)<sup>14</sup>*

**Salinity was shown in our area after the Farakka barrage by India in 1975**

**“We requested to our UP member for the solution of the salinity problem. He told us “saline water is everywhere, hence you can collect water anywhere you like”.”**

I could not continue my education, because I had to work in the field to run the family, due to my father’s chronic disease. Just I got education under matriculation. We three generations are living here, however since a couple of years back; we are passing our days with shortage of fresh water. During Pakistan period, we didn’t have any problems of water, but the Farakka dam constructed by India at the border, created this disaster for us.

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<sup>14</sup> Report by Lipi, Research assistant, Gender and water Poverty study on 4.6.2016)

Once we had very peaceful day's .There, were sufficient fruits and vegetable trees surrounding our houses, which we enjoyed and earned money through selling it in the market, However, everything is now destroyed due to salinity. During the dry season, a solid form of salt was found at the bottom of pond.

Due to salinity, my four children were attacked with blood dysentery and one of them died in Bangladesh. To save the lives of others, I migrated to India; However, another two also died from the same disease. Now I have only one son. Salinity destroyed our normal family life and livelihood.

If we visit neighboring people to ask for water, they advise us to go to the UP (Union Parishad) members. Since we requested to our respective UP member for the solution of salinity problem, He told that ‘saline water is everywhere, hence you can collect water anywhere you like’. We are poor and we have to struggle to buy food, hence we cannot buy fresh water, even we passed many days when we had to deal without water. Only God knows what will happen in our destiny in future.”



These stories are few among the thousands. Pains and sorrows behind this story always remained unheard.

## 9. Recommendations, suggestions,



➤ A hard working extreme poor man and woman in the study area, already took this water scarcity as a challenge and started to supply (relatively) fresh water door to door including to a hotel-restaurant for a minimum price, water that they collect from less saline sources. However, their contributions are not recognized. To reduce the scarcity of water, these groups of women and men with **their small enterprise** can play an important role, if they get required support and recognition of their hardworking activities in this field.

➤ Most of young women in the study areas are somehow affected by salinity. Their reproductive health is under big threat, they are hit hardest by the adverse effects of salinity, especially pregnant women and new mothers, however their voices are rarely heard. This is due to a bad culture of “silence not spoken”. In our study area our research assistant (Most of young women) discovered such information by coming close and be congenial with the interviewees. Therefore, **it is an urgent need to assess the situation from medical ground and save the lives**



**of mother and children. The overall disease situation is so increasing that it may turn into an epidemic.**

➤ Indigenous populations in the study area, are living without any form of empowerment in the society. Misery, vulnerability, deprivation is now turned into a part of their destiny of life. The recent year's scarcity of water added more miseries in their life. It is very essential to raise a strong voice against discrimination based on caste, ethnicity and minorities. Of indigenous people the discrimination interacts with the gender discrimination making life double miserable for women. **Government and non-government initiatives are necessary to protect the right of minorities as they are the citizen of the country and deserved the right to live with peace and security in Bangladesh. Follow-up is essential to the survival of ethnic groups, minorities of the area as they are under threats of eviction.**

➤ The biodiversity of the study area is changing and impoverishing. Sweet water trees and vegetables are replaced by saline resistant forest trees. Crops fields are not producing cash crops, cereals and beans that were major sources of vitamins and nutrition for poor families. Thus, malnutrition and food insecurity is increasing gradually. Family farming was not only a major source of nutrition; however, it was an income source of families, which is now under great threat. **Therefore, micronutrient supplement from GOs and NGOs, is very essential to prevent malnourishment, especially for women and children.**



➤ The **Ghosiakhali River is now being dredged** without considering the adverse effects on riverside populations. Consequently, due to salty sand dumping in the locality, sufferings of people increased at a large scale. It created a saline water logging problem, which added more miseries in the existing worsen situation, especially live and livelihood of hundreds of poor people and their tiny houses. It seems to us that **Government intervention is very urgent to address the problem of salty sand.** The study makes an opportunity for us to be familiar with this very recent problem of some villages of Rampal Upazilla. Its adverse impact on men, women, children and bio-diversity is severe and requires to be addressed immediately and followed-up.

➤ As the scarcity of water is increasing, the gender discrimination surrounding the water crises is also alarmingly increasingly. Women and their children under womb or infant are severely victimized by this discrimination. The issue is now emerging as a life and death contradiction of women. She must have to bring water for family either sick, pregnant, surgery or anything like that, as she is “married wife of her husband and this is her duty to bring water in any way”. **Designing a strong advocacy and awareness build-up program for overcoming the myths, wrong beliefs, men made provision is an urgent need to protect the life of women in study area. Women and men have to share responsibilities for water in the house.**

➤ Our study is limited within a group of people those who cannot afford to buy water from businesses, however, day by day fresh water is turning a profitable business product to earning maximum profit. The situation is that the access to different types of fresh water depends on different levels of consumers' buying capacity and thus poor people are missing out to get fresh water, which makes them bound to use and drink contaminated water without caring for its impact

on health. **Awareness build-up on adverse effects of salinity is an urgent need to save an increasing part of the population of Bangladesh from health hazards.**

- Through our study, it is revealed that due to long-term struggle with saline water, the life expectancy of local men, women and children is decreasing. **Disability is increasing in the area and most of the people are sick, which should be prevented.**
- Women are doing lots of work (often hard work and drudgery work like fetching water), unfortunately **their activities are not recognized.**
- It is a very urgent need to ensure gender sensitive access to medical services for men, women and children. **In case of women, special medical care like female doctors, private spaces, education on reproductive health, adaptation mechanism with coping the adversity are necessary** to tackle the situation. Furthermore, it is very essential to support women to empower themselves within the family to enable her to spend money for her own treatment.
- Empowering women local UP representatives is very essential. Our findings show that problems of their disempowerment do not lie in the LGI structure. It is a gender and empowerment problem in the society and family. Therefore, it is essential to **empower UP female representatives through providing leadership training and building enough awareness on their roles and responsibilities, especially in the field of gender and water.**
- The overall assessment of our study revealed that the fresh water scarcity situation is severe and would be worse in upcoming days, as salinity already captures almost all parts of bio-diversity in the study area. In this situation, Rainwater is the only source of fresh water, which is dropping on earth as millions of tons (assumption). There is only one way to create a **mass movement for harvesting and storing rainwater at family, society and UP level** through utilizing big rooftops of different types of schools, mosques, madrasas, and other institutions. We have discussed the issue with local UP representatives, they informed us that this is quite possible, however required necessary fund and technical know-how-in terms of technology and hygienic storage system. It may be mentioned here that the Perikhali UP budget (2015-2016) for drinking water is only Tk-1,00,000/-and it is for infrastructure repairs.
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## 10. Concluding Remarks

Through our study, it was revealed to us that the adverse effects of salinity on men, women and children in our study area is a serious public health concern and really it's a challenge in front of our Government, Non-Government Organizations and donor communities to tackle it. With climate change being a reality and here to stay, and Farakka also a given, the only way to prevent this scarcity of fresh water is to harvest rainwater as a massive program and on a sustainable basis, technologically and socially, involving women and men of all categories.

Awareness about inclusion of all different people is now more present in the study area. All sorts of water related policies and programmes will have to be designed with the consideration of hopes and expectation of all level of men, women and children in the society, without any discrimination based on religious minorities, ethnicity, sex, gender or caste.

The study involved more than 400 populations in two areas. It is our privilege that more than 50% of our research assistants were trained on gender-sensitive disaster management by GWAPB.

They disseminated their knowledge during interviews, especially among women, and contributed to awareness building of local men, women and children.

During interviews, our research assistants came in to close the interviewees. They experienced their problems, which increased their knowledge on gender, water and empowerment.

From all of us, those who conducted the study with me, interviewed the target groups of the population, are now knowledgeable regarding inclusion issues and its importance in development.