Communication strategy for Rainwater Harvesting

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Contents

Acronyms

AIDA	Attention, Interest, Desire, and Attraction
AV	Audiovisual

BNBC	Bangladesh National Building Code
BUET	Bangladesh University of Engineering and Technology
BUFT	BGMEA University of Fashion & Technology
BGMEA	Bangladesh Garment Manufacturers and Exporters Association
BKMEA	Bangladesh Knitwear Manufacturers and Exporters Association
BTV	Bangladesh Television
CBOS	Community-based organizations
CSOs	Civil Society Organizations
CRI	Centre for Research and Information
CC	Community Celebration
DPHE	Department of Public Health Engineering
DWASA	Dhaka Water Supply and Sewerage Authority
ETP	Effluent Treatment Plant
GoB	Government of Bangladesh
HH	Household
IPDC	Industrial Promotion and Development Co
LGD	Local Government Division
LEED	Leadership in Energy and Environmental Design
NGO	Non-Government Organisation
PMO	Prime Minister's Office
RWH	Rainwater harvesting
RHS	Rainwater Harvesting System
RAJUK	Rajdhani Unnayan Kartripakkha
ULAB	University of Liberal Arts Bangladesh Campus
WA	WaterAid
WAB	WaterAid Bangladesh
WASH	Water, Sanitation and Hygiene

Preamble

WaterAid's vision is of a world where everyone has access to safe water and sanitation and has a mission to transform lives by improving access to safe water, hygiene, and sanitation (WASH) in the world's low-income communities.

WaterAid is a UK Charity organisation that started working in Bangladesh in 1986 to improve access to WASH facilities for marginalised communities. It implements projects in rural and urban areas and influences stakeholders and decision-makers for WASH facilities in policy documents.

The organisation prioritises Rainwater Harvesting (RWH) as one of its advocacy issues considering water security. WaterAid has been working on Rainwater Harvesting since 2010 in partnerships with local rural and urban Non- Government Organisations (NGOs) and partners. WaterAid Bangladesh (WAB) has been offering a range of water supply technology options to address the needs of communities, especially in the coastal belt.

WaterAid implements different types of Rainwater Harvesting Systems (RHS) especially for rural communities along with other water-stressed areas. Communication is a key issue in WaterAid activities and as the recognition of WAB's RHS and the work have grown over time, requires placing on the organisation to communicate effectively to achieve communication objectives.

The Communication strategy for rainwater harvesting describes the goals, objectives, strategies, and recommendations that will assist the organisation to better connect with its partners and stakeholders. The strategy is striving towards communication excellence, which includes a clear message and two-way communication and engagement.

The strategy development initiative has been developed as to meet the emerging needs of project 'Promoting water justice through Rainwater Harvesting in Bangladesh is a 4-year project with aims to increase effective use of rainwater as a natural resource. This project considers rainwater harvesting as an under-explored mechanism for coping with water crises in both water-scarce urban and rural areas, and build upon four inter-connected pathways to increasing Rainwater Harvesting (RWH) practice, including building sector capacities, incentivising take-up in industries and communities (in the coastal areas), and raising awareness on RWH amongst policymakers, industry and the general public.

Overview

WaterAid has been promoting the concept of rainwater harvesting as a technological solution that can be adopted by the industries and private sectors. As a part of the projects need for a communications strategy, a consultancy firm, Don Sumdany began its-in-depth research to develop a communication strategy by interviewing various key stakeholders for a practical evidence-based strategy.

The firm has compiled a database of relevant stakeholders and individual's knowledge inputs about rainwater harvesting across the country. It is reflected in the opinions of the interviewees, that RWH will be integrated to mainstream use in industries by only creating awareness and promoting rainwater harvesting as a sustainable alternative supply of ground and freshwater.

The assignment required going through literatures on RWH promotions, activities stocktaking on what worked and what did not in the engaging private sector, politicians, government bodies and ready-made garment owners and academicians and so on. Ensuring the upscale of the RWH industries and businesses, the communication strategy report stressed the need for national level campaigns that identify audiences and a call to action for RHS implementation which is now a dire need. The report also suggests that RWHs is a more sustainable and more practical way and has a great potential in preserving water resources which must be highlighted in the communication awareness of RWH strategy.

The strategy revolves around the messages for specific target audiences which has been suggested in the report. Finally, the information-driven from the interviews--determined that there are not ample examples of case stories of RHW in domestic and industrial use. The communication strategy should emphasize the impact assessment of RWH and demonstrate good examples of water conservation. For example, Abdullah Al Maher, CEO of Fakir Fashion curtailed its dependence on groundwater by establishing a rainwater harvesting system that has proved advantageous for reducing the disproportionate consumption of groundwater.

This work would not have been possible without the support of key stakeholders. Don Sumdany is thankful to all of those who contributed their intellectual inputs to the communications strategy. Special thanks to WaterAid staff and partners.

Aims

Rainwater Harvesting (RWH) technology has been in use for a long time in different forms. But it needs awareness and action to implement and integrate it into mainstream use. Through a review and analysis of interviews with key stakeholders, the communication strategy presents implementation challenges and policy gaps in relation to the scale of adoption.

To close the gap between communication and implementation policies, the communication strategy aims to create an effective channel that will help achieve the commutations objectives. Also, scaling the chances of getting media and social media coverage to understand that RWH is an alternative water resource in the country.

The document is aimed to unwind how to reach audience that has the power to influence the society-by changing policy and influencing decision makers. This would have a clear desired outcome and a call to action for RHW implementation which is dire, and the time is now.

The strategy aims to promote Rainwater Harvesting as a sustainable alternative source of water.

Objectives of the Communication Strategy

- To ensure that all stakeholders understand the value of water and to act in ways that protects the long-term sustainability of water supply of Bangladesh.
- As established in the preceding introductory sections, RWH has yet to reach mainstream status as a sustainable option to water crisis.
- In order to facilitate a transition to this status, the aim of this project is to develop a customised communication strategy to close the gap between communication and implementation policies, create awareness to promote rainwater harvesting as a sustainable alternative supply of ground and fresh water.

To achieve the aim, the following objectives have been determined:

Objective 1	**Identify drivers for promoting RWH**
Objective 2	**Establish known and unknown barriers and knowledge gaps in communications**
Objective 3	**Enrich and promote the socio-technical evidence base relating to RWH**
Objective 4	**Support to unpack practices to enhance the success of future RWH projects**

Challenges to implement Rainwater Harvesting

In Bangladesh, three main sectors place a demand on water resources; these are the agricultural, industrial, and domestic sectors.

Agricultural use is generally for irrigation, which returns very little to the hydrological system due to evaporation and incorporation into crops.

Industrial users are generally metered and therefore there is some incentive to practice water-efficient processes to minimize overheads.

In terms of domestic customers, however, in Bangladesh, the metering and billing system is currently holding based. In this system, one water meter is given to an entire building, which is used to calculate the water used by all the households within that building. The water bill of the entire building is equally divided among the households, irrespective of family size and actual usage. As a result, households with fewer members subsidize the cost of households with more members.

There are challenges of implementing rainwater harvesting in the mainstream in terms of environment, policy, economy, social and technology. It is anticipated that rainwater harvesting is going to play the role of an alternative water resource in the country.

The **technical barriers** are lack of the design guideline and manual, professional skills and established market for rainwater harvesting. While **economic barriers** are perceptions that it is too expensive to install and maintain and that is not a profit-generating system. **Social barriers** are lack of (a) knowledge of rainwater and rainwater harvesting systems, (b) communication amongst the users and stakeholders.

- Land-use and urban development – expected growth poses a challenge for water use
- Water resources – under pressure from climate change and increased consumption
- Climate change – likely to place more stress on water resources, including more frequent extreme weather events.
- Flood management – challenges presented by more frequent extreme weather events.

In order to promote rainwater harvesting in Bangladesh, inter-ministerial and multi-stakeholders' co-operations are needed to mainstream this alternative water resource into the national strategy.

Key Messages – what needs to be communicated

The following key messages will be the center of all messages that will be communicated to audiences under this strategy. These key messages are:

1. A concerted effort is needed to enabling community people through skills development, knowledge sharing and capacity building by partnering with the government, research Institutions, Civil Society Organizations (CSOs), Private Sector, Local Councils and Communities to make rainwater harvesting a reality.

2. Government must exercise National Policies and strategies and implement BNBC code; and promote tax exemption and other benefits in households and private sector if RWH is installed. A reward and recognition system.

3. There is need for RAJUK to promote an effective and accountability monitoring mechanism for implementing RWH in buildings both at urban areas and strengthening the capacity of civil society and encourage their participation in every step through engaging and communicating with them.

4. Private sector actors, especially large corporates should act now to adapt RWH with innovative ideas and technologies. Financial institutions need to come forward to promote “Green Financing” as a provision of interest-free loans for the installation of RWH to private sector.

5. Climate change is a living reality for Bangladesh. Water crisis can be mitigated if government promotes sustainable management of water using rainwater harvesting as an alternate; this will livelihood resilience in climate prone areas

6. RWH is as a simple process or technology used to conserve rainwater by collecting, storing, conveying and purifying rainwater that runs off from rooftops, parks, roads, open grounds, etc. for later use. It is a timely solution for our current problems.

7. Rainwater Harvesting is the most as an easy and cost-effective mean to fulfil water demands and one that will also save the planet and our country.

Action Plan Matrix: Messages

Desired Communication Outcome	Target Audience	Key Message(s)	Communication Channels	Communication activities, products	Resources & Partners
Surface water treatment plants are expensive whereas RHS is cost-effective. During the rainy season using rainwater and in the dry season using water from WASA (two separate lines to be installed for ease).	Government Donors, Private Sector NGOs and, Schools Media Communities (i.e. Men, Women, Youth, Children)	RHS is cost-effective	TV Radio Newspapers Website Seminar Workshop Awareness Training	Policy Brief, Research, journals, blogs	Independent Institutions Research Institutes, NGOs, Government, HHs
RHS not only prevents water logging but also helps to reduce the maintenance cost of the road due to the damage caused by the rain. Additionally, it can help to maintain a healthy ecosystem.	Environmentalists, city corporations, ministries, Academicians	RHS have the potential to be an important contributor to reduce urban damages due to water loggings.	Seminars, Workshops, Talk shows, lectures	Presentations, newspaper articles, Op-eds, blogs	Government, Universities
To fulfill the rising demands for water can be met by 40% to 50% through RHS. Collecting rainwater and storing it in the underground reservoir, then using it by letting it go through a proper drainage system can lead to sustainable water	Government, policymakers, engineers, HH, NGOS	RWH is a sustainable water management practice.	Videos, pamphlets, brochures,	Demonstrations, illustrations, pictures,	Governments, Creative agencies

management practice.					
Smart industries have taken the initiative to put their footprint in the sustainability and water-saving process. The industries are adopting RHS to use as ready soft water, reducing the dependency on hard water to tackle future catastrophes.	Rainwater harvesting is a simple yet effective way of conserving water to reduce future water crisis	Garments owners, policymakers, government Bangladesh Apparel Youth Leaders Association	Meetings, seminars, Convention on Rainwater Harvesting	Presentations, booklets, publications	Government, BGMEA, BKMEA
Using surface water also consists of running cost along with the initial cost. Water supply by WASA requires energy for pumping water, treatment cost is there along with distribution cost. Hence, rainwater harvesting can help to reduce such costs	Government, WASA, Water Services, companies	RHW can reduce the cost of water	Media, Press conference water services, publications,	Press Release, booklets, publications,	Government WASA
Polices need to be in place to reduce dependency on deep tube well	Government, Policymakers, public, mass people	Decrease access to deep tube well	Talk shows, Roundtable discussions, meetings	Policy Brief, memorandums, letters, advertisements	Experts Rain Forum

Industries need to emphasis on rainwater and help reduce extraction pollution. Through rainwater dependency of ground water can be reduced.	Government, RMG sector, climate change organization Environmentalist, Media	Rainwater to reduce pollution	Roundtable discussions, Convention, Annual meetings, Supplements	Evident-based stories, presentations, publications	Government, BKMEA, BGMEA
Both micro level and macro level awareness is important. If individual steps are taken, then the sum of it can cover a huge area. Micro level awareness is important so that individuals are influenced to take steps.	Government Media, HHS, CBO, NGO,	Awareness creation on the technology as means for water conservation.	Campaigns, advertisement	Slogan, message, pamphlets, brochures,	Government, HHS, NGOs
Financial assistance from the government to reduce the cost of installing RHS	Government Private sector	Encourage rainwater harvesting to buildings and public areas	Seminars, workshops, symposium, conclave	Advertisement, Presentations	Government Rain Forum
It is important to teach children about the importance of water conservation and water scarcity. Earth is a spaceship economy where resources are limited so wise use of it is essential.	Education Institutions, Media, Young people	Rainwater harvesting also reduces soil erosion and keeps surface water clean, saving the environment	School projects, competitions, lectures, and study tour	Guidelines of RHS, content design for RHS, video clips	Volunteer groups Experts

Audience – who should be targeted

Line Ministries and Independent Institutions:

WaterAid works and influences a range of external stakeholders including ministries and government body to implement projects. To ensure successful and smooth implementation of RWH, effective communication is required to ensure that ministries work in a unified manner. Champion in ministries on RWHs can accelerate the uptake from government.

Donors and Development Partners:

Forming a relationship with the donor for resource mobilization or funds and retention with development partners is essential for policy dialogues and support in implementing RWH projects.

Civil Society (NGOs, CBOs):

NGOs and Community Based Organisations (CBOs) are essential to carry out activities and plans, raise awareness and involve directly in the action, bringing people together, developing local pride to promote RWH.

Internal Staff and Partners:

Internal staff includes staff of WaterAid as well as other development organization working for the same cause. Strong communication is required to ensure WaterAid and partners are on the same page.

General Public:

This audience segment refers to the beneficiaries of the work carried out by WaterAid that includes people of the community as well as specific groups such as women and children.

Youth Engagement:

Young people are the potentials drivers for the economic and social progress of the country. It is essential to promote RWH to people aged between 15-20 so they can become youth advocates for RWH and make positive changes to their communities and mitigate water crises in the future.

Stakeholder Analysis: Select, classify, and engage for successful communication strategy

Stakeholders' engagement is essential for successful communication strategy to raise awareness of RHS. The following analysis and selection of stakeholders should be carried out referencing the type of communication in which the project is to be delivered. Identification and classification of stakeholders are likely to influence or create interest in the project.

Government	**Academia Networks**	**Private Sector**	**Development Sector**	**Communities**	**Media/ Professional**
RAJUK, LGD, DPHE	BUFT, BUET	BGMEA, BKMEA, Trade bodies	WASH Sector	Climate areas and areas with acute water needs	Journalists
PMO	Rain Forum	Financial Institutions	Donors	Urban HHs owner	Practitioner
	Private Universities	Real Estates	Global actors in Rainwater		

Channels and tools – how do we communicate?

Social Media:

The use of social media is on the rise. Social media channels such as Facebook, Twitter, LinkedIn, Instagram, and YouTube are extremely useful and cost-effective platforms that can highlight issues and interest people, especially the youth. The Government of Bangladesh (GoB) is working hard on its mission of Digital Bangladesh and taking the internet to the remotest corners of the country, and there is no doubt that the use of social media is likely to grow exponentially in the country in the coming days. As of yet, WaterAid Bangladesh has its presence on Facebook, Twitter, Instagram, LinkedIn and YouTube. To enhance the outreach, the organization needs to invest in paid adverts which will further strengthen reach-out.

Print and Online Media:

Print Media in Bangladesh is still very powerful whereas the country is moving towards ever-increasing online news services. Along with the established media outlets such as The Daily Star, Prothom Alo, Financial Express, The Daily Ittefaq, newly emerging news outlets are dedicated to serving specific sections such as natural environment and climate change. These media outlets can be tapped for further outreach of WaterAid's RWH and provided with information to reach out to the mass.

Broadcast media

Apart from the state-owned television Bangladesh Television (BTV) and Sangsad TV, over the decades, several private news channels have operated in the country with a sharp rise of broadcast viewers. Hence, it is imperative to approach these TV channels along with the government-owned TV channels to air awareness progarmmes of RWH. Key broadcasters to approach include Somoy news, Jamuna Tv, Channel 24, Independent, Channel I, ATN News and so on.

Website:

WaterAid website plays a key role in promoting the organisation and highlights the causes for the potential members and partners for a better understanding of WAB's mission and vision. The website itself is a perfect tool for sharing information and demonstrating success stories and upcoming news of the organisation. To promote and raise awareness of the benefits of RWH, it is essential to have updated information and write-up or blogs on RHS and build a linkage between the website and other social media channels to increase viewers.

How to Communicate to a large audience

Communication strategy enables to achieve goals around RWH objectives involving a specific audience. The following guidelines will create a form of effective communication to inform, engage, and inspire the stakeholders.

	AUDIENCE	AUDIENCE	AUDIENCE
CHANNEL ONE: Interpersonal	Government	Garment Industry Owners	Private Sectors
CHANNEL TWO: Community based	Community Groups	Government	Academics
CHANNEL THREE: Mass Media (TV, Radio, Newspaper)	Mass people	Social Influencers	Media
CHANNEL FOUR: Digital and Social Media	Young people aged between 15-20	Media	Practitioners

Call to action to promote RWH:

- A multi-stakeholder partnership that brings together the public and the private sectors along with community and people

- RWH needs to be streamlined into national policy. The government to come up with policies incentivizing conservation. Government cooperation along with multi stakeholders in the communities are needed to implement this. Industry owners and the government can sign an agreement where industry owners will get subsidized benefits in exchange for using Rainwater Harvesting in their factories

- Sign a petition for all garment industry owners to achieve “LEEDS Certification” for implementing RWH.

- Dhaka WASA will need to implement a new billing system as metered customers benefit most from having RWS as they receive the direct benefits of paying for the lower volume of mains water used and subsequently a reduced sewerage charge.

- A standard recommendation for water usage for decent living should be set to measure efficiency. Every citizen must actively conserve water.

Possible tool of communications and engagement:

There are several possible awareness campaigns that can be rolled out in various communication channels to get strategic and important messages to a large group of people at the same time, creating a wide attention, get engagement or communicate a sense of belonging.

Roundtable Discussion:

A series of "Round Table discussion on RWH" should be convened regularly. This arrangement is for development partners, water services, government bodies, professional consultation, and private sectors. It aims to improve communication programmes and create a common framework of approaches to communication for RWH. The discussion should emphasize water conservation and technical solutions for low-cost RHS installation. The discussion should also highlight the importance of RWH and water wastage where individual can play an essential role in saving water.

Community Radios:

The content and modality of delivery of the information are the essences of community radios. They can plan an effective role in rural areas across the country to aware the people. The medium can reach out to a wider audience to explain the cost of wasted water and provide suggestions to RWH, gives people a sense of community responsibility when it comes to water conservation.

Promotional Materials:

This form of activities is designed to create and strengthen information, documentation for the community people. Posters, brochures, pamphlets aim to increase the capacity of the communication strategy and disseminate and utilize information widely. Through the communication materials, consist of basic parts such as catchment areas, distribution system and storage of RWH can be visually represented and demonstrates to install RHS.

Television and documentary:

This segment to be focus on promoting and congratulating the efforts of communities to conserve water and run profiles on communities and individuals that are making a difference by installing RHS. Any quantitative improvement in water conservation should be promoted and celebrated in the media.

Media strategy

Media should be used to contextualize the water conservation issues at the beginning of the campaign – things like costs to government, savings from the latest round of leak repairs, the purpose of the roll out of meter installations and latest findings from already installed meters, and infrastructure repairs and upgrades, for the purpose of water loss management – in order for people to see government commitment and action on the issue. Wherever possible this

should be done with consultants, plumbers, water quantity assessors, etc., as a ‘hook’ for media.

The campaign box below can be extracted as mini-communication strategies depending on what campaign is decided to run.

- Documentary
- AV
- Advertisement Campaign
- Print Media
- Brochures
- Pamphlets
- Short Films
- Films
- Video
- Photography
- Digital Campaign
- Social Media Assets

Action Plan Matrix:

Desired Communication Outcome	Target Audience	Key Message(s)	Communication Channels	Communication activities, products	Resources & Partners	Success Indicators
MAINSTREAMING: RHS to be understood at all levels	Government Donors, Private Sector NGOs and, Schools Media Communities (i.e. Men, Women, Youth, Children)	Rainwater Harvesting is everyone's business	TV Radio Newspaper Website Seminar Workshop Awareness Training Community CC Day	Briefing Papers Pamphlets Banners, AV	Media Other national projects NGO Government Community leaders	There is better coordination among all sector levels
Enhance collaboration and partnerships with key stakeholders - less wasted resources and time - solicit support from stakeholders	PMO Garment Industry Owners Real Estate Potential Donors	To include listed message of Project Visibility & Need to adapt	Interpersonal Communication	Presentation Promotional Materials Publication: Mainstreaming Guide	Government Private Sectors, BGMEA	Support is gained from target audience to mainstream climate change into policies, regulations etc
Films, Short films, videos to spread awareness of RWH	Environmentalists, Students, Researchers, general public	Correlating rainwater harvesting with climate change reduces flooding and erosion, RHS mitigates water crisis and can be used for non-drinking purposes	Video streaming sites/platform, Facebooks, movie theatres, TV cable networks, YouTube	Content, footages, sound effects, and music	Universities, Film Academy or Institutes, Video production houses	Creating public awareness and educate people about the benefits of RWH

Raise awareness of RWH among stakeholders/public through water campaigns	Government Donors Communities, Households and Private Sector water users.	Aware people in methods of water conservation	Posters Brochure Television advertising	Create community challenges along the theme: Song competitions, craft competitions, billboard painting	City councils and schools	Engage communities through and give people a sense of community responsibility when it comes to water conservation.
Celebrity and Social Influencers involvement	Young people Students Young Researcher	Promote RHS as a sustainable water management	Facebook Live Instagram TV YouTube	Competitions, RHS online community Mentoring programme Events and networking opportunities	Climate Champions Activists	Young people will be working towards the SDGs and beyond, to ensure universal WASH services and improved water management practice

Incorporate data to communication campaigns:

Data refers evidence to focus on areas of opportunities or areas of needs. It also helps to track trends and provide predictions that will help to develop strategies.

There are numbers of staggering data on water consumption and water crisis in both urban and rural areas. For example, according to a survey, 30% of the water consumed in houses is typically for toilet flushing[1]. Data suggest that 60% is recycled water from the river and 40% is extracted from groundwater sources by DWASA to supply water. DWASA is targeting to shift from 60% to 80% and from 40% to 20% for surface water and groundwater respectively, which could be done by rainwater harvesting. Moreover, pressure upon the groundwater could be reduced. In Dhaka water level is reducing, DWASA witnessed it when water was pumped

Data on the consumption of water to processing steps of fabric and other internal activities within the industry require water such as usages in a toilet, car washing, floor cleaning, cooling, steam generation can be used.

To ensure effective communication with stakeholders and donors, data on water sources will pave the path to the potential decrease of water demand through RWH. Hence, data should be incorporated in report writing, newsletters, Pres Release, article and journals and blog posts.

Furthermore, it is essential to collect and compile data, key findings, and policy messages to be communicated during advocacy and follow-up meetings and programmes. This includes the results of innovative research, surveys, trend analyses, information related to rain and water conservation in the country. The promotion of innovative indicators or findings may greatly enhance interest to mass audience.

Data need to be tailored and based on the data, message can be formed so that they are easily readable and accessible to all of the target audience, other stakeholders and partners, and the general public.

[1] https://www.wateraid.org/bd/sites/g/files/jkxoof236/files/2020-06/3P%20of%20URWH%20in%20Bangladesh.pdf

Recommendations and Way Forward

The communication strategy is the critical piece bridging the situation analysis and the implementation and adaptation of RWH. Effective communication strategies use a systematic process and plan to design and implement communication activities that encourage sustainable water management practice.

The delevepoment of this strategy led to vital suggestions from KIIs:

> Experts suggest rainwater should not be allowed to flow in the drain instead it should be captured and stored as a reservoir so that it can be used for car washing, toilet flushing among others.

> Rainwater harvesting keeps the environment green and it can recharge the groundwater artificially otherwise lack of water can bring great losses to the industries and factories as they would not be able to run them due to the negative correlation between demand and supply. It can be useful for irrigation and it can be used for all purposes, but a clean catchment area is essential. Screening, filtration, disinfection among others can be done for making the rainwater safe for drinking purposes. Informing about the benefits/rewards of RHS through different seminars, government advertisements can be arranged to raise awareness.

> RWH is crucial as it helps to store water, save water and prevent damages such as waterlogging along with providing other benefits, as a result, both intergenerational and intragenerational equity could be served. With the concerted effort from all sectors, rainwater harvesting can fulfill the basic requirement of water and help nature sustainable.

APPENDICES

Terms of Reference:

Communications Strategy for Rainwater Harvesting up take by industries, businesses and households

Overview of the project

Bangladesh faces complex water challenges due to variations in hydrogeology, the impact of climate change, and socioeconomic pressures. The country is the sixth largest extractor of groundwater globally, and rampant groundwater abstraction at little or no monetary cost is a common phenomenon. The impending crisis of depleting groundwater is tantamount to a slow-onset disaster. This is compounded by the difficulties of demonstrating replicable and sustainable water management solutions that work across the country's varying contexts.

Given this situation, groundwater recharge with rainwater harvesting (RWH) is a relatively unexplored area of work, with tremendous potential for meaningful impact.
Rainwater harvesting is a way of accumulating and preserving the superfluous water during rainy seasons and making it available for use during dry times. Currently, rainwater harvesting is practiced on a small scale in the water-scarce coastal zone, but further momentum needs to be created for wider take up through effective demonstration, capacity building and influencing – especially at a time when the policy and guidelines on rainwater harvesting has been enhanced approved by in urban areas by the government.

Promoting Rainwater Justice through Rainwater Harvesting is a 4 years project started in January 2018 with aims to increase awareness and uptake of rainwater as an alternative source of water for industries, communities and urban areas. The project is implemented through four complementary components that works together to influence scaled uptake of RWH in both rural and urban areas, leading to improved use of water as natural resource. The key components are as follows:

1. National capacity building with special focus on strengthening Rain Forum – a professional hub on RWH
2. Industry level demonstration of RWH with use for sanitation, fire safety purpose and groundwater recharge
3. Community level demonstration on use of rainwater harvesting, safe storage and use for drinking in water-stressed areas in the coast
4. Influencing uptake of RWH through horizontal learning and promotional campaigns with trade associations, government and media.

Over the last 2 years, this project modeled rainwater installations as evidence in climate prone areas, school, health complexes, businesses like factories.

Objective of the assignment

During the review process of the project and on ground experience and exchanges of dialogue with various stakeholders the need for a Communications Strategy has surfaced. The project has a diverse target audience with focus on businesses and industries. The communication strategy address identifies key bottlenecks in shifting the awareness of rainwater to action towards rainwater harvesting in urban areas with business and highly intensive water industries. Overall, the objectives are:

- Identify target audience interests and key agenda to influence them
- Key messages, actions and targeted messages and channels
- A brief analysis of project aim and communications needs and activities to make change happen and drive awareness to action.
- Finally, a set of overall communication strategy along with key recommendations to be given to make the advocacy and influencing and the dissemination of project knowledge products and evidence generated to be more effective to drive results

Overall stakeholders the project aims to influence

Government	Academia Networks	Private Sector	Development Sector	Communities	Media/ Professionals
RAJUK, LGD, DPHE	BUFT, BUE T	BGMEA, BKMEA, Trade bodies	WASH Sector	Climate areas and areas with acute water needs	Journalist
PMO	RainForum	Financial Institutions	Donors	Urban household owner	Practitioners
Local Upz, Dist. Admin	Private Universities	Real Estates	Global actors in Rainwater		

Scope of the assignment

The assignment requires going through literatures on rainwater harvesting promotions, activities stocktaking on what worked and what did not in engaging private sector actors. Key interviews both locally and nationally with key stakeholders to develop a practical evidence driven strategy to support the project goals and rainwater uptake nationally. The assignment requires consultations with WaterAid Staff, Rainforum, WASH Sector actors and Rain champions along with project influencers.

Deliverables

- A Communications Strategy with action plan and direction supported by stakeholder analysis
- A Dissemination Plan for implementation strategy and widely sharing it within key sector actors working on Rainwater.

Timeline

ToR Circulation	16 August 2020
Queries	22 August 2020
Proposal Submission	31st August 2020
First Draft	30 October 2020
Final Report	15 November 2020

Interview Questions:

Please introduce yourself and explain why you conduct this interview. In addition, please explain what you'll do with the provided information. Naturally, thank the respondent for the time made available for this interview.

The interview will be addressing a single topic – Rainwater Harvesting in Bangladesh. We'll start with the Rainwater Harvesting viewpoint and how it relates to their lives, work, or their understanding. We then look at the bottlenecks on its expansion in business, in government planning a little more detail. We will then touch upon the role of communications in decision making for uptake of rainwater by them or the entities they represent or by the people they serve like business/government. There may be interviewees who are already practicing rainwater, they question for them will be again what led them to do that from a communications point of view – like trigger from communications.

The interview discussion can start with the following

1.	What is your impression on the water crisis in Bangladesh and its population?
2.	Rainwater is drinkable? What are your thoughts on its being safe?
3.	Besides drinking, what other applications do you think Rainwater can have?
4.	Water demand of Dhaka city with high population density cannot be met solely with municipal water supply system especially during the dry season. So rainwater can be a good alternative for that. What do you think?
5.	Given the need for water in Dhaka city do you think rainwater can be a good source of water for people?
6.	In your capacity or role, what would convince you to know more about rainwater harvesting for your house, or office, or factory?
7.	Rainwater helps save environment – what are your views on this?
8.	RWH might not be cost effective for small buildings, but for industries and high-rise buildings it certainly is cost effective? Share your thoughts
9.	RWH can not only conserve water but also prevent the widespread water pollution. What are your thoughts on this?
10.	Ever increasing population and depleting ground-level water may soon force us to find an alternate solution to the looming water crisis. RWH can be a good alternative for that. Let's discuss
11.	Some states in India like Maharashtra have made RWH legally mandated for industrial and official buildings. Can the government also do something like this? (for PMO)
12.	Besides coastal areas, RWH is still an unknown concept in urban and sub-urban areas. Can the government launch an ad campaign that can popularize it across the country? (Example successful birth control campaign) (for PMO)
13.	RAJUK has some specific rules and regulations for buildings. It is also encouraging to see the incorporation of RWH in the Bangladesh National Building Code. Can it also incorporate something that makes RWH more accessible to the mass? (for RAJUK)
14.	Textiles and garments need more water than other business, which leads to a huge cost. What kind of impact do you think RWH will have on your industry? (Imply that RWH can cut back on large water bills) *applicable for people from RMG industries*
15.	What are the challenges of water availability for people in Dhaka city or in climate areas where water is in acute need?
16.	If you are convinced will you use at your factory?

17. This question will vary between interviewers (also ask them a. Business/corporate: what will convince you to invest to set up the rainwater harvesting models in your business or factory? b. Business/corporate: what is your opinion on CSR through saving environment? E.g. will you invest to set up rainwater and Recharge the ground water in Dhaka city? c. If you are an INGO/Development sector: what are the difficulties of convincing donors/businesses to go for rainwater harvesting? Why do you think it's not yet scaled up in businesses? Why do you think government has plans and policy but in implementation there is gap? What are your thoughts about mass people? d. If you are an academia: same questions? And question on why research isn't making widespread action? Need to ask them on how far the evidence has the strength to convince people? e. If you are an entity which promotes Rainwater directly: what are the challenges do you face on communicating with businesses, government to uptake rainwater.
18. Private sectors, especially the real estate companies and industries, have till now not been enforced for implementing rainwater harvesting systems in their projects. Since incentives from the government is virtually non-existent, what kind of incentives would you prefer to ensure and implement it?
19. What key information channels do you rely on in making decision on your office or something as important as rainwater harvesting?
20. In your opinion, what should be the best to convince businesses and government for rainwater harvesting?
21. According to a published study up to 10% water demand can be met with community based RWH system. What can your community do to create impact?
22. What information, knowledge materials may interest you to take an action towards rainwater uptake in your capacity. (AIDA model)
23. So far in your experience how clear where the communication messages related to rainwater harvesting?

Stakeholder Analysis: Their Advices, Practices and Success Stories

Stakeholders	Names	Advices	Practices	Success Stories
Government	CRI Tonmoy Ahmed	Using mass media to make communities aware of rainwater harvesting		
Academia Networks	Professor Mahfizur Rahman from BUET, RainForum, Professor Imran from ULAB	*In many places people walk long distances to fetch water, rainwater can be used in this case to ease the suffering and RHS has the potential to provide water all year long if proper technologies are used. *Using Fast Flush Driver to clean the rainwater *Surface water treatment plants are expensive whereas RHS is cost-effective. During the rainy season using rainwater and in the dry season using water from WASA (two separate lines to be installed for ease). *RHS not only prevents water logging but also helps to reduce the maintenance cost of the road due to the damage caused by the rain. Additionally, it can help to maintain a healthy ecosystem. *Fulfilment of demand for water by 40% or 50% via RHS (collecting rainwater and storing in the underground reservoir, after using it letting it go through a proper drainage system) can lead to sustainable water management practice. *During water crisis stored rainwater can be very helpful *Aware people aged between 15-20 so that after a certain age when they will support the society economically or in other ways they can be a conscious citizen (identifying the target audience). *Underground soil is drying out as a result of extracting water. Lack of vegetation due to change in soil (creating a situation for percolation is important) *Environmental damage may occur for using only deep tube well for irrigation so proper management of rainwater is essential * Huge extraction of water by industries and after its usage they are discharged into surface water causing huge pollution. Hence, this	*Using Fast Flush Driver to clean the rainwater	*Using Fast Flush Driver to clean the rainwater, therefore, clean rainwater is used

		pollution can be reduced if rainwater is used as an alternative as that huge extraction of water could be minimized. *Mixing rainwater with effluent for dilution to minimize pollution and using that for secondary or tertiary uses. Hence, reducing the dumping of effluent from ETP (effluent treatment plant) into rivers (reducing water pollution at an industrial level). It can bring radical change in the industry's water management system. *If this technique starts with 5% only then it can also reach to 25% and improvement in saving strategies could be seen. Industries whose demands are too high can use RHS to supply water to their workers. After starting and gathering information it can actually reach near 100%. Treating hard water is expensive and rainwater is soft water. If not applied today severe risk after 10 years can exist. * This is the opportunity to start with and RHS is an easy and cost-effective method compared to other alternatives such as treating water etc. *For those who do not think long term- Making them aware them and asking them such a question that will make them think such as is there any threat to water? Harming communities by extracting too much water etc. (Rhetorical Question). Informing them with facts and findings. *Government sector must work on it such as making RHS mandatory (no licence if not done) and providing rewards for it (such as reduced government tax etc.) *RHS is essential to prevent irreversible damage and severe water scarcity in times of water crisis *Targeting school children and making them aware by introducing a game completely based on RHS *Using surface water also consists of running cost along with the initial cost. Water supply by WASA requires energy for pumping water, treatment cost is there along with distribution cost. Hence, rainwater harvesting can help to reduce such costs		

		*Quantification of the benefits is important (scaling issue) for raising awareness *Provision of incentives and penalty *Arsenic problem in groundwater, in this case rainwater harvesting can be helpful *Financial assistance should be provided for installation of RHS *National policy required, provide fiscal incentives *Showing rainwater harvesting can save money (reduce water bills and other costs) *Feasibility needs to be shown *Everyone needs to take action *Informing that there are long term benefits, financial benefits *Showing installation of RHS is already done in certain companies *Showing evidence that RHS works *RHS is a solution for dry or winter seasons *Showing videos *Costs and benefits need to be shown		
Private Sector	Mominul Islam (MD, IPDC), Abdullah Maher (CEO of Fakir Fashion), Ms. Porni Mazumder (HR Director from Marks and Spencer's)	*Climate finance and green finance *Provision of interest free loans for installation of RHS *Social media platform for disseminating information *Subsidy required to make it commercially viable *Proper long term strategy with key stakeholders *Pricing system of water *Target: commercial buildings, certain industries, apartments *Rainwater can be used directly for dyeing and other domestic purposes, a big step to sustainability. Groundwater cannot be used directly into dyeing or for other industrial uses so treatment is essential in this case and maintaining a balance in pH too. Groundwater needs to be tested	*Fakir Fashion directly uses RW into their production so no treatment is required. *It has installed catchment area and tanks for rainwater harvesting *Marks and spencer work with 20 garments who already installed RHS	*Fakir Fashion directly uses RW into their production so no treatment is required. Therefore, saving costs. *RHS is involved in the green strategy of IPDC *It has installed catchment area and tanks for rainwater harvesting and this has saved water for 10,000 people in the surrounding for their domestic consumption for a year *RHS is helping the local people as it resulted in reduced extraction of groundwater, thus

		and chemicals need to be added for adjustment but rainwater preserved in the tank can be used directly with minimal to no cleaning in the heavy rain season. Hence, chemical cost is saved and expenses for effluent treatment plants (ETP) are also reduced. If Bangladesh apply it then huge chemical treatment cost and ETP cost would be saved along with saving huge discharge of water to the natural body *Proper management and monitoring are required after its implementation *Planning how to use the rainwater in different seasons or periods of time *It is important to teach children about the importance of water conservation and water scarcity. Earth is a spaceship economy where resources are limited so wise use of it is essential. *Aware online media, TV media, journalists, organizations etc. *Starting from schools, homes, offices etc. Every educated and concerned citizen should take it to a mass level *Cost is not the only factor, it is a matter of availability and long term sustainability and there is no good alternative to RHS at this moment *Informing about the harmful effects of not taking any actions or not installing RHS to raise awareness *Using **'Did you know?'** campaign to increase awareness *Showing videos about the sufferings happening around the world due to water scarcity to raise awareness (India, Africa) *Providing data and facts *Strong policy implementation is essential *Most of the places in urban areas have no way for infiltration to replenish groundwater due to concrete roads, in this case rainwater harvesting is essential *Media's role is important, involvement of NGOs, Government initiatives for promoting it (tax and subsidy or reward)		giving other people the opportunity to extract groundwater because high power pumping machines can extract huge amounts of water impacting the surrounding communities. Hence, preserving human rights of access to water. *Installation of RHS in 20 garments who work with Marks and Spencer

		*Involvement of RAJUK to make it mandatory *Providing extra credits to factories having it *Medium to raise awareness: Bangla *Event activation, awareness program or campaign, general awareness message, advertisement		
Development Sector	Mahbubur Rahman from Sweden Embassy, WaterAid	* In urban areas, huge amounts of water are used for washing in factories e.g. clothing industry. Therefore, it is better to reduce extraction of groundwater and use rainwater instead in order to stay within compliance. *Two forms of water resources: Surface water and groundwater. Since surface water is not clean so groundwater is usually extracted and as a result land subsidence already exists. Therefore, rainwater harvesting is an alternative source of water as rain is abundant in Bangladesh and it is good to utilize it. *In coastal areas there is no alternative option, RHS is essential for drinking purposes due to salinity. In urban areas air pollution is prevalent, therefore, rainwater cannot be consumed for drinking purposes but it can be used for non-potable purposes such as washing, gardening among others. *Rainwater to be used for washing, gardening, toilet flushing among others to reduce pressure upon groundwater, as a result groundwater can be used for drinking and other essential purposes. *In urban areas the drainage system is not good so when rain comes water logging also exists. Hence, RHS can help to prevent water logging and can further be used for other purposes but the pollutants need to be removed (storm water collection pond or detention pond set up is required). *60% is recycled water from the river and 40% is extracted from groundwater sources by DWASA to supply water. DWASA is targeting to shift from 60% to 80% and from	* WASH package include sanitation plus water supply and the water supply is provided through RHS *Chittagong is an industrial area and because of the emissions from the industries slightly acidic rain occurs in that area. Hence, in response to that WaterAid has designed RH channels and systems in that area in such a way that after 10 minutes of the rain the rainwater is collected or extracted. . *In coastal areas WaterAid installed RHS for drinking purposes as they have water scarcity due to salinity intrusion. *After filtering rainwater is used for artificial groundwater recharge by injecting it. No industrial water can be used for it as it is restricted by the law.	*WaterAid works in community, school and healthcare centres. WASH package include sanitation plus water supply and the water supply is provided through RHS because it is cost-effective, people can get water all year round. *Chittagong is an industrial area and because of the emissions from the industries slightly acidic rain occurs in that area. Hence, in response to that WaterAid has designed RH channels and systems in that area in such a way that after 10 minutes of the rain the rainwater is collected or extracted. Filtration systems need to be designed properly. Rainwater can be used for drinking but by considering how the filtration system is used. *In coastal areas free rainwater for drinking as they have water scarcity due to salinity intrusion. *After filtering rainwater is used for artificial groundwater recharge by injecting it. It replenishes groundwater

		40% to 20% for surface water and groundwater respectively, which could be done by rainwater harvesting. Moreover, pressure upon the groundwater could be reduced. In Dhaka water level is reducing, DWASA witnessed it when water was pumped. *Solution: requirement of proper catchment system and utilizing it properly. Water scarcity exists and rainwater is the natural source to harvest as an alternative to water supply. *RHS in households by setting catchment is required because usually the toilet wastewater is treated for use so RHS can reduce the treatment cost along with saving water (staying with nature via RHS) *Both micro level and macro level awareness is important. If individual steps are taken then the sum of it can cover a huge area. Micro level awareness is important so that individuals are influenced to take steps. *WaterAid wants to incorporate RHS in the BNBC building code so that RHS is mandatory for every newly constructed building. Setting RHS in the existing buildings could be expensive, therefore, setting it in the new buildings might require less investment. *Rainwater should not be allowed to flow in the drain instead it should be captured and stored as a reservoir so that it can be used for car washing, toilet flushing among others. *Show return on investment to influence *Distilled water is required for dyeing purposes and rainwater is soft water with no minerals. If groundwater is to be used then treatment is essential which not only accelerates the cost but also consumes energy sources for its treatment. *Effective regulatory system is required. Consumers also need to be involved. *Due to groundwater extraction by industries many communities do not get water (environmental injustice). Huge water consumption in irrigation than in industry (water-energy-food nexus)		

		RHS is helpful for all so why not. *Simple message not complicated to motivate *Go for community approach and store RW than use it (little consumption) *Innovative design required because if the technology/material is destroyed once then people would not be interested to set up again *Area/Geography and context wise rewards need to be provided then apart from awareness if there is a reward system to show then people would be motivated. Generally to motivate you need to show its benefits. For example, to WASA bill is paid if RHS is installed then that bill could be reduced. Hence, explaining the reward in the person's way is important (how it is beneficial to him/her to get the person accept it)		
Communities	Engineer Md. Habib Ahsan (President, Niketon Society)** Habib Ullah Dawn			
Trade Bodies	(President, CIS, BCCI)**			
Media	Elita Karim, Journalist, The Daily Star	*Rapid urbanization or construction of new buildings can lead to water scarcity so why not use rainwater *Opening tanks on the roof to collect rainwater after 5 minutes of the rainfall to capture safe rainwater *Little filtration or boiling of rainwater would be required before using it for drinking purposes *Showing that rainwater harvesting is helpful not only environmentally but also financially by reducing water bills and other energy costs (people would be saving a lot of money) - especially targeting tenants *Showing that usage of rainwater is going to be beneficial for the health		

		as well as it is a pure natural source *Our country is going through a water crisis and it is a huge issue. Installation of RHS can save one from guilt or regret. This needs to be pushed and realized *No use of owning and buying lands if water availability does not persist (no one would even want to pursue a land or area going through water crisis) *Policy makers need to cooperate and take actions *RHS should be incorporated into the construction projects (there should be a rule or law from the Government- telling them if you want license or funding in the proposal steps for RHS should be included otherwise that would not be accepted)- only then people can be inspired or forced, if necessary people should be forced to include it in the proposal ***Communication strategy Advice**- A good film can change the perception. A good story can make them realize that RHS is essential, it is our future. Showing on TV, advertisements. Mixture of all can be helpful. Correlating rainwater harvesting with climate change		
Real Estate	Mr. Saiful, Head of Construction, Sheltech	*Rainwater harvesting keeps the environment green and it can recharge the groundwater artificially. It can be useful for irrigation and it can be used for all purposes. Clean catchment area is essential. Screening, filtration, disinfection among others can be done for making the rainwater safe for drinking purposes *Informing about the benefits/rewards of RHS through different seminars, government advertisements to raise awareness *Mandatory rules and regulations by the government is essential for its implementation *Storing rainwater and setting meter for the water entering into the building, rainwater usage can reduce the pressure upon WASA *Financial assistance from the government to reduce the cost of installing RHS		

		*It is necessary to incorporate in the national building code the design of RHS, guideline for RHS, specific design guide for RHS, specific requirements among others *Training local people about the benefits and the procedure of its installation *Storage area or tank is important. There are rules and regulations for keeping green space by RAJUK. Construction of underground storage area or tank for rainwater can reduce the green space. So it is necessary to declare that it falls under the green space or that it does not cover the green space/ considering it (Change in Policy)		

**** Due to COVID-19 restrictions, some opinion leaders' interview could not be undertaken****

Cost-Benefit Analysis

At present, the price of each unit (1,000 litres) of water supplied to households is Tk 14.46 in Dhaka, i.e. Tk 54.73tk per thousand gallons. The tariff on water supply for commercial users has been set at Tk 40 in the capital.[2]

Dhaka Water Supply and Sewerage Authority (Wasa), the sole legal entity to develop and maintain a water supply system for Dhaka metropolitan and its surrounding areas estimates that per capita water demand in Dhaka is 150 litres per day.

A study by Brac Institute of Governance and Development (BIGD), Brac University found that, on average, per capita water usage is 310 litres per day among the households in the formal settlements—more than twice as high as the estimation.

Suppose for a residential household of 5 members in Gulshan, the water consumption will be 1550 liters i.e. 409.47 gallons per day

Suppose the household is 50% dependent on rainwater. So, the monthly savings in water bill will be:

MC(gal)* Cost (taka/gal)*Dependency(%)* Tax(%)

12,284.1*54.73/1000gal*50%*15%= 50.42Tk

This amount will be **Taka 100.85 per month if the household is 100% dependent on rainwater.** This is just a rough estimate of **one household** in a residential building. The amount saved will be significantly greater in terms of water usage and expense if a residential building of 50 households implement RHS.

Table: Monetary savings and benefit-cost ratio of RWH in commercial buildings.

Catchment area (m^2)	Climatic conditions	Total demand (m^3)	Monetary savings, Tk			Benefit-cost ratio		
			Water	Energy	Water + Energy	Water savings only	Energy savings only	Water + energy savings
120	Wet	4.5	10878	381.09	11259	2.86	0.1001	2.9580
	Average		7788.1	272.85	8061.0	2.05	0.0717	2.1178
	Dry		4454.2	156.05	4610.2	1.17	0.0410	1.2112
600	Wet	18	48087	1684.70	49772	7.27	0.2548	7.5270
	Average		37088	1299.40	38388	5.61	0.1965	5.8054
	Dry		22250	779.50	23029	3.36	0.1179	3.4827
1242	Wet	33	96403	3377.40	99781	9.25	0.3242	9.5771
	Average		76129	2667.10	78796	7.31	0.2560	7.5630
	Dry		45832	1605.70	47438	4.4	0.1541	4.5532

[3]

It was also revealed from the analysis that yearly 200-2900 KL of water can be harvested and around 7000-100000 Tk. can be saved roughly per year in different climatic conditions by adopting RWH in commercial buildings. Due to the high price of water supply by DWASA in commercial buildings, RWH is beneficial under each climate condition and about 35 to 630 KWh energy can be saved per year.[4]

A rough quantitative cost benefit analysis of RHS is shown below:

[2] https://tbsnews.net/bangladesh/dhaka-wasa-hikes-water-price-49189

[3] Book of abstracts and convention brief 4th Bangladesh Convention on Rainwater Harvesting 2019 Wateraid

[4] Book of abstracts and convention brief 4th Bangladesh Convention on Rainwater Harvesting 2019 Wateraid

Benefits	Cost
Purchase of machines	Initial cost
Installation of machines	Slight treatment cost
Increased revenue	Maintenance cost
Reducing treatment cost for dyeing as GW need to be treated and RW can be used directly	
Conserving water for future use	
Storing water for dry seasons and in times of drought	
Preventing irreversible damage	
Preventing waterlogging	
Reduce water bill and other energy costs required for treatment	
Artificial recharge of ground water and healthy ecosystem	
Using rainwater for dilution of effluent	
Sustainable world	

Note: It shows benefits outweigh costs. RHS provides both tangible and intangible benefits along with long term benefits.