Project Proposal

**Eco Billboard: A Green Way of Providing Clean Water for Schools**

**Pilot Phase**



### July 7, 2023

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1.0 Introduction

Water is vital for life and human dignity. Without water, there can be no food, no health, and no development. However, many people around the world do not have access to safe and adequate water, especially in developing countries like Bangladesh. UNICEF reports that Bangladesh has made significant progress in providing universal access to improved water sources, with more than 97% of the population having access in 2013. However, the water quality is very poor and the access to safe drinking water is still low at 34.6%. This creates serious challenges for public health, environmental sustainability, and socio-economic development.

School children are one of the most vulnerable groups that face the problem of water scarcity and quality. In Bangladesh, many schools lack proper facilities for water supply, sanitation, and hygiene. Without safe drinking water, many school days are lost every year due to water-related diseases, affecting the education and health of students. Moreover, poor water quality and hygiene practices can impair the cognitive development and learning outcomes of children. Achieving UN Sustainable Development Goal 6: Clean Water and Sanitation

Therefore, it is crucial to address the problem of water shortage and quality in schools and to ensure that every child has access to safe and sufficient water for drinking and hygiene purposes. This concept paper proposes an innovative and sustainable solution to this problem: Eco Billboard. Eco Billboard is a new kind of billboard that can collect and purify water from air, rain, and fog using renewable energy sources. Eco Billboard can provide clean drinking water to schools and communities in areas where conventional water sources are scarce or polluted. Eco Billboard can also serve as an educational tool to raise awareness about the importance of protecting and restoring water-related ecosystems.

2.0 Project Goal and Objectives

The main goal of this project is to provide safe drinking water to schools in Bangladesh using Eco Billboard technology. The specific objectives are:

- To design and install an Eco Billboard in a selected school in Bangladesh that can collect and purify water from air, rain, and fog.

- By utilizing a cloud-based platform that tracks the amount of water collected and the weather forecast, it will be possible to quantify and examine the water quality, quantity, and accessibility for the school community as well as the performance and impact of the Eco Billboard.

- To involve students in fund raising activities to support the maintenance and sustainability of the Eco Billboard.

- To share the results and lessons learned from the pilot project with other schools and stakeholders in Bangladesh.

3.0 Project Activities

The project will consist of four main activities:

- Design and installation: The project team will conduct a feasibility study to select a suitable school site for the Eco Billboard installation. The team will also design the Eco Billboard according to the local context and specifications. The Eco Billboard will consist of an air filter and mesh to collect air, rain, and fog; condensers to cool down the air and form droplets; carbon purifier to filter out impurities; solar panels to power the system; tanks and reservoirs to store the purified water; taps or faucets to dispense the water; software to collect and display real-time weather data; and a billboard frame to display advertisements or messages.

- Monitoring and evaluation: The project team will monitor the performance of the Eco Billboard in terms of its water production capacity, quality, reliability, efficiency, safety, and user satisfaction. The team will also evaluate the impact of the Eco Billboard on the health, education, environment, and socio-economic aspects of the school community. The team will use various methods such as surveys, interviews, focus groups, observations, tests, measurements, records, and reports to collect quantitative and qualitative data.

- Fundraising: To help support the upkeep of the Eco Billboard, the project team will teach and mentor students from the chosen school to organize a "Safe Water Squad" that will be in charge of planning fund-raising events. The SafeRecycle station, which will collect and sort plastic bottles and cans in exchange for prizes like vouchers, coupons, or cash, will be one of the fund-raising activities. Additionally, the fund-raising efforts will seek to educate and increase student understanding of the value of safe drinking water as well as the principles of reduce, reuse, and recycle.

- Dissemination: The project team will disseminate the results and lessons learned from the pilot project to other schools and stakeholders in Bangladesh. The team will use various channels such as social media, newsletters, blogs, podcasts, webinars, workshops, conferences, publications, or media outlets to share the findings and recommendations of the project. The team will also seek opportunities to scale up or replicate the Eco Billboard solution to other schools or communities in Bangladesh.

4.0 Project Outcomes and Benefits

The project is expected to produce the following outcomes and benefits:

- Enhanced access to safe drinking water for the school community: The Eco Billboard will provide a dependable and sustainable source of clean drinking water for the school community, reducing their reliance on unsafe or inadequate water sources. The Eco Billboard will also reduce the expense and time involved in fetching or buying water from other sources.

- Enhanced health and education outcomes for the students: The Eco Billboard will enhance the health and well-being of the students by preventing water-related diseases and infections, improving hygiene practices, and improving nutrition. The Eco Billboard will also enhance the education outcomes of the students by reducing absenteeism, increasing attendance, and improving focus and learning abilities.

- Increased awareness and engagement on water and environmental issues: The Eco Billboard will increase the awareness and engagement of the students and the public on water and environmental issues. The Eco Billboard will serve as a demonstration and education tool to showcase how water can be collected and purified from natural sources using renewable energy. The fund raising activities will also foster a sense of responsibility and ownership among the students and encourage them to take action to solve real-life problems.

- Enhanced visibility and reputation for the project partners: The Eco Billboard will enhance the visibility and reputation of the project partners as innovators and leaders in providing sustainable solutions for safe drinking water. The Eco Billboard will also generate positive publicity and recognition for the project partners through various dissemination channels.

5.0 Project Budget

The estimated budget for the project is $100,000 USD. The budget breakdown is as follows:

- Team composition and training: $10,000 USD

- Procurement and development: $20,000 USD

- School selection and agreement: $5,000 USD

- Installation of water filters: $40,000 USD

- Monitoring and evaluation: $15,000 USD

- Fund raising: $5,000 USD

- Dissemination: $5,000 USD

The project partners are seeking funding from potential donors or sponsors who share their vision and mission of providing safe drinking water to schools in Bangladesh using Eco Billboard technology. The project partners are also willing to contribute their own resources or in-kind support to the project.

6.0 Project Timeline

The project will be implemented over a 24-month period from January 1, 2024 to December 31, 2025. The schedule for each phase is set out in the table below:

| Activity | TimeLine |

| --- | --- |

| Part I | |

| Team composition and training | Week 2-4 |

| Procurement and development | Week 4-8 |

| School selection and agreement | Week 6-12 |

| Part II | |

| Installation of water filters | Week 13-52 |

| Monitoring and evaluation of FNPCC | Week 53-100 |

| Fund raising | Week 53-100 |

| Dissemination | Week 102-104 |

The project timeline is subject to change depending on the availability of resources, the actual number of schools selected, the actual performance and impact of the Eco Billboard, and other unforeseen factors. The project team will monitor the timeline closely and report any deviations or adjustments to the project partners and stakeholders.

7.0 Project Team

The project team consists of experts and professionals from Partnerand Safety Assistance For Emergencies (SAFE), one of the renowned non-profit organizations in Bangladesh. The project team has extensive experience and expertise in designing, implementing, and evaluating projects related to water, sanitation, hygiene, health, education, environment, and social development.

The project team members are:

- Project Manager: Responsible for overseeing the overall planning, implementation, monitoring,

and evaluation of the project.

- Technical Advisor: Responsible for providing technical guidance and support on the design,

installation, operation, and maintenance of the Eco Billboard.

- Fund Raising Coordinator: Responsible for training and mentoring students on fund raising

activities and managing the funds collected.

- Communication Officer: Responsible for disseminating the results and lessons learned from

the project to various stakeholders and audiences.

- Field Officer: Responsible for liaising with the school authorities, teachers, students,

and community members on the ground.

8.0 Project Sponsors and Partner

A consortium supporter will sponsor the campaign and provide all the costs associated with the project implementation, which amounts to $100,000 USD. Fresh sees this project as a unique branding opportunity aligned with its corporate vision and values. By addressing the safe drinking water problems at school, Fresh aims to contribute to three key sustainable development goals: health and well-being (SDG 3), quality education (SDG 4), and clean water and sanitation (SDG 6).

An expert team will measure the impact and success of the campaign by tracking key indicators such as the number of schools and students reached, the amount of water produced and consumed, the improvement in health and education outcomes, and the awareness and engagement on water and environmental issues.

Partners will communicate and collaborate with the other project partners and stakeholders through regular meetings, reports, feedback sessions, and joint events. Fresh will also leverage its marketing channels and platforms to promote the campaign and showcase its results and lessons learned.

9.0 SAFE: THE PROJECT IMPLEMENTER

SAFE is one of the leading safety organizations of Bangladesh, with a mission to save lives by preventing injuries and deaths caused by natural calamities and unsafe practices at work and home, in schools and communities, and on the roads. SAFE values innovation, excellence, collaboration, and social impact.

SAFE is responsible for overall project design, logistics, stakeholder engagements, successful implementation and monitoring of the project. SAFE has extensive experience and expertise in providing emergency support and rescue, disaster relief, first-aid support, awareness programs, training and advocacy on safety issues.

SAFE will coordinate with the campaign sponsors, to procure and develop the Eco Billboard technology and select the participating schools. SAFE will also liaise with the service provider to ensure the installation and regular maintenance of the water filters. SAFE will train and mentor students on fund raising activities and manage the funds collected. SAFE will monitor and evaluate the performance and impact of the Eco Billboard on the water quality, quantity, and accessibility for the school community. SAFE will also disseminate the results and lessons learned from the project to other schools and stakeholders.

10.0 SCHOOL: THE PROJECT BENEFICIARIES

The schools are the primary beneficiaries of the project, as they will receive safe drinking water for their students and staff. The schools will also benefit from the educational and awareness-raising activities that will be conducted by the project team and the students.

The schools have the following roles and responsibilities in the project:

- Agreement of participation: The schools will sign an agreement with the project partners, indicating their willingness and commitment to participate in the project and abide by its terms and conditions.

- Water filter installation site allocation and approval: The schools will identify an accessible and suitable site for the water filter installation and provide the necessary water and electricity supply provisions to keep the water provision up and running. The schools will also approve the design and installation of the Eco Billboard on their premises.

- Water filter maintenance: The schools will commit to maintain the water filters and build a sustainable mechanism to either self-fund or raise funds necessary to maintain the fountain and safe water drinking provisions when the project is handed over. In regards to fund raising, the schools will allow student engagements in various forms of fund-raising activities (e.g., engaging students to collect plastic PET bottles and SAFE taking the responsibility of collection and recycling) supported by SAFE.

11.0 Project Limitation

The project team has identified the following potential risks that might affect the project and has developed mitigation strategies to address them:

- Risk: Technical failure or malfunction of the Eco Billboard system due to weather conditions, vandalism, or other factors.

Mitigation: The project team will conduct regular inspections and maintenance of the Eco Billboard system to ensure its optimal performance and safety. The project team will also install security measures such as locks, alarms, or cameras to prevent unauthorized access or damage to the Eco Billboard system. The project team will also have backup plans and spare parts in case of emergency repairs or replacements.

- Risk: Low water production or quality of the Eco Billboard system due to low humidity, rainfall, or fog levels.

Mitigation: The project team will monitor the weather conditions and the water production and quality of the Eco Billboard system using the software and sensors. The project team will also adjust the settings and parameters of the Eco Billboard system to optimize its water collection and purification efficiency. The project team will also test the water quality regularly using portable kits or devices to ensure its compliance with national and international standards.

- Risk: Low user acceptance or satisfaction of the Eco Billboard system due to cultural, social, or behavioral factors.

12.0 Project Mitigation: The project team will conduct a baseline survey and a needs assessment of the school community to understand their preferences and expectations regarding the Eco Billboard system. The project team will also involve the school community in the design and installation process of the Eco Billboard system to ensure their participation and ownership. The project team will also provide training and education sessions to the school community on how to use and maintain the Eco Billboard system and on the benefits of safe drinking water and environmental sustainability.

- Risk: Low fund raising capacity or sustainability of the Safe Water Squad due to lack of skills, motivation, or resources.

Mitigation: The project team will provide training and mentoring to the students from the selected school on how to plan, organize, and execute fund raising activities for the Eco Billboard system. The project team will also provide guidance and support to the students on how to apply for grants, solicit donations or sponsorships, or sell products or services. The project team will also motivate and reward the students for their fund raising efforts and achievements.

13.0 Conclusion

Safe drinking water is a major challenge to public health and a key facilitator of health, education, and other outcomes for children and adolescents. That’s why benefits of drinking safe water must be promoted, practically demonstrated and sustained with the help of the future change makers (students) harnessing their creativity, strength and skills through unique initiatives like SAFE Water Campaign.