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Floating Schools: an Overview of Education in Bangladesh

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Abstract: highlighting education in Bangladesh is currently attracting world attention because there is a unique phenomenon that occurs due to the process of learning activities on boats in Bangladesh. Teaching and learning activities on a boat are not done because we want to exist and deliberately steal the world's attention because conditions must force these activities to occur. Bangladesh is a country that is prone to flooding problems which can paralyze life activities including educational activities. Problems arise from many parties who question the safety of teachers and students there because learning activities are not carried out in patented buildings. Then many parties also want to know the obstacles that arise from learning activities held on boats. The aim of this research is to determine safety efforts and also the obstacles faced during the learning process. This research uses mixed research methods, namely field research and literature study. The sources for this research are the manager of learning activities on the boat, 5 teachers and 10 students from 3 schools and also several relevant previous articles which were used as reference sources. The results of this research show that there is a guarantee of safety from the management, including starting from boat design , time management, provision for teachers to master the terrain and equipping the boat with sophisticated equipment. The challenges faced include aspects of funding, climate change, limited reach, teacher training and technological infrastructure.

Keyword : Floating Schools, Education, Bangladesh

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Introduction

In Bangladesh, floating schools have been implemented to overcome the challenges of flooding and provide education to children in remote areas. These schools, operated by the Shidhulai Swanirvar Sangstha organization, serve as a unique solution to guarantee year-round education despite the annual floods that often hamper access to traditional schools . The organization operates a fleet of 56 floating vessels that function as schools, libraries, health clinics, solar workshops and training centers. As of the latest data available, there are 23 floating schools operating in Bangladesh according to search results. However, previous sources stated that in 2016, around 2,000 students were enrolled in 22 floating schools in the Chalan Beel area (Ahmed et al., 2016; Hossin, 2020) .

Floating schools function as a combination of a school bus and a classroom, picking up students from riverside villages, holding classes on boats, and then dropping the students back home.

These schools provide basic primary education up to grade four, covering subjects such as Bengali, English, mathematics, and drawing (Md. B. Alam & Zhu (朱志

勇), 2023) . They also offer access to technology through computers and internet-connected devices. The school is equipped with solar panels to power electronic resources and provide classes even at night. The excess solar energy produced is also used to benefit local communities. (Jawad et al., 2023; Rezwan, 2016)

Floating schools have guaranteed year-round schooling for children in flood-prone areas, reducing school dropout rates and providing previously inaccessible educational opportunities (Wax, 2007) .

In addition to education, these initiatives have resulted in increased incomes for parents, improved agricultural practices, better nutrition, and health conditions for families in the region. Floating schools in Bangladesh represent an innovative approach to overcoming geographic challenges and ensuring that children in remote areas have access to quality education despite environmental difficulties.

However, problems arise when many parties emerge from both Bangladeshi citizens themselves and those from the international world. The problem is the safety factor for teachers and students who carry out the learning process on a boat. We know that a boat is not a building that is patent or can stand upright, so we need to pay attention to its safety. Moreover, it is dangerous that the main material of the boat, namely wood, is in direct contact with water, making it easier for the wood to experience weathering and is susceptible to leaks.

Based on this GAP or gap, researchers want to know what safety factors are prepared by the management as well as what challenges are faced by the management as well as by teachers and students in carrying out learning activities on boats.

There are several previous studies that have examined floating schools in Bangladesh, such as research conducted by Alam & Zhu (2023) which states that floating schools are a solution for local residents to get education in areas prone to flooding. Then the next relevant research was examined by Hossin (2020) who stated that the purpose of this article is to find out the problems faced by children in areas of Bangladesh that are flooded with water to receive basic education.

Based on the two previous studies above, no one has discussed the safety system and the obstacles faced by teachers and students in the learning process on boats. Thus, the aim of this research is to determine safety efforts and also the obstacles faced during the learning process.

Methodology

1. Research Models

   The research method used in this research combines field research methods with literature study. Apart from the researchers conducting interviews with floating school managers, several teachers and students also took data from the results of previous research which studied the same topic.

2. Participant

   Participants in this research were floating school managers, 5 teachers and 10 students from 3 different schools, namely Jagorani Floating School, Bangladesh Rural Advancement Committee (BRAC) Floating Schools and Educo Floating Schools.

3. Data Collection Tools

The data collection technique in this research uses interview techniques and also analyzes the contents of articles to find information that can be used as a reference.

4. Data Collection Process

Data analysis techniques are carried out qualitatively through the process of data collection, data reduction, data presentation and data verification.

Results and Discussion

The History of Floating Schools

The history of floating schools in Bangladesh began in the early 2000s when Mohammad Rezwan, founder of the Shidhulai Swanirvar Sangstha, realized the need for alternative education methods due to annual monsoon floods that isolated many communities and prevented children from attending regular schools. Rezwan founded the first floating school in 2002, aiming to ensure year-round education for children in flood-prone areas. Since then, Shidhulai Swanirvar Sangstha has grown to operate 23 boating schools, reaching over 80,000 students since its inception. Other organizations, such as BRAC, have also contributed to the development of floating schools, expanding the reach of education to other communities (Ahmed et al., 2017; Fridell, 2003) .

The Curriculum of Floating Schools

Floating school curricula in Bangladesh usually cover basic primary education up to grade four. These schools are equipped with desks, books, libraries, blackboards, and even computers or laptops connected to the internet. Students study various subjects such as Bengali, English, mathematics and drawing.

Additionally, boats may be equipped with play equipment such as slippery slides, monkey bars, and swings for playtime. The entire structure is solar powered, allowing for classes during the day and providing lighting for educational activities at night. (Rezwan, 2016)

In addition, adults are also welcome to learn new farming techniques suitable for extreme climates. Teachers recruited from local communities are trained to educate students not only academically but also about mental and physical growth, the impacts of climate change, and environmental protection. This curriculum aims to ensure year-round school education for children and reduce school dropout rates, especially among young women (Hossin, 2020) .

Floating Schools Different From Traditional Schools

Floating schools in Bangladesh differ significantly from traditional schools in several aspects, for example traditional schools are usually located in fixed buildings, whereas floating schools move between villages and reach students who live near

water bodies, so that education can be carried out during flood periods (S. Alam et al ., 2022) .

Then the difference is that floating schools address concerns about the safety of girls who travel long distances to attend school, because the schools operate close to where the students live.

In terms of curriculum, although both types of schools teach similar core subjects, floating schools emphasize environmental awareness and climate change education, given their location in flood-prone areas.

Meanwhile, from a technology integration point of view , floating schools combine modern technology such as computers, solar energy, and multimedia content, offering students the opportunity to engage with digital learning tools (Matsukawa, 2011; Rezwan, 2016) .

One of the striking differences is that unlike traditional schools, floating schools function throughout the year, thereby reducing absenteeism and dropout rates. Floating schools represent a creative response to the specific needs of marginalized groups in Bangladesh, addressing issues related to geographic isolation, security, and access to modern education. Floating schools foster stronger relationships between educators and local communities, as floating schools rely heavily on volunteers and support from local villagers (Asadullah, 2016) .

Challenges Faced By Floating Schools

Challenges facing floating schools in Bangladesh include (interview results, 2023):

1. Funding

   Like many other education initiatives, floating schools struggle with funding constraints, relying on a mix of national and international groups and individual donors to sustain their operations

2. Climate change

   Bangladesh's vulnerability to climate change, with increased flooding and erosion during the rainy season, poses a major challenge to the consistent operation of floating schools. (Epstein, 2015)

3. Limited Reach

   Although floating schools have made significant progress in providing education to children in flooded areas, they still reach a small portion of the

population compared to the total number of traditional primary schools in the country.

4. Teacher Training

   Ensuring that teachers recruited from local communities are sufficiently trained to address students' mental and physical growth, the impacts of climate change, and environmental protection remains a challenge for floating schools

5. Technology Infrastructure

   Maintaining and updating onboard technology resources, such as internet-connected computers and electronic learning tools, can be challenging due to the remote and dynamic nature of schools (Epstein, 2015) .

Figure 1. Atmosphere of students entering Educo Floating Schools

Despite these challenges, floating schools continue to play an important role in providing education to children in flood-prone areas of Bangladesh, addressing accessibility issues and ensuring year-round schooling for vulnerable groups.

Safety of Students During Monsoon Season

Floating schools in Bangladesh ensure the safety of students during the rainy season through several steps starting from the design of the boats. The school is built on sturdy vessels designed to navigate rough waters, minimizing the risks associated

with capsizing or damage. Then the boat is moored safely in the designated place, thereby preventing accidents when stopping.

In terms of timing, it also needs to be managed. The morning session focuses on picking up students, followed by an afternoon session collecting older students, thus avoiding peak flood hours (interview results, 2023).

It is also important for teachers to master the terrain because Teachers and staff must understand weather patterns and adjust schedules to minimize exposure to unsafe conditions. Teachers receive instruction on emergency procedures and risk assessment, thereby enhancing their ability to respond quickly to potential hazards .

The school is equipped with solar panels, which enable the school to generate electricity even during cloudy weather, ensuring lighting and battery charging capabilities (Rezwan, 2016) .

By implementing these strategies, floating schools mitigate the risks inherent in navigation during the rainy season, thereby protecting students and encouraging the continuation of their education despite adverse climatic conditions.

Figure 2. Boat used as a learning place

Conclution

Developing floating schools as an iconic symbol of education in Bangladesh requires careful planning, design and implementation. The first is understanding the educational needs of people living in flood-prone areas. Identify areas where conventional schools are inaccessible due to flooding. Then collaborate with local communities, education experts, architects, engineers and government agencies to ensure the success and sustainability of the project. The next effort is to create innovative designs that utilize locally available materials and sustainable technology. The structure must be flood-resistant, yet functional and comfortable for students and teachers. Then develop a floating platform or structure that can rise with flood waters.

Incorporates features such as floating tanks, anchored foundations and flexible connections to adapt to changing water levels. Another factor that is no less important is prioritizing safety by implementing measures such as sturdy construction, emergency evacuation plans, and safety drills for students and staff. Equip the floating school with the necessary educational resources, including books, teaching materials, and technology such as solar-powered computers or tablets.

By following these steps and combining local knowledge and expertise, floating schools can become an iconic symbol of education in Bangladesh, and a beacon of hope and resilience for vulnerable communities.

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