

RISK FACTORS ASSOCIATED WITH BEACH DROWNING AND TOURIST DEATH SUSCEPTIBILITIES IN BANGLADESH

Md. Juel Mia* & Ronald R. Hagelman III**

*Sustainability Studies Program, Department of Sociology, Texas State University

**Department of Geography and Environmental Studies, Texas State University



ABSTRACT

Seaside beaches are popular tourist destinations, offering unique recreation opportunities and ecologically diverse environments. Ensuring the safety and security of visitors is vital for developing beach tourism. Yet these physically dynamic, expansive landscapes pose unique hazards to tourists. Bangladesh, with approximately 710 kilometers of coastline along the Bay of Bengal, holds significant potential for beach tourism. However, beach drowning incidents, particularly in popular destinations like Cox’s Bazar and Kuakata, frequently make media headlines. This poster describes a study that aims to explore the risk factors associated with beach drownings in Bangladesh. Additionally, it analyzes the geographic locations of tourists’ vulnerabilities based on reported drowning fatalities. Consistent data on beach drowning deaths and injuries in Bangladesh are not available through government or non-government databases. Therefore, daily news reports on beach drownings published in 11 mass media outlets have been analyzed for the years 2021 to 2024. Quantitative data on drowning events were extracted from the media reports. The study found 49 beach drowning deaths, with 82 percent occurring from June to November, and men accounting for 92 percent of the fatalities. A content analysis of the news articles highlighted three primary contextual influences on reported beach drownings: (a) coastal environment, (b) beach safety and response, and (c) awareness and human behavior. This study can contribute to policy formulation and implementing measures to minimize the risk of beach drownings. Moreover, it may help promote sustainable beach tourism, especially in developing countries like Bangladesh.

BACKGROUND OF THE STUDY

Beach tourism is considered as a popular form of tourism centered around coastal areas and sandy beaches and is often portrayed by the “three S”—Sun, Sea and Sand. Variegated motivations and activities are associated with beach tourism including swimming, snorkeling, surfing, diving, water sports, sunbathing, relaxing and playing on the sandy beach etc. (Bujosa et al., 2015; Phillips & House, 2009; Polas et al., 2022; Pranzini et al., 2018).

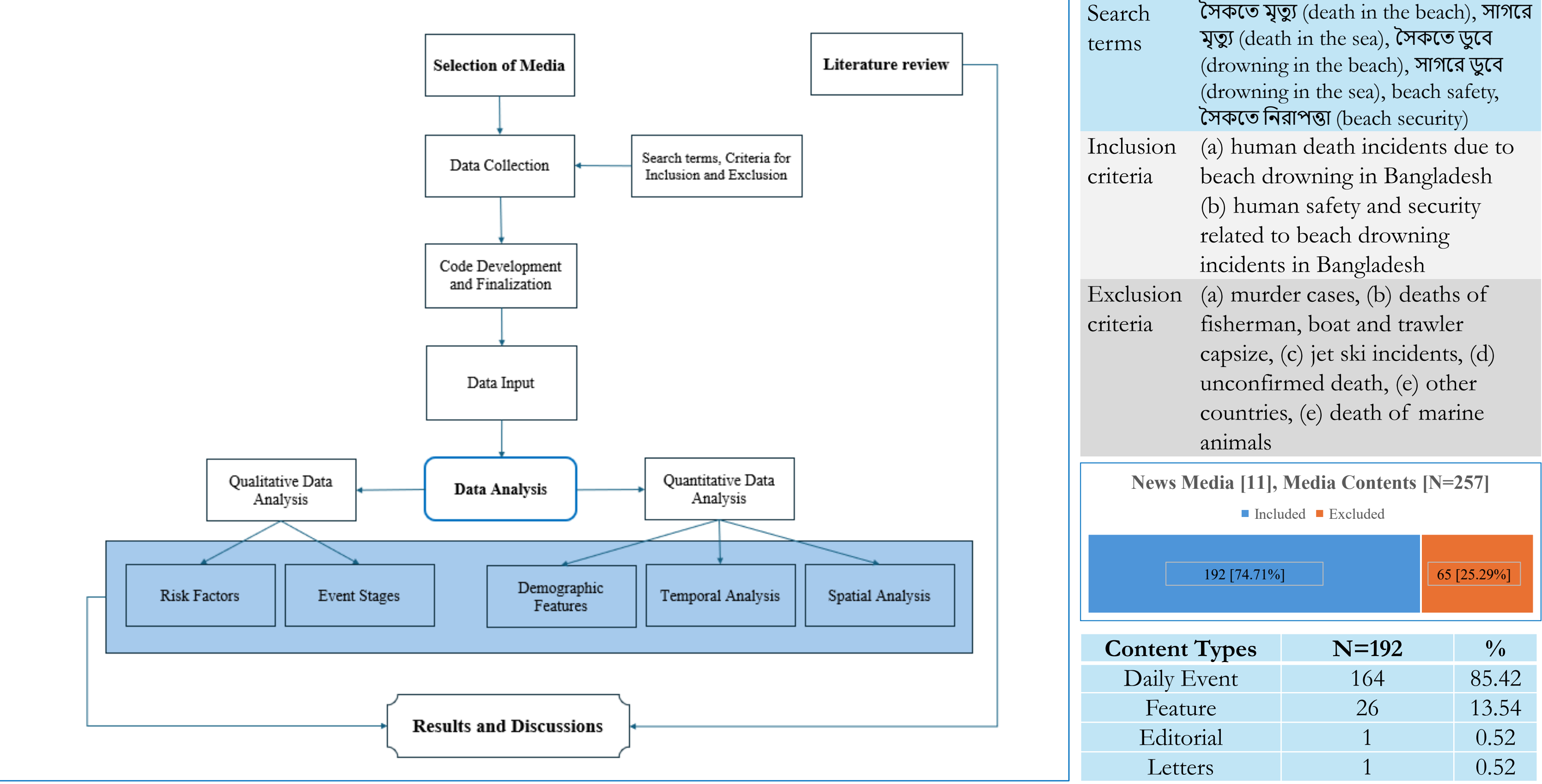
The coastal environment can pose significant dangers due to various factors, including tidal conditions, ocean currents, cyclones, flooding, extreme weather conditions, and hidden channels. When beachgoers enter ocean water bodies, they face potential drowning risks that could affect their mental and physical health and, in severe cases, may lead to loss of life. Like other natural and health hazards, each drowning incident at sea beaches carries societal, economic, and emotional costs (Sherker et al., 2008). Despite several challenges and limitations, sea beaches remain popular tourist destinations, offering pristine landscapes and ecologically diverse environments that attract both local and international visitors. Therefore, ensuring life safety and security measures for tourists is a critical aspect of promoting and developing sustainable beach tourism.

Previous research on marine and beach tourism in the context of Bangladesh has primarily focused on aspects such as potential and challenges (Sarker, 2024; Sultana et al., 2021), product and services (Rakib et al., 2021), conservation strategies and economic benefits (Islam & Shamsuddoha, 2018), impacts on the coastal environment (Al Nahian et al., 2022; Hossain, 2001), and tourists’ perceptions about destinations (Polas et al., 2022). Although incidents of beach drowning, particularly in popular destinations like Cox’s Bazar and Kuakata, frequently make headlines, previous research has paid limited attention to addressing this critical issue.

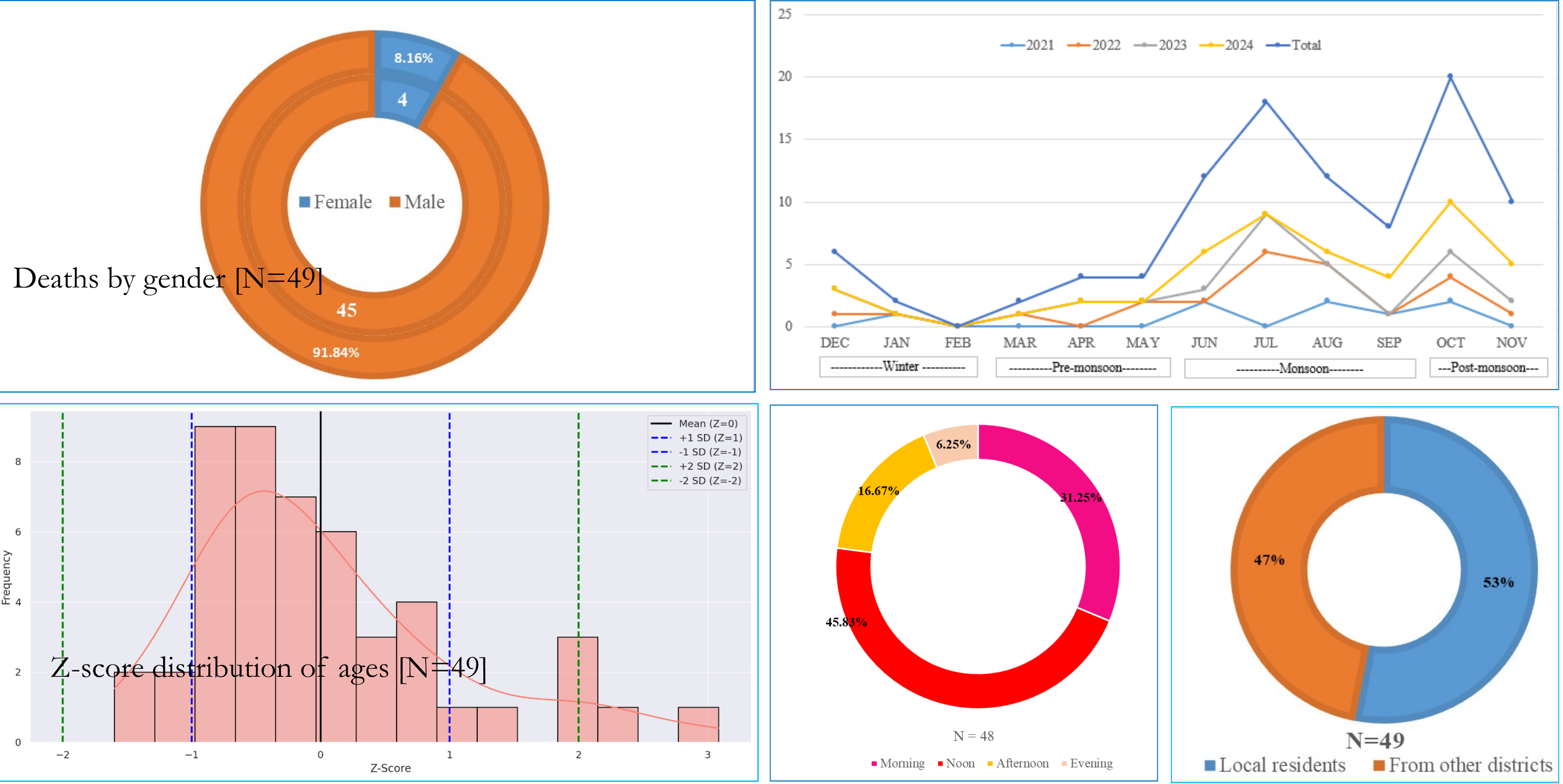
RESEARCH QUESTIONS

- ❑ What are the risk factors accompanying with beach drowning susceptibility in coastal areas of Bangladesh?
- ❑ How are geographic locations, temporal differences and demographic perspectives linked to beach drowning death incidents in Bangladesh?

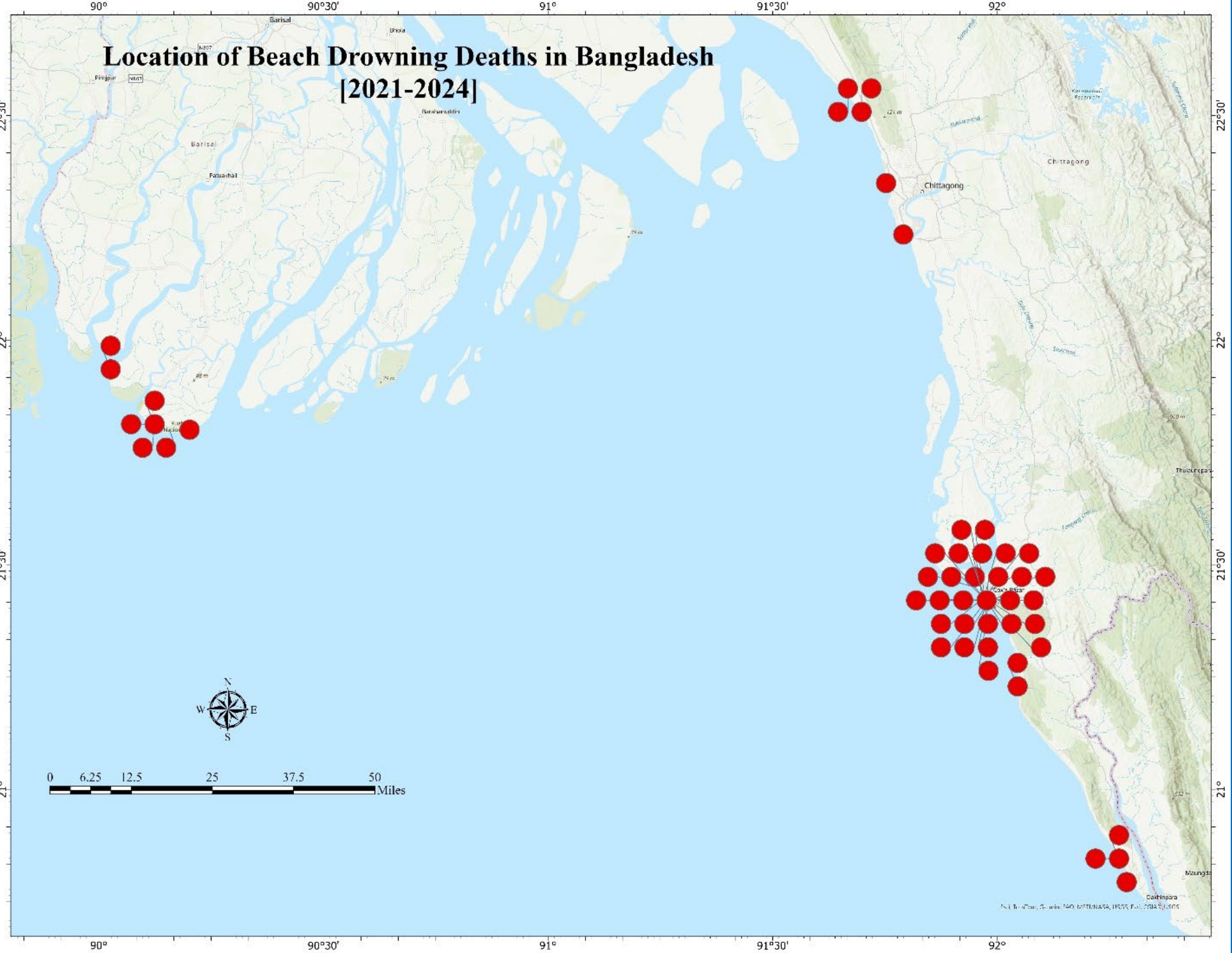
RESEARCH METHODS



RESULTS



Occupation	N=29	%
Business	1	3.45
Hotel worker	1	3.45
Government Job	1	3.45
Private job	1	3.45
Student	24	82.76
Teacher	1	3.45
NF/NA*	20	40.82



RESULTS

Themes	Sub-themes	Description
Coastal Environment	Strong and Rip currents	Major cause of beach drowning incidents; strong and rip currents associated with the formation of hidden channels; rip current, a reverse current, sweeping people out to deeper depths
	Guptakhal	Dynamic seabed; hidden channels are visible during low tide and undetectable when submerged during high tide; some dangerous areas are marked with red flags
	High and low tides	Swimming is sometimes prohibited during low tide; waves during high tide can crash ashore much higher than normal
	Extreme weather and rough sea	Characterized by strong waves, powerful currents, and the increased danger from submerged hidden channels and pits, significantly raising the risk of drowning incidents
Beach Safety and Response	Geo-Structures	Geo-tubes and geo-bags installed for beach erosion control have been linked to a few tourist accidents and fatalities
	Safety rules, campaign, and warning	Sharing safety guidelines, awareness campaigns, instructions of lifeguards to the tourists, use of red and yellow flags, temporary restrictions during extreme weather
	Rescue services	Teams comprised of lifeguards, beach workers, tourist police, district police, fire service, coast guard, naval police, divers, local fishermen, and locals/bystanders; Faced challenges due to insufficient manpower, lack of modern rescue equipment, large crowds, rough sea and strong currents, and non-compliance of tourists
	Designated zones	Dedicated safe swimming zones required; vast majority of the beach remains unprotected; a separate safe zone inaugurated at Cox's Bazar Sea beach exclusively for female
Awareness and Human Behavior	Disregard of warnings	Tourists consistently disregard safety warnings and regulations; awareness campaigns and announcements are often ignored
	Swimming skills	Lack of swimming ability is explicitly cited; swimming ability is a crucial safety measure but does not guarantee safety in the rough beach environment
	Thrill of rough waves	Pursuit of experiencing thrills leads tourists to disregard safety warnings and contributing to accidents and fatalities
	Lack of understanding	Tourists often lack knowledge about the beach environment and its inherent dangers e.g., hidden channels, large pits, geo-structures, rough sea
	Unattended children	Safety directives on accompanying children; risks associated with unattended or inadequately supervised children at the sea beach

CONCLUDING REMARKS

This is the first attempt to examine beach drowning deaths and associated risk factors in Bangladesh through the analysis of mass media content. To promote sustainable beach tourism in the country, the government must prioritize the safety of beachgoers. Considering the spatial-temporal and sociodemographic aspects linked to beach drownings, comprehensive safety planning and measures should be implemented including increasing manpower and adopting modern technologies.

Future research on beach drowning deaths could explore, but not be limited to, the following areas: (a) correlations with tidal patterns and climate variability, (b) effectiveness of rescue operations, (c) capacity of local communities and their readiness to respond, (d) beach safety knowledge, attitudes, and practices among beachgoers, (e) evaluation of existing policies and safety protocols, and (f) comparative analysis of beach drowning incidents and safety practices across different countries.



Please help me with your comments and suggestions



50th Annual Natural Hazards Research and Applications Workshop