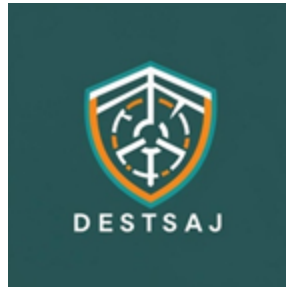


# Societal Impacts of AI in Early Warning

**Project Title: Ensuring Inclusive Early Warning Dissemination  
AI implementing the Common Alerting Protocol (CAP)**

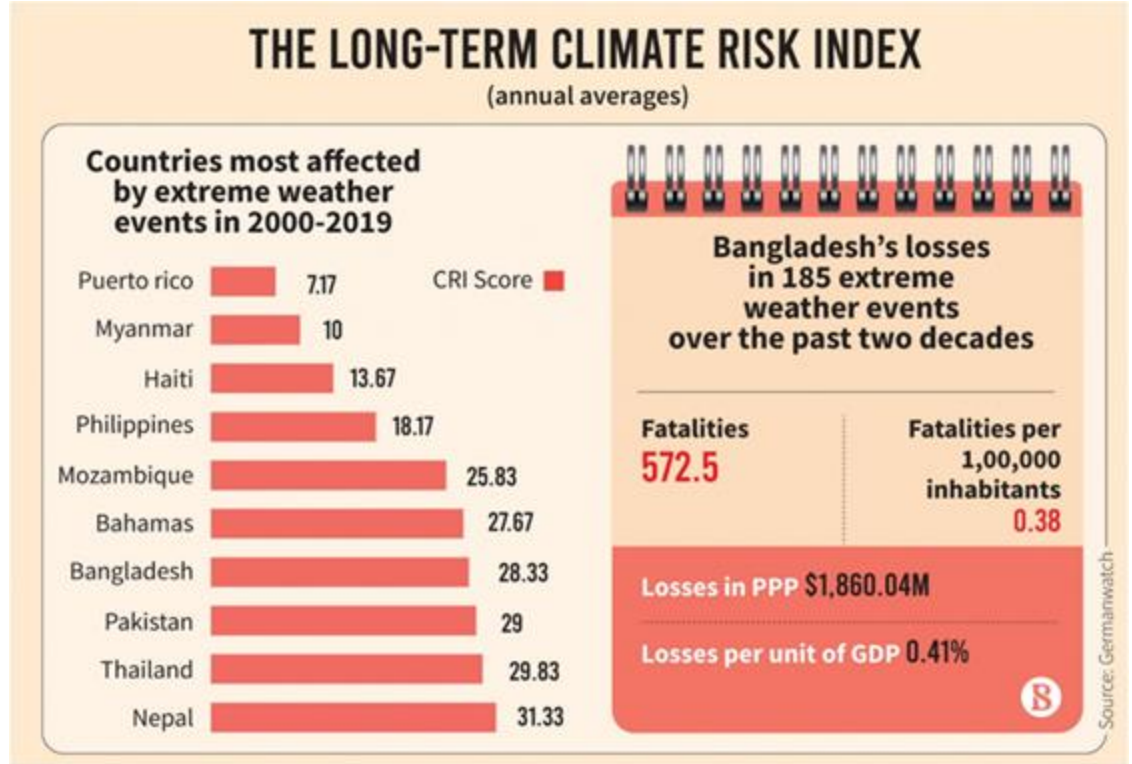
## DESTSAJ

Language builds trust

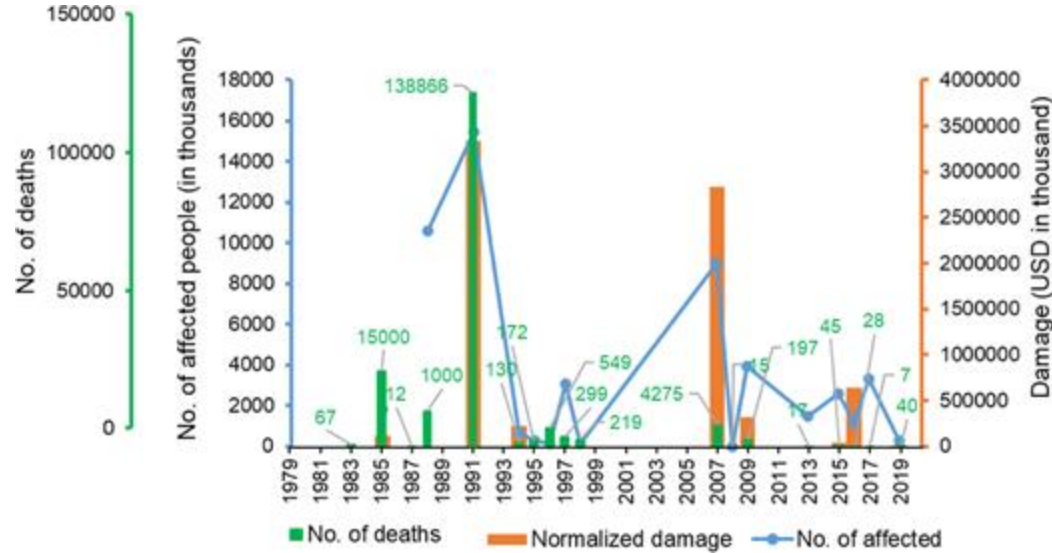


# Background (Early warning reality and Bangladesh Context)

Bangladesh is a disaster-prone country



# Background (Early warning reality and Gaps)



## আবহাওয়ার সতর্কবার্তা

তারিখঃ ২৯.০৬.২০২৩

সমুদ্র বন্দরসমূহ, উত্তর বঙ্গোপসাগর ও বাংলাদেশের উপকূলীয় এলাকায় ঝড়ো হাওয়া বয়ে যাওয়ার সম্ভাবনা নেই।

চট্টগ্রাম, কক্সবাজার, মোংলা ও পায়রা সমুদ্র বন্দরসমূহকে সতর্ক সংকেত নামিয়ে ফেলতে বলা হয়েছে।



Govt. of the People's Republic of Bangladesh  
Bangladesh Meteorological Department  
Storm Warning Center  
Agargaon, Dhaka-1207



Phone: 41025730, 41025731  
FAX : 41025726, 41025728  
Web Site: www.bmd.gov.bd  
Email: info@bmd.gov.bd  
swc@bmd.gov.bd

Date: 25.06.2025

## WARNING MESSAGE

A Low Pressure area has formed over Northwest Bay and adjoining area. Under its influence, steep pressure gradient lies over North Bay and gusty/squally weather may affect the maritime ports, North Bay and adjoining coastal areas of Bangladesh.

Maritime ports of Chattogram, Cox's Bazar, Mongla and Payra have been advised to hoist local cautionary signal no. three (R) three.

All fishing boats and trawlers over North Bay have been advised to come close to the coast and proceed with caution till further notice.

(Shahanaj Sultana)  
Meteorologist  
For Director  
25. 1600 BST

- TO
1. HON'BLE ADVISER, MINISTRY OF DISASTER & RELIEF, FAX: 9545405.
  2. CABINET SECRETARY, FAX: 9505539.
  3. PRINCIPAL SECRETARY TO THE HON'BLE CHIEF ADVISER, FAX: 9143377
  4. SECRETARY, MINISTRY OF DEFENCE, FAX: 9110335.
  5. GOV. BANGLADESH POREE, FAX: 9561362
  6. SECRETARY TO THE HON'BLE CHIEF ADVISER, FAX: 8128799
  7. SECRETARY, MINISTRY OF AGRICULTURE, FAX: 9545555
  8. SECRETARY, MINISTRY OF DISASTER MANAGEMENT AND RELIEF, FAX: 9565559/9545405.
  9. SECRETARY, MINISTRY OF SEAFARERS WELFARE, FAX: 9526778.
  10. JOINT SECY (W&D) MOU, FAX: 9115535. 11. SEC. FAX: 8117381/8115535. 12. CTF, FAX: 933-8401. 13. DGM, 9851815.
  14. NRI, FAX: 8754270. 9850533. 15. SHIPPING MINISTRY, FAX: 9880115. 9560967. 16. NDRCC, FAX: 9549148. 9549067.
  17. BWTA, FAX: 9551072. 18. DTV, FAX: 8312027. 19. BICAR, FAX: 8117850. 20. PFRU, FAX: 9557288. 21. UNB, FAX: 9544358
  22. DSS, FAX: 9557829. 23. NMO, CTO, FAX: 8312027. 24. COMP, FAX: 9850554. 25. COAST GUARD, FAX: 9140062
  26. PORT AUTHORITIES, MONGLA 04862-75224. 27. PORT AUTHORITIES, CHITTAGONG 710593. 28. DSS: 9557829. 9551057
  29. HON'BLE CHIEF ADVISER'S ARMED FORCES DEPT (AFD), FAX: 8754399. 8115800. 8623233.
  30. BANGADESH ARMY, FAX: 8754455. 31. BANGLADESH AIR FORCE, FAX: 8751931. 32. REUTERS, 8312616
  33. BWTC, 9543853. 34. ATN, 8711879/8113883. 35. UNHCR, 8620557. 36. SPARSO, 8313080. 37. UNOP, 8723196
  38. CHANNEL 4 934674. 39. RIV, 9436879-80. 40. PORT AUTHORITIES, PAYRA, FAX: 831-2510888.
  41. BICAR FAX: 8341-63563. 42. MORRY TV, 9676887. 43. INDEPENDENT TV, 8878986-4. 44. ETV, 9189964-4. 45. JICA, 8811689.
  46. ALL DC

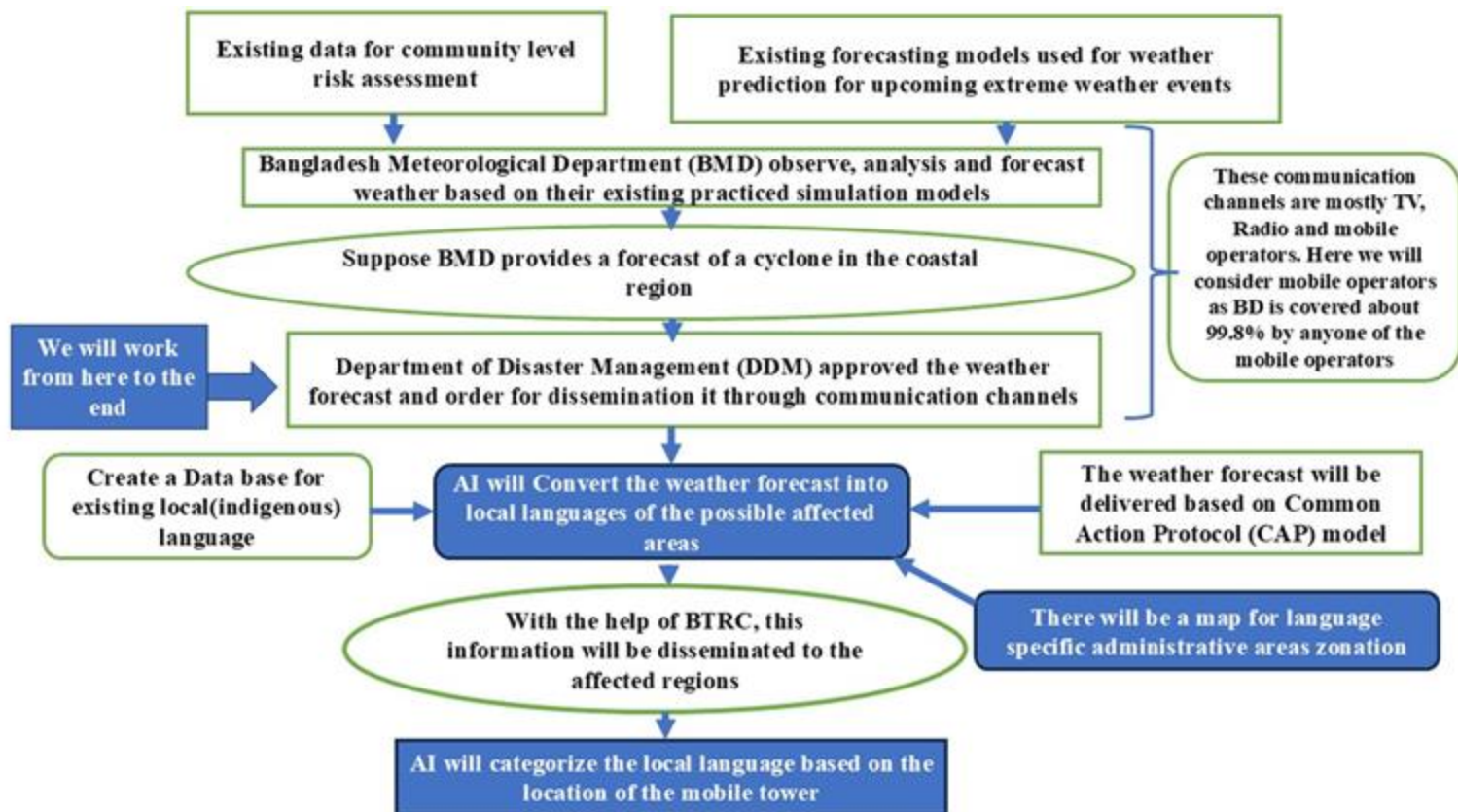
# Objective



To develop and implement an **AI-powered early warning dissemination system using the Common Alerting Protocol (CAP) framework** to ensure timely, accessible, and inclusive dissemination of disaster alerts to **local communities, ethnic groups, and persons with disabilities.**

# WHAT'S THE

P L A N







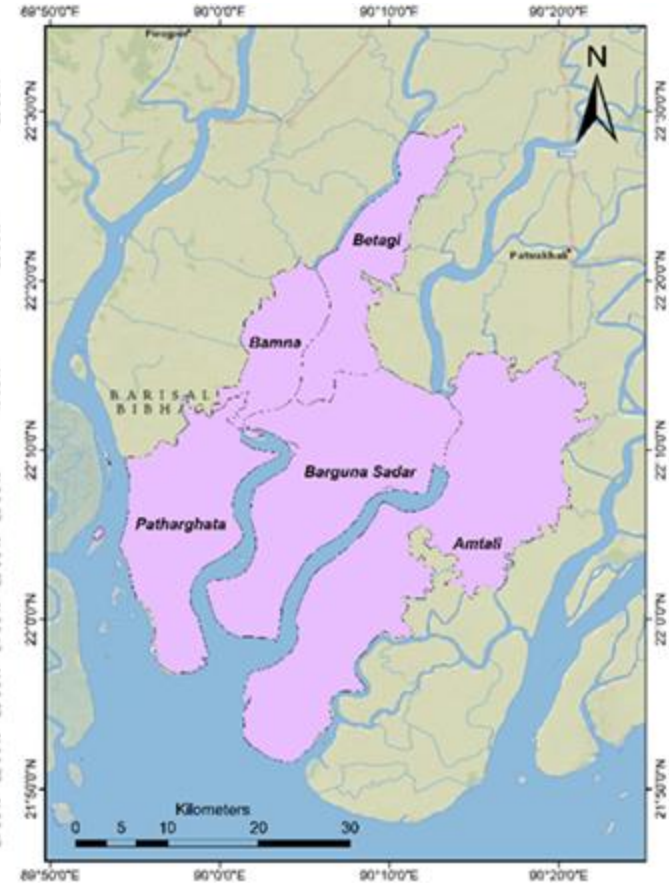
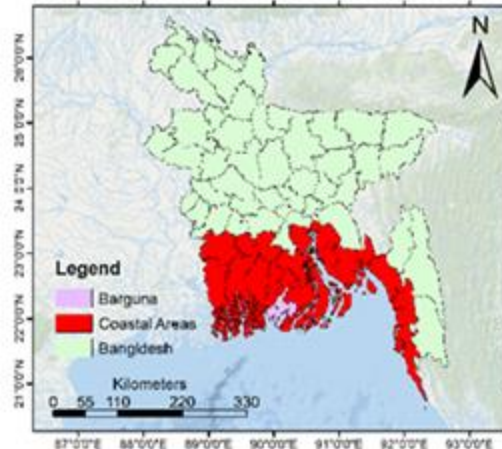
No.	Data Category	Data Type/Description	Source Name	Access Link / Notes
1	Meteorological Forecast	Real-time and historical weather warnings, cyclone forecasts, heavy rainfall, etc.	Bangladesh Meteorological Department (BMD)	<a href="https://bmd.gov.bd">https://bmd.gov.bd</a>
2	Flood Forecasting	Flood warning bulletins and river water levels	Flood Forecasting and Warning Centre (FFWC)	<a href="http://ffwc.gov.bd">http://ffwc.gov.bd</a>
3	Mobile Tower Locations	Locations of mobile towers to define geo-targeted zones for message delivery	Bangladesh Telecommunication Regulatory Commission (BTRC)	<a href="https://www.btrc.gov.bd">https://www.btrc.gov.bd</a>
4	Local Language Datasets	Word banks, dictionaries, and grammars of ethnic languages (e.g., Chakma, Rakhain)	National Institute of Local Languages (Bangladesh)	No official site; data may be acquired via contact or research institutions
5	Indigenous Language Corpora	Synthetic datasets for minority dialects	GPT-4 or Hugging Face (open LLMs)	<a href="https://huggingface.co/">https://huggingface.co/</a>
6	Disability Lexicons	Sign language, accessible vocabulary for persons with disabilities	Centre for Disability in Development (CDD)	<a href="https://cdd.org.bd">https://cdd.org.bd</a>
7	Administrative Boundaries	Upazila, Union, Ward-level shapefiles	Bangladesh Bureau of Statistics (BBS) / GeoDASH	<a href="https://bbs.gov.bd/">https://bbs.gov.bd/</a> / <a href="https://geodash.gov.bd">https://geodash.gov.bd</a>
8	Population & Vulnerability	Census data, poverty maps, disability and literacy levels	Bangladesh Bureau of Statistics (BBS)	<a href="https://data.bbs.gov.bd">https://data.bbs.gov.bd</a>
9	CAP Protocol Standards	Common Alerting Protocol structure and editors	OASIS / CAP Editor Tool	<a href="https://www.oasis-open.org/standards#cap/">https://www.oasis-open.org/standards#cap/</a> / <a href="https://alerting.world/cap-editor">https://alerting.world/cap-editor</a>
10	Geospatial Tools & APIs	Spatial data processing for map-based dissemination	GDAL, GeoPandas, QGIS	<a href="https://gdal.org/">https://gdal.org/</a> / <a href="https://geopandas.org/">https://geopandas.org/</a> / <a href="https://qgis.org/en/site/">https://qgis.org/en/site/</a>

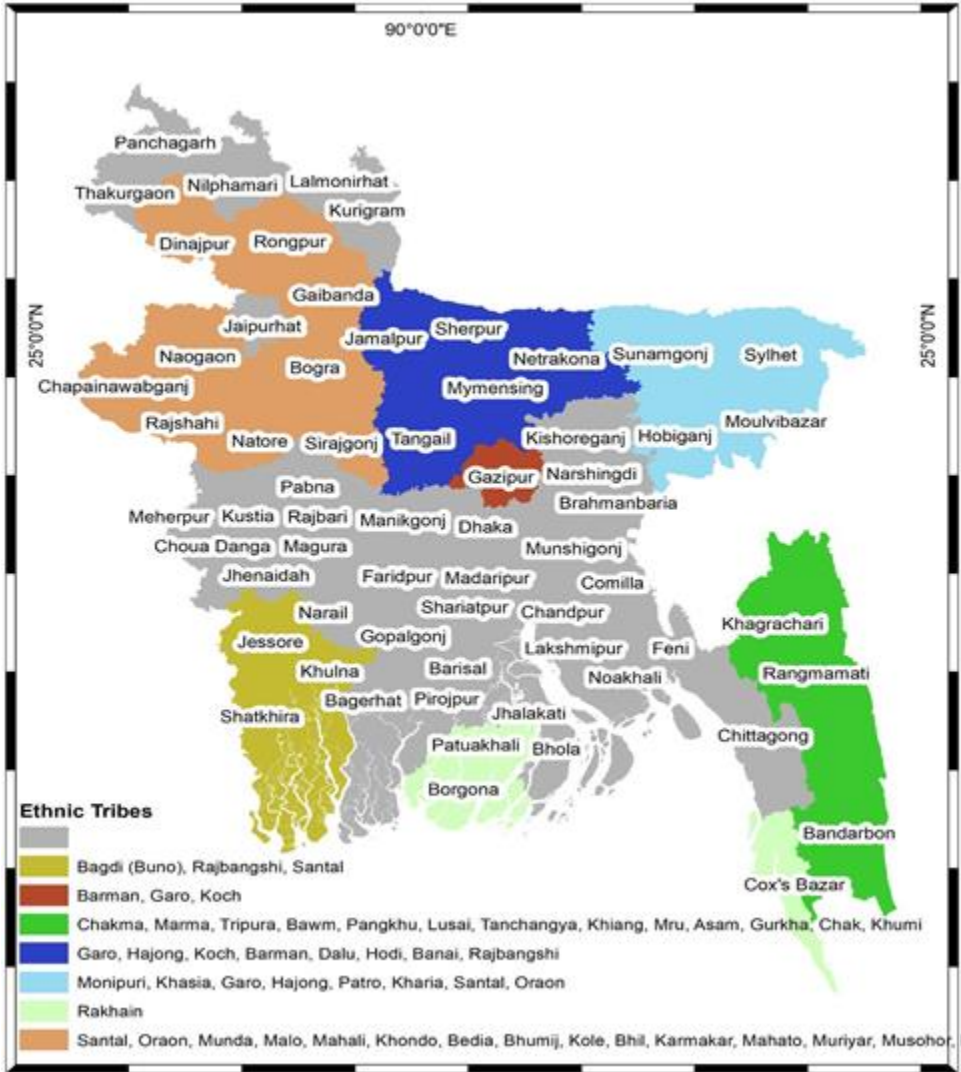
# Target Area & Pop

**Target Area:**  
Barguna District, Bangladesh

**Target Population:**

- Local People
- Ethnic Tribes
- Person with Disabilities







# Challenges

- Limited availability of high-quality language datasets for ethnic dialects.
- Delays in getting permission to access and use BTRC mobile tower data.
- Coordination with different stakeholders including government agencies such as BMD, BTRC, different mobile operators, Ministry of Cultural Affairs
- Capacity development at the community level



**Who We Are???**

**Shamima Ferdousi Sifa**

**Md. Asif Rafsan**

**Sadia Afrin Sayfa Negaban**

**Tonoy Mahmud**

**Maruf Alam James**

**Saiyeba Zaman**



*"We're not just sending alerts -  
We're sending understandings."*

# Detailed Plan

Activities	Months					
	1	2	3	4	5	6
Literature Review						
Community Engagement, Baseline Surveys, and Tool Customization						
Pilot Testing: Deploy AI-generated CAP alerts via SMS/IVR; collect real-time feedback						
Evaluation: Impact assessment						
Field Implementation and Scaling: Refinement based on findings; integration with DDM/BMD systems						Ongoing