

# Integrated Dissemination System Improvement Plan in Bangladesh

2024.07.25


Development of Medium- to Long-Range Hydrologic Forecasting System for Ganges-Brahmaputra-Meghna River Basins



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# Content

1. **Analysis of Integrated Dissemination System in Bangladesh**
  2. **Case Study on Global Integrated Dissemination System**
  3. **Plans for Improving the Barriers**
  4. **What's next**
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## Status & Problem of Current Dissemination System

- The early warning system was ranked the second most important technology in Water Sector (Government of the People's Republic of Bangladesh, 2012)
- Even though the **importance of early warning & dissemination is getting more important, it needs more improvement**
- However, the current lead time for dissemination is 60 hours which is not sufficient for taking adequate actions in timely manner (Hosen, 2019)
- In addition, the messages used in disseminations were technical terms that were not understandable for community members (Hosen, 2019)

Technology	Weighted Score	Priority Order
Rehabilitation of existing Embankments/ dykes and dredging	86.1	1
Comprehensive disaster management incorporating early warning systems and involving community	75.91	2
Monitoring of sea level rise, tidal fluctuation, salinity intrusion, sedimentation and coastal erosion	68.66	3
Tidal river management including computer simulation of tidal flow	65.52	4
Tidal barriers (Sluice gate)	58.88	5
Urban Infrastructure development	56.44	6

(Government of the People's Republic of Bangladesh, 2012)

## Barriers for the Early Warning System (EWS) & Water

### Financial Barrier in EWS

- It requires more funding and financial resources for modernizing the existing warning systems and improving current warning dissemination systems

### Non-financial barrier in EWS

- Community members in the disaster-prone areas need to adapt to the modernized warning system
- It requires a new approach to reduce the risks from the natural disasters
- Current warning system is only focused on the fast-onset disaster events that slow-onset events also need to be considered

### Barriers in Water Sector Tech.

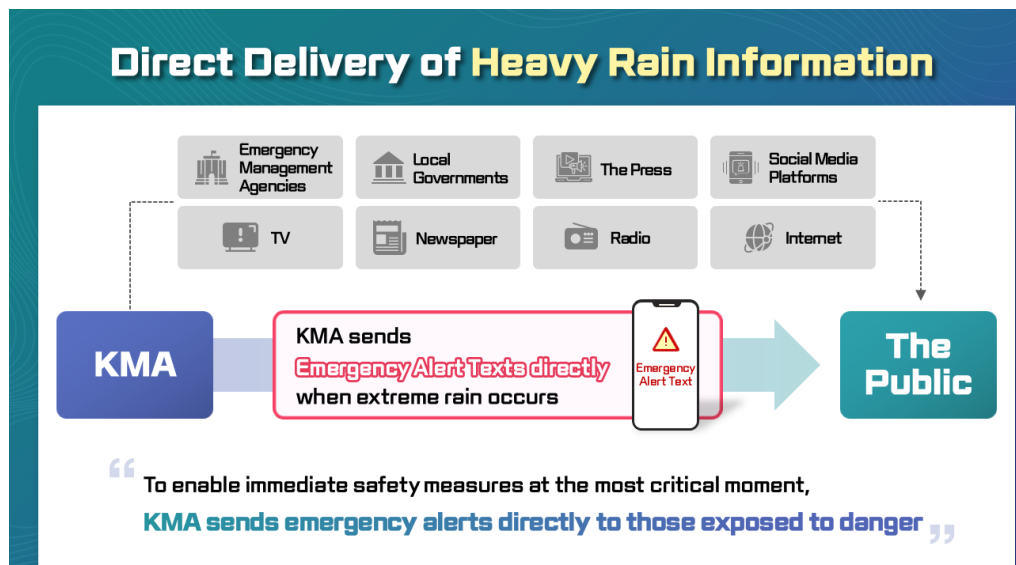
Types of Barrier	Common Barriers
Investment/ Financial Barriers	Lack of investment, incentive policies Less financial allocation from the Annual Development Programme (ADP) to the sectoral activities Less financial allocation to the local authorities
Capacity	Insufficient technology information and technical assistance Inadequate institutional capacity in project planning and implementation Lack of skilled personnel Limited installation and maintenance capacity Lack of technical expertise and capacity
Organizational/ Behavioral	Lack of collaboration and networking among the organizations Less scope of participation of community/ local people in planning and implementation of site specific projects
Policy/ Laws	Limited access to the advanced technology and research tools due to IPR issue Top-down and centralized planning process

(Government of the People's Republic of Bangladesh, 2012)

## Korea



- **Korea Meteorological Administration has started operating Cell Broadcasting Service (CBS) from 2023**
- This new system was established to send disaster texts to publics immediately after the occurrence of dangerous weather
- It is sent directly when rain with an hour cumulative precipitation of 50mm and a three-hour cumulative precipitation of 90mm is observed, and very strong rain with an hour cumulative precipitation of 72mm is also sent to ensure time to prevent damage



(KMA's Direct Emergency Text Alerts(CBS\*) for Heavy Rain, 2023)



## Japan

- **J-Alert was launched in February 2007 to inform dangers such as earthquakes, severe weather, and other dangers to publics to speed up evacuation times and help coordinate emergency response**
- Strong coordination between the Japan Meteorological Agency and local and regional institutions make warnings to be sent timely and clear to the publics
- The Japanese approach of developing a people-centric early warning system encouraged local participation by implementing disaster preparedness and response programmes at local, regional and nation levels



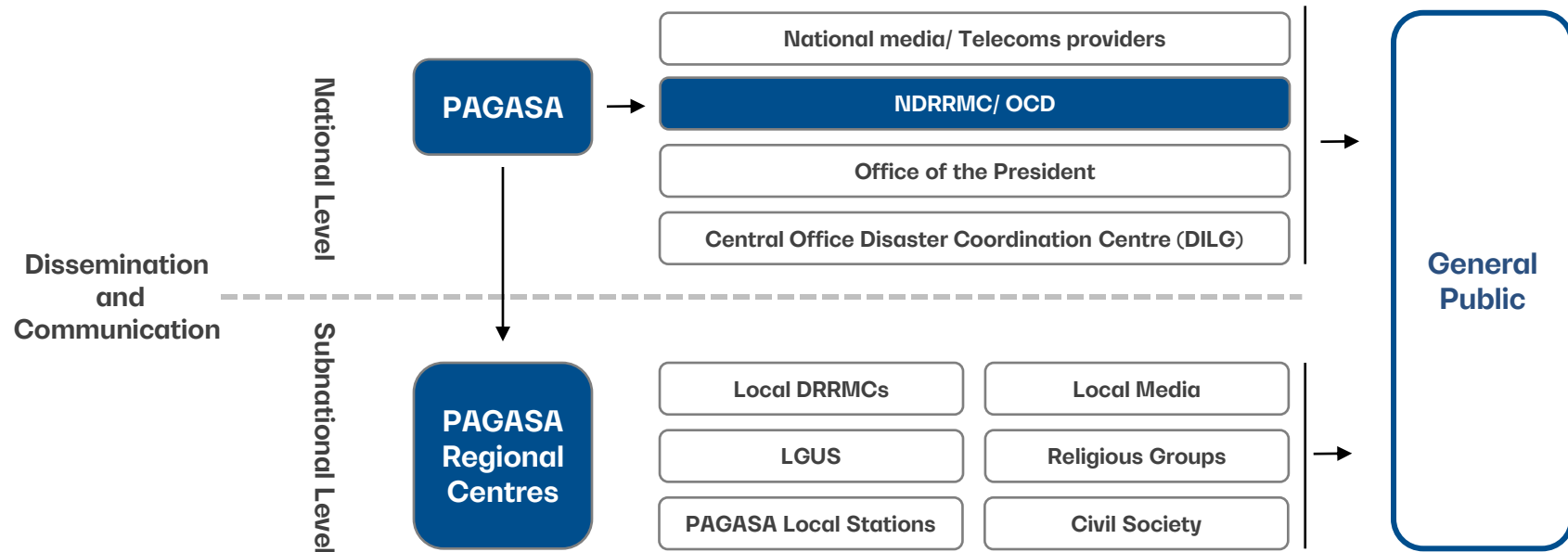
(Japanese warning system - J-ALERT, 2023)



## The Philippines

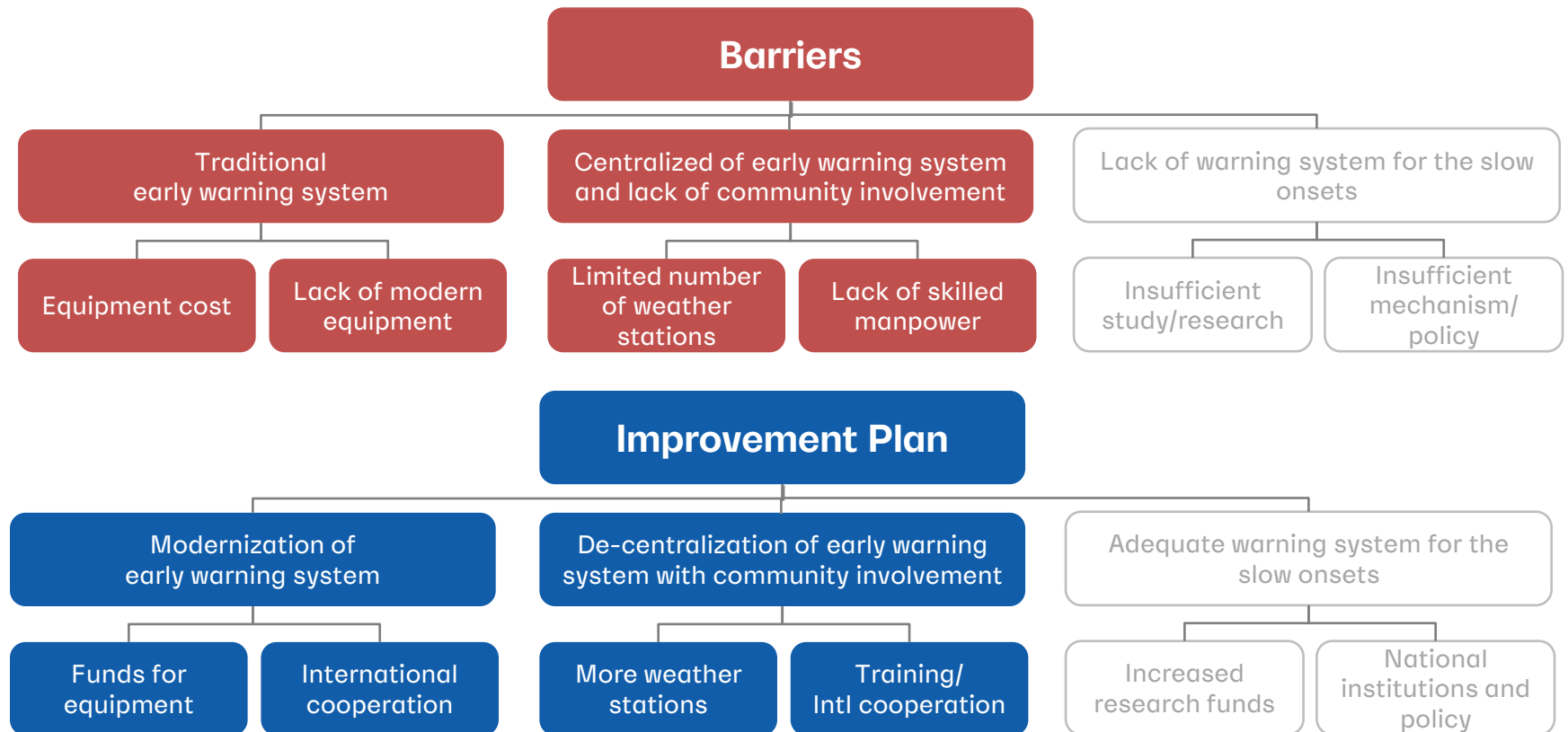


- **PAGASA has been launching a Multi-Hazard Impact-Based Forecasting and Early Warning System (MH-IBF-EWS)** from 2019 to 2027 (funded by GCF) utilizing **mobile technologies** to provide a knowledge and decision-support system to government agencies at various levels
- From the application, users can visualize impact-based forecasting and warnings and disseminate the protocols



(GSM Association, 2022)

## Plans for Improving the Barriers(1/2)



Analysis of framework condition for transfer and diffusion of Comprehensive disaster management incorporating early warning systems and involving community  
 (Government of the People's Republic of Bangladesh, 2012)

## Plans for Improving the Barriers(2/2)



### Policy and Strategy

- Policies or Acts are required to promote smooth transfer of the technologies



### Education and Training

- Capacity buildings for technical experts and stakeholders for technology transfer
- Adequate maintenance systems for the deployed technologies



### Technology Demonstration

- To deal with the social barriers, public sessions are required to experience the new technologies and improve the awareness.



### International Cooperation

- International supports could be delivered, if the national authority is not competent to deliver the barriers alone

## Improvement Plan for Bangladesh Integrated Dissemination System

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### Technology

- Foster technological developments through partnerships with various organizations
- Capacity buildings to technical experts for technology transfer

### Dissemination

- Use understandable words for the publics in warning messages
- Shorten the lead time it takes for dissemination
- Send warnings to publics from Meteorological Administration
- Improve public awareness and community participation for diminishing social barriers

### International Support

- Utilize fundings and supports from international organizations such as GCF for dealing with financial barriers and technology development

**End of document**

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