

From Engineering Knowledge to Wise Adaptation

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Outline of S-8 supported by MOE, Japan

Socioeconomic Scenario



Climate Scenario



[Theme 1] Reliable Evaluation for Global Warming Impacts



Water
resource



Eco-system



Agriculture



Coastal
disaster



Health

Downscaling of climate scenarios
Economic analysis
Synthetic evaluation model

Simplified
evaluation
methodology

Wide-ranged
evaluation
methodology

[Theme 2]
Community-based
Impacts Evaluation and
Adaptation
Policies



Community-based
consortium

Feedback to
community

Feedback to
developing countries

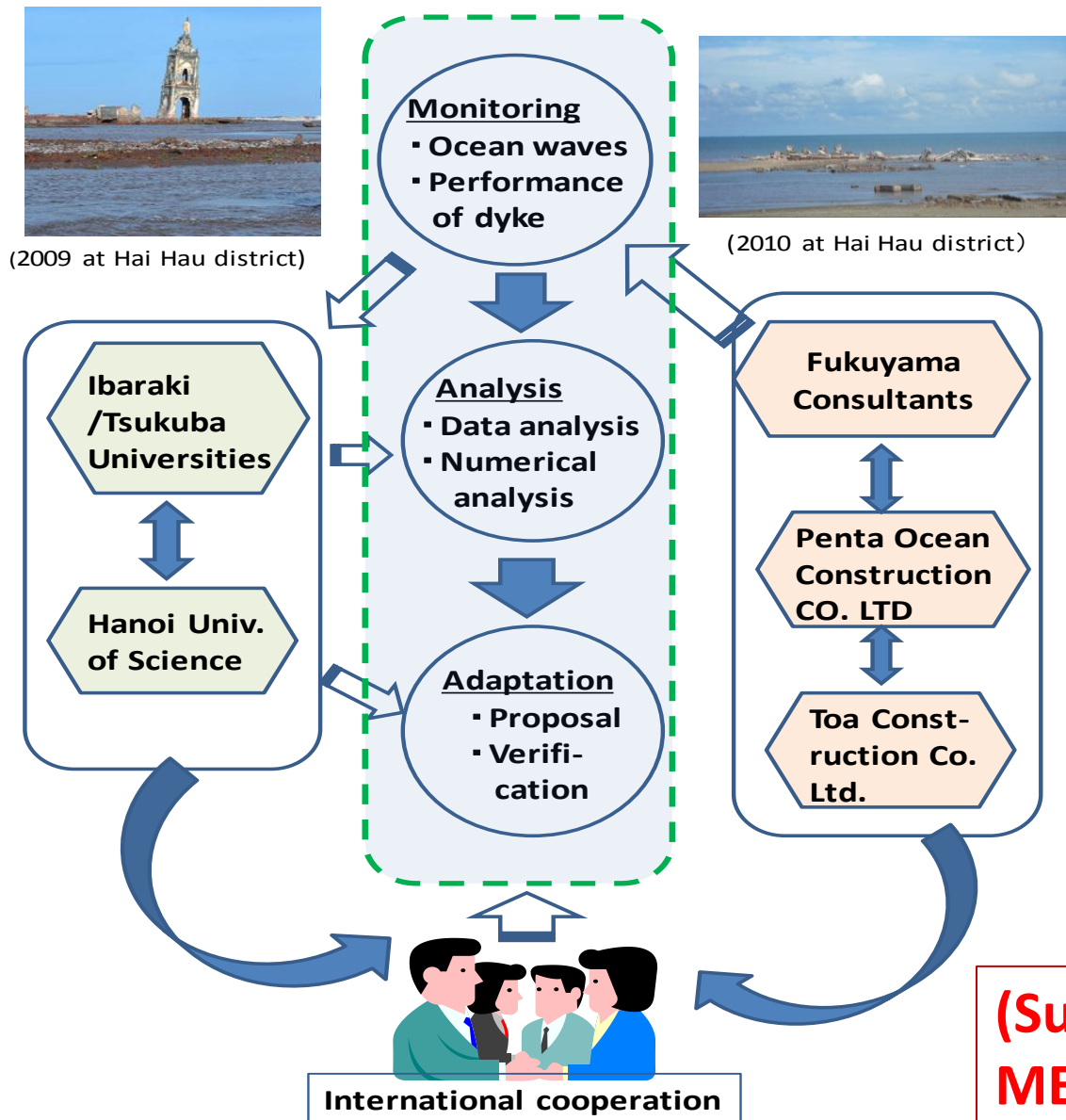
[Theme 3]
Indices for Evaluating
Vulnerability and
Adaptability
in the
Asia-Pacific Region



International network
in the Asia Pacific
Region

Providing scientific finding to
decision making for domestic &
foreign policies

Integrated Monitoring System for Adaptation Strategies on the Vietnamese Coast” (FY2011-FY2013)



A Typical Example in Vietnamese coastal erosion



Hai Trieu Village in 1995(L.G.Vu,2003)



Hai Trieu Village in 2001(L.G.Vu,2003)

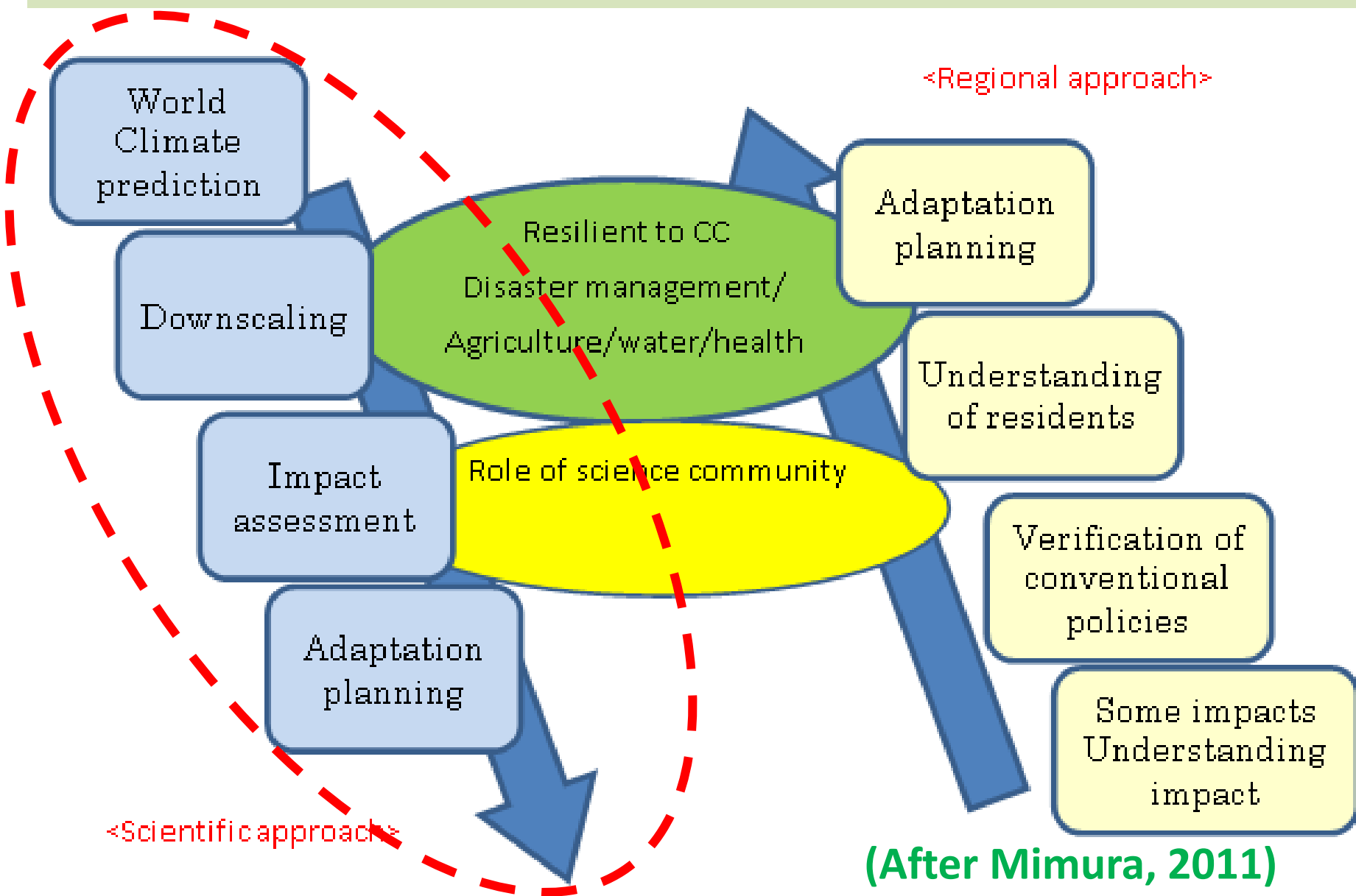


Hai Ly Village in July-2010



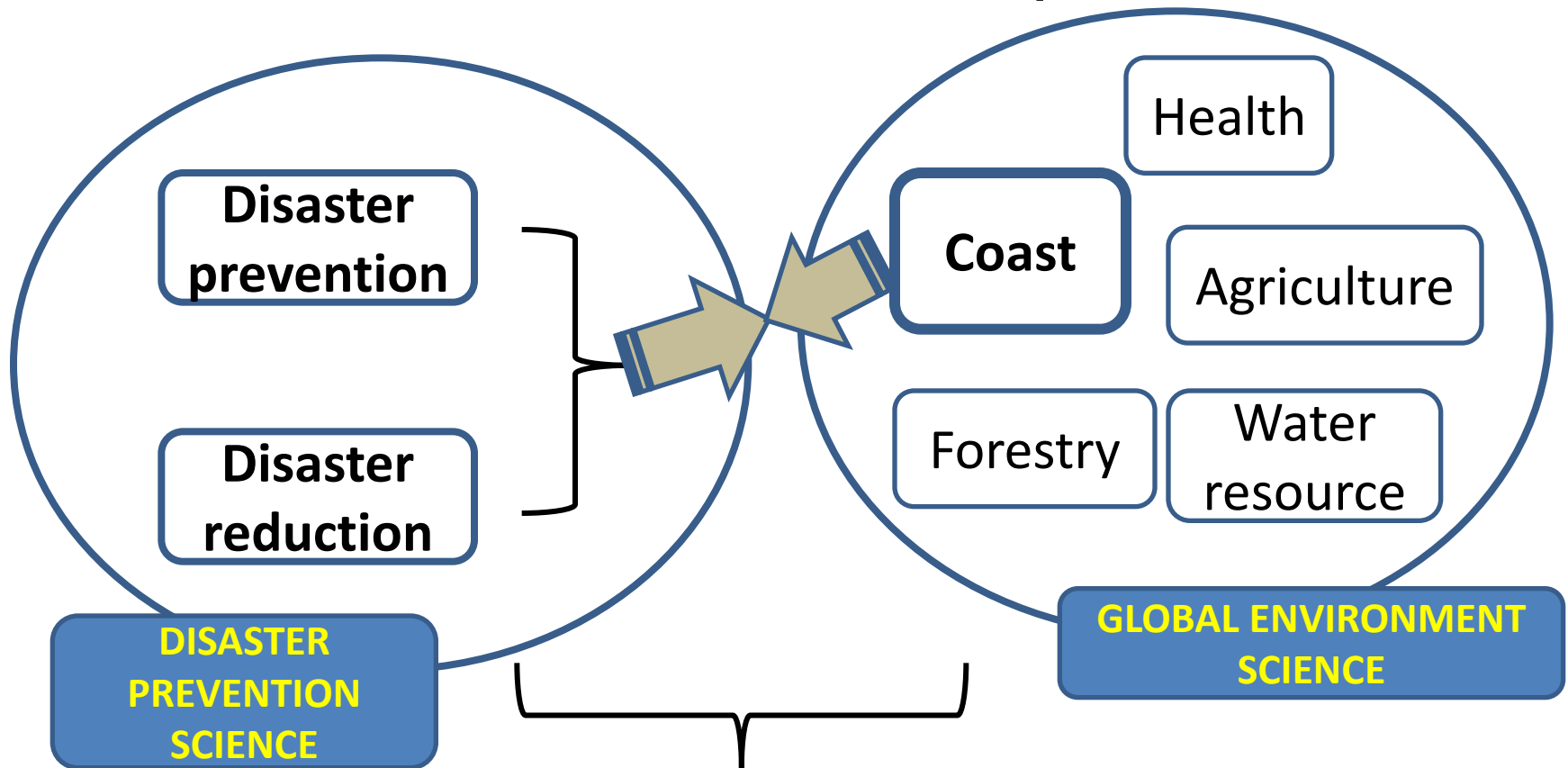
Hai Ly Village in September-2011

Two approaches for plan and action of adaptation



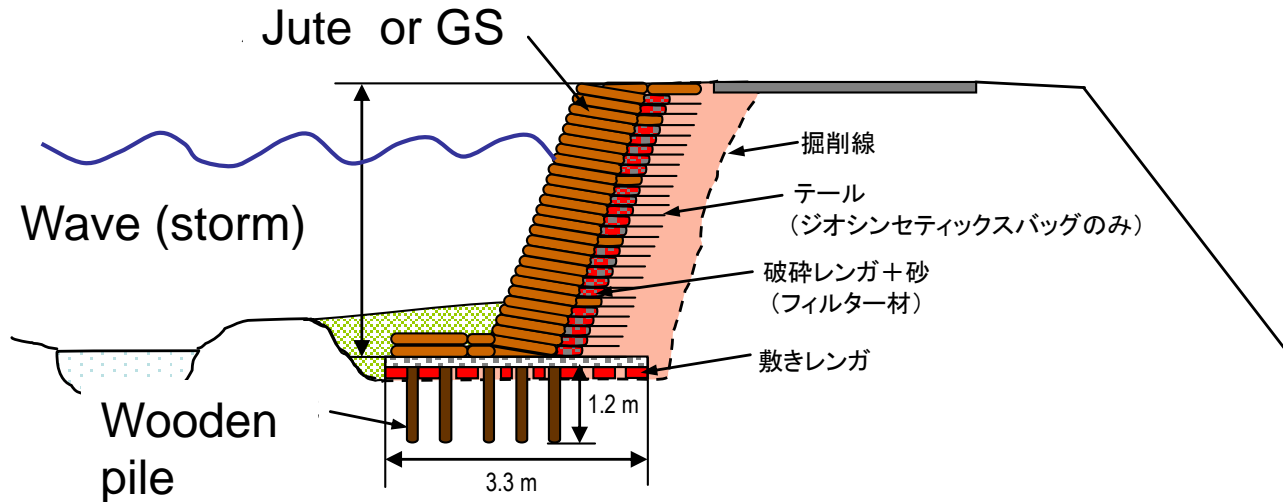
Relationship between two sciences

<Countermeasure> <Adaptive measure>

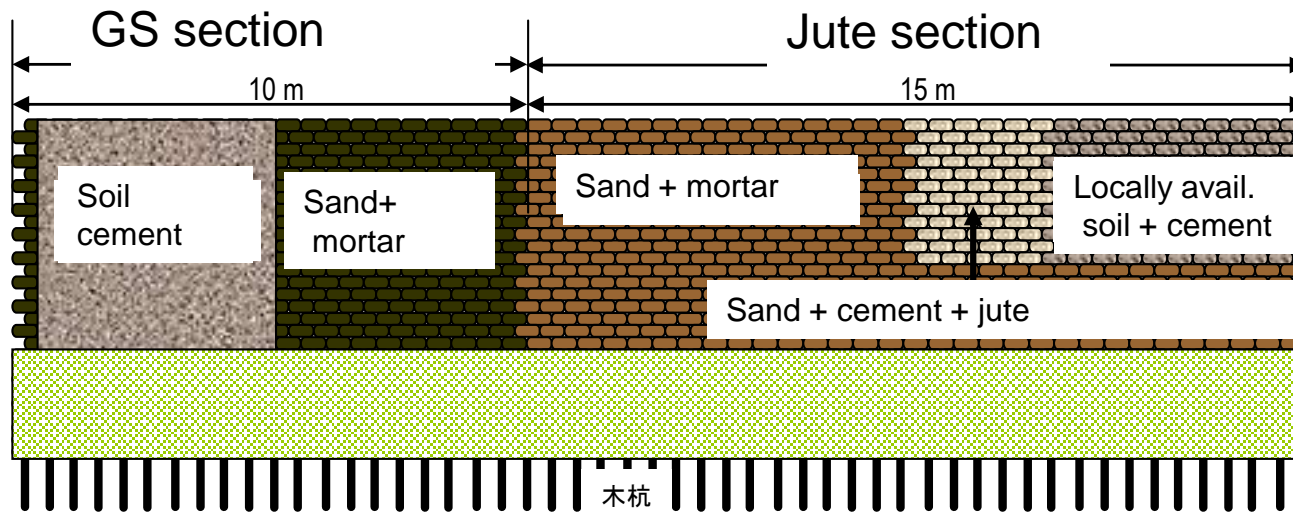


Mutual understanding of
different scientific communities

Adaptive measure against erosion using soil bag with jute or geosynthetics(GS)



(a) Horizontal profile



(b) Frontal view

From Adaptation to Tohoku Reconstruction, Japan

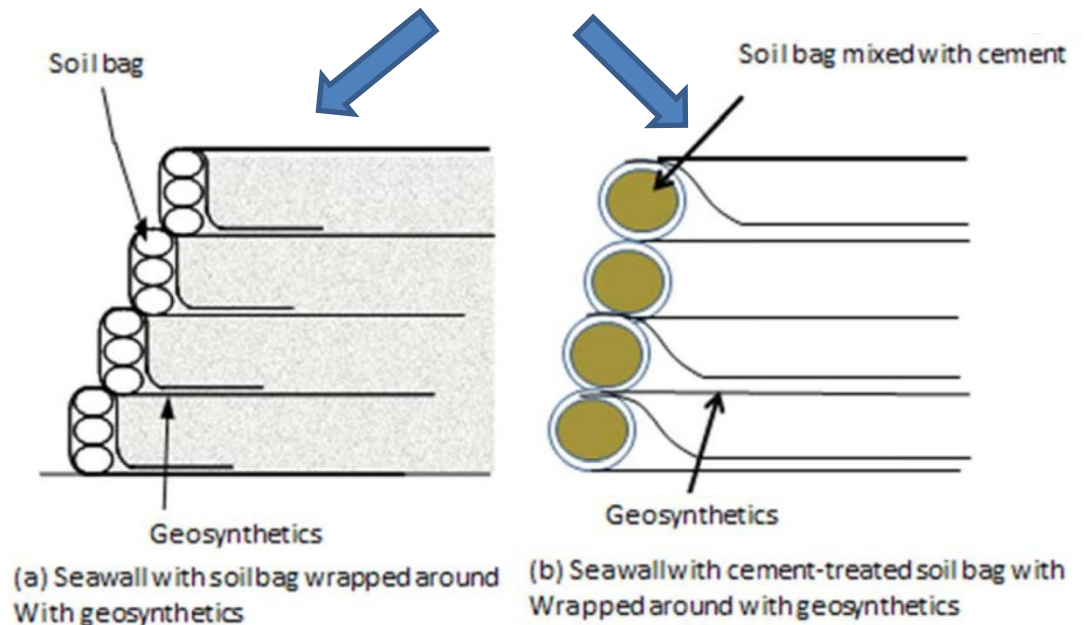


(JICA project in Bangladesh)

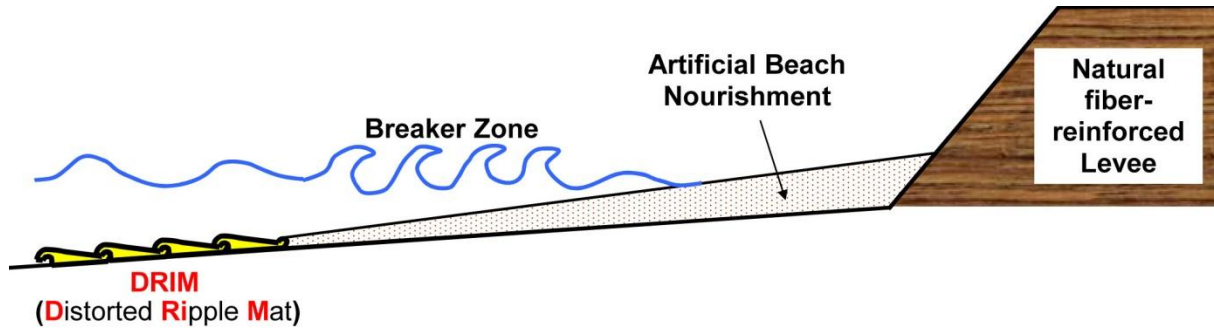
The adaptation measure for reducing climate change-induced disaster in Bangladesh can be adopted for recovery of disasters induced by the great Japan earthquake.



(Ishinomaki, Miyagi, Japan)

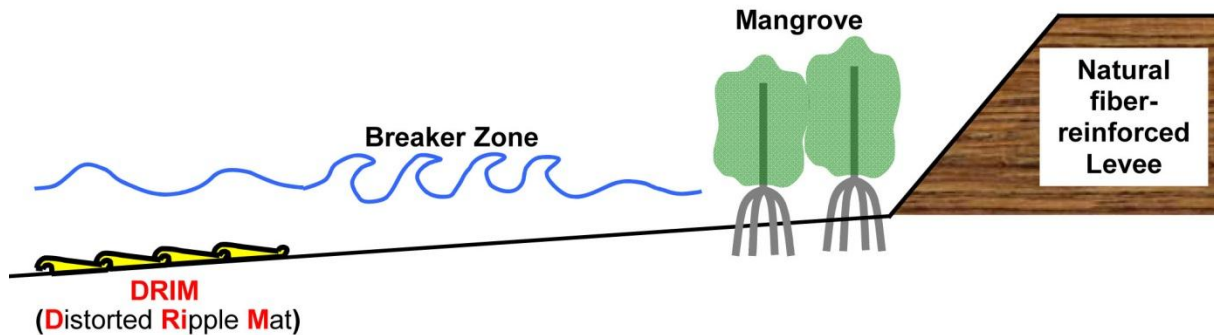


Multiple Protection: a set of example



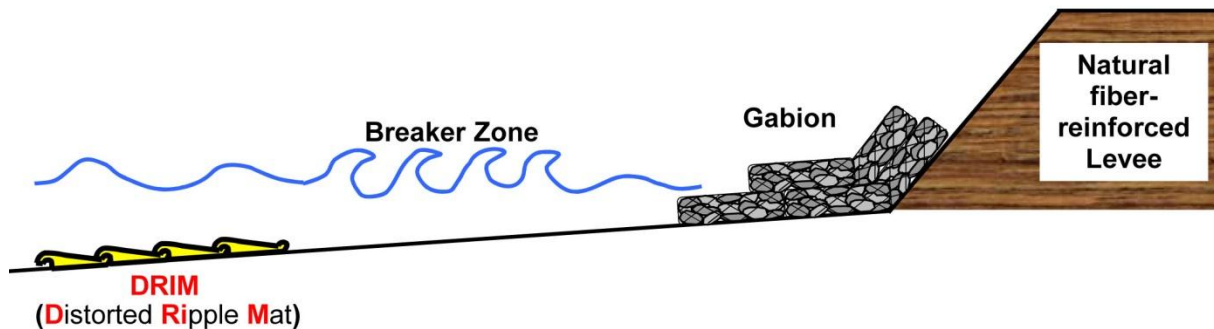
(a) Combination with artificial beach nourishment

(a) Beach nourishment



(b) Combination with mangrove plantation

(b) Mangrove plantation



(c) Combination with gabion

(c) Gabion placement

Summary

- From among many options for protecting coasts and river against erosion and other climate change-induced events, the importance **of multiple-safe guard system** is emphasized.
- The necessity of **flexible structures** from rigid ones is also emphasized for adaptation along the sea and river coasts including the levee.
- **Utilization of locally available materials** is recommended for soft structures.

Thank you for kind attention!

