

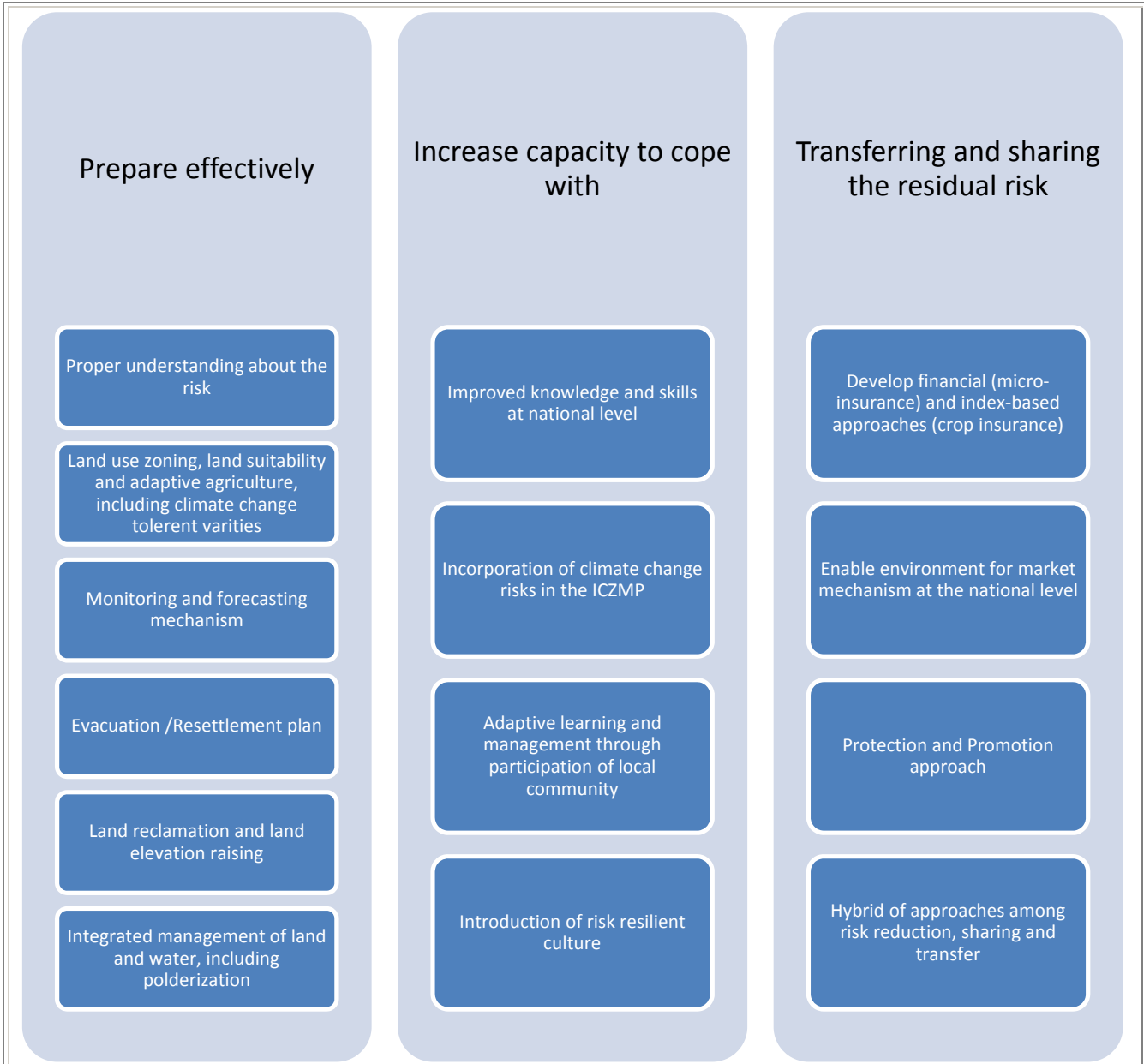
Goal of Approach:

To identify a range of approach for managing the risk of sea level rise at the sub-national level

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Main elements of the implementation strategy

- Sea level rise is a slow onset event that will result in increase in level of salinity in the coastal waters of low lying deltaic areas. This increase in salinity will also be a slow onset event. However, the level of salinity will be influenced by another rapid onset hydro-meteorological event, namely storm surge. Storm surges push sea water inland. The storm surge at landfall along the coast of Bay of Bengal will thus increase the salinity level temporarily to a very high level, and the depth of the storm surge will determine the distance up to which the salinity level would be transmitted. On the other hand, impact of sea level rise, i.e., extent of permanent inundation and water and soil salinity progression in the coastal zone might be further aggravated due to non-climatic factors or anthropogenic responses like upstream reduction of freshwater inflow and shrimp cultivation. The loss due to sea level rise and associated increase in salinity will be manifested through loss of crop production, loss of biodiversity in the mangrove ecosystem, loss of fish habitat and spawning leading to fish production loss. Thus, risk reduction measures for managing the slow onset events shall not be stand-alone approaches; rather it should be done holistically.
- In the following matrix, different risk reduction and management approaches are briefly elaborated. It should be kept in mind that none of the approaches are stand-alone. Rather, developing the comprehensive risk management portfolio combining different approaches will be the major challenge faced by different countries.
- Novel risk sharing and transfer tools like insurance are in the nascent stage, especially in developing countries like Bangladesh. These financial management tools should be implemented in association with planned adaptation options. Enabling market mechanism will be the key strategic concern for expanding the risk sharing and transfer tools.



Targeted beneficiaries

Primarily, more than 40 million people living on the coastal zone of Bangladesh will be the direct beneficiary if the comprehensive portfolio of risk management approaches is in place. At the national policy making level, this will assist in mainstreaming climate change consideration in the national development trajectory.

Any significant lessons learned

- Slow onset events (SLR), coupled with rapid onset events (such as storm surge) and anthropogenic interventions (such as reduction of upstream flow and shrimp culture), combine to create the worst scenario. The impact of cyclone Sidr and Aila in Bangladesh gives an excellent example of this situation.
- A combination of various risk management options to address all the risks must be worked out, as stand-alone solution for each of the risk separately will not provide a valid solution. Ethiopian experiences of practicing the

hybrid approaches combining different financial management tools (like insurance with non-financial risk management tools like social safety net) provide a good example in ground.

Resource requirements

- Knowledge and understanding on risk is the most important factor for proper planning for working out long term options. In this regard, access to downscaled and updated climate change scenarios and other relevant physical science information for risk modeling are urgently required. LDCs and Bangladesh also lack adequate and appropriate human resources and computation resources.
- Bangladesh, a LDC, seriously lacks the financial resources to implement risk management approaches.

Potential for replication or scaling-up

- Can be replicated appropriately in other developing/LDCs with low lying coastal delta.
- Risk reduction approach (prepared effectively) can be replicated in the developed and developing country situations

Any additional information