

Climate change spells doom for Bangladesh

We need to be anticipatory and proactive to tackle the disastrous effects of climate change, because the process is slow. We need to see our future by projection and modelling, and acting accordingly.

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Climate of the globe is changing mostly due to human activities in an inevitable manner. Major emitter of the green house gases are the developed countries. Though USA, China and Australia refined their stance regarding climate change it is yet a long way to adopt and implement climate change resilient economic policy that can reduce the emission of GHGs. However, the victims of the grim climate change will be the coastal and deltaic countries like

mensional climate change disaster.

- High vulnerability
- Low lying flat topography with long coastal belt and large deltaic region
 - Draining the GBM basin flow generated from 1.75 million sq. km being only 7-10% of total area with 75% of annual rainfall occurring during monsoon
 - Huge number of water bodies implies more water related hazards
- Background of hazards
- Agriculture is dependent on surface and groundwater irrigation

flooding in the coastal low lying areas

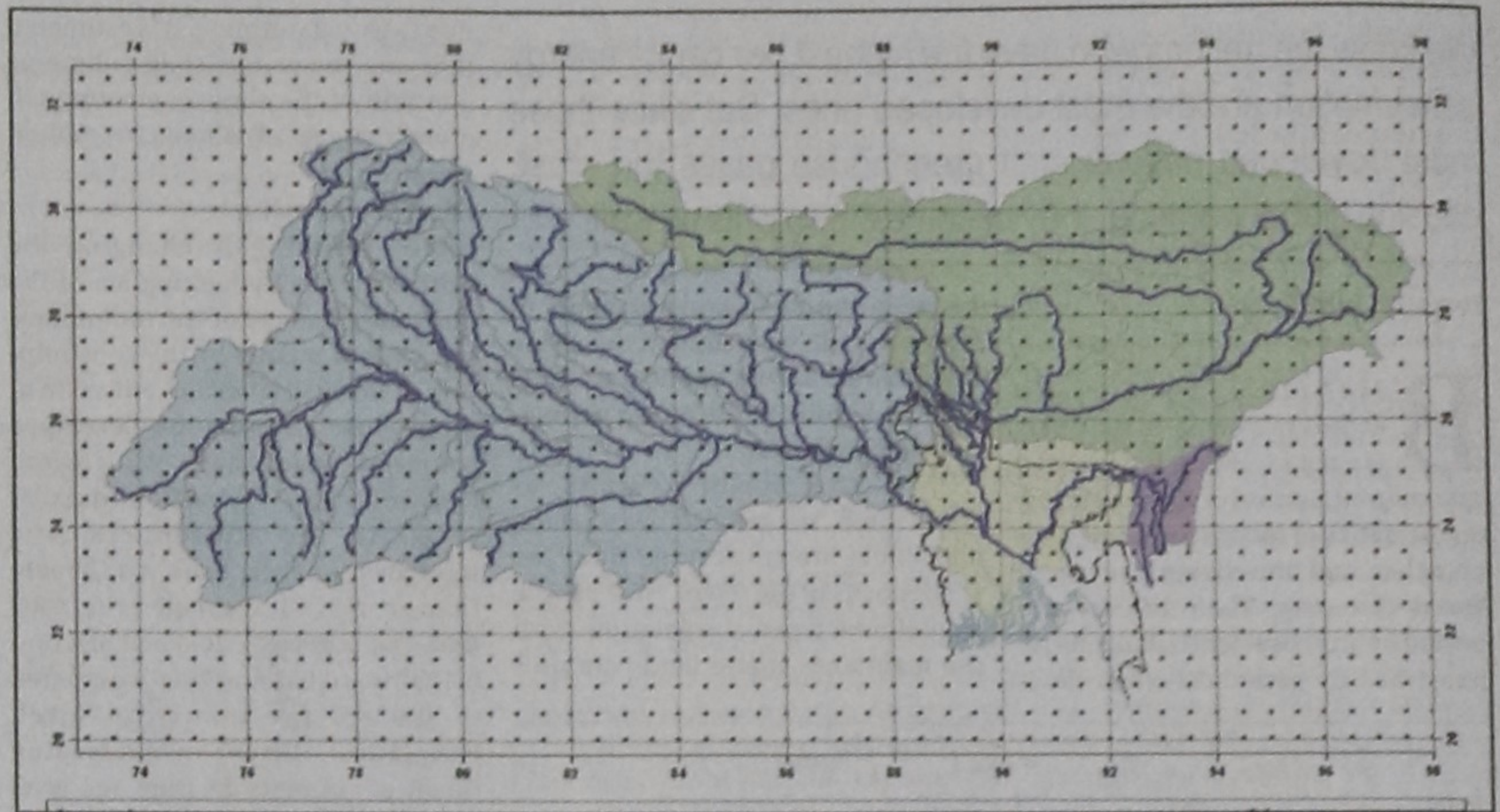
- Flood control infrastructure fragile
- Determinants of change
- Mean Temperature rise throughout the country
 - Sea level rise and salinity increase in coastal belt
 - More intense rainfall and run-off regime over the country during monsoon
 - Changed rain fall pattern

Calamities as consequences

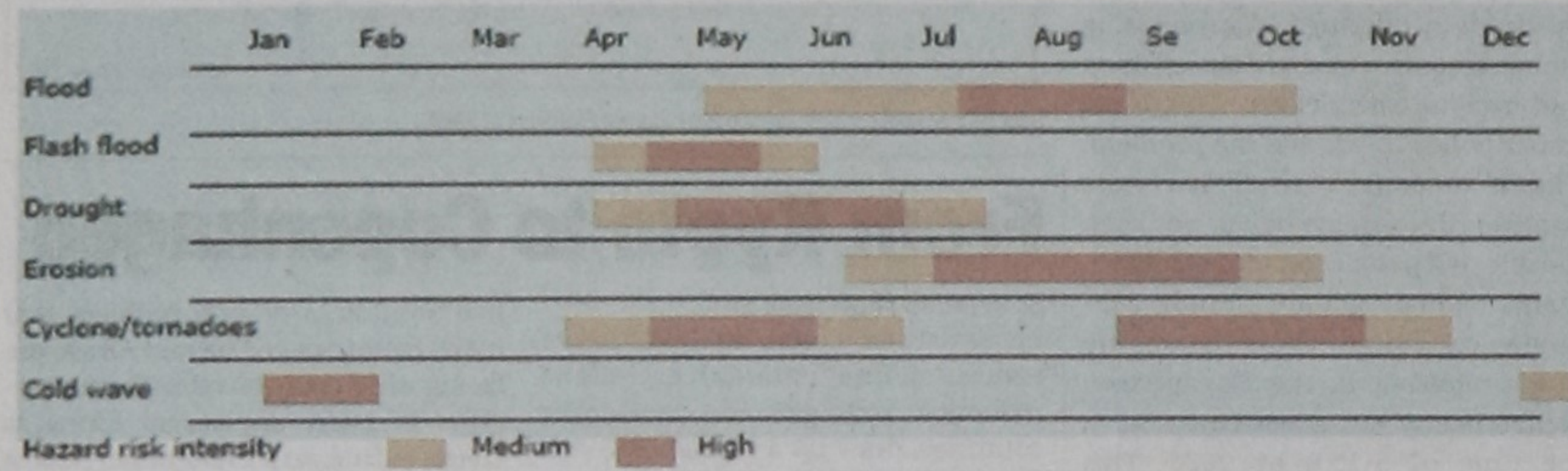
More flood and drought: More water to be flowed over Bangladesh during rainy

tion in rainfall during winter and rise in winter temperature western Bangladesh will be drier.

Hamper food security: Climate change will change the weather pattern -- temperature regime, distribution of rainfall, humidity -- which in turn will definitely impact on agricultural production. The dry areas of world will face ever increasing encroachment of drought and crop loss. In Bangladesh western districts of Rajshahi division are highly prone to be dry. Along with dryness of land in those areas, salinity increase in coastal areas and more frequent flash floods in Haor basin will certainly hamper the food security of Bangladesh.



Hydro-geological condition of Bangladesh and its surrounding areas make it more vulnerable to climate change



Spatial and temporal distribution of different hazards with severity in Bangladesh

Bangladesh. Though emission of GHGs by Bangladesh is negligible compared to global emission statistics, it can be ascertained that Bangladesh will be the frontier victim of the multi-

- Salinity intrusion during dry season due to lack of freshwater flow
- Drainage problems severe in the coastal areas due to sedimentation
- Cyclonic surges impose

season will make it more flood prone due to increase in monsoon rain fall. Thus central portion along with the Haor basin of greater Sylhet will be more flood prone. And a result of reduc-

Water and vector borne diseases: Climate variability is strongly linked with activity of pathogens (WB, 2000; Koelle et al., 2005). Rodó et al. (2002). Incidences of

vector borne diseases, pathogen-induced diseases would likely be increased under climate change situation. Incidence of malaria and dengue fever has become common already possibly due to warming of summer days in Bangladesh. Increase in surface temperature would practically help parasites such as mosquitoes. Water borne diseases would be more prevalent due to more flooding and water logging.

Coastal area especially vulnerable: Coastal area of Bangladesh would be notable victim of climate change. Poor socioeconomic condition of coastal people make them more vulnerable to disastrous situations likely to be caused by climate change. Coastal region of Bangladesh will be victimized by scarcity of potable water due to salinity ingress, more cyclones with more intensity, coastal agriculture, at stake being, degraded fisheries resources.

Mangrove ecosystem at stake: The Sundarbans mangrove forest will be severely affected as a result of climate change induced salinity ingress. The mangrove forest depends largely on the freshwater supply along the Ganges system. Under climate change induced sea level rise conditions, saline water will ingress towards inland. In such a scenario, the salinity regime, on which the succession process of the vegetation of the forest depends, will be disturbed, leading to a gradual decline in the forest vegetation. According to a recent study, vegetation health index for Sundri species (*H. fomes*) would deteriorate significantly (CEGIS, 2006).

Environmental refugee: More people will be rootless due to climate change than ever. Due to climate change scale and magnitude of river erosion will increase many

fold. Not only river erosion, salinity rise in coastal region and more frequent landslide in hilly areas will also make more people displaced and force them to migrate

towards the cities. Thus rural to urban migration will in turn increase giving rise to number of urban poor in the cities. This will ultimately

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