

Title of the Research Project

Identifying vulnerable economies & livelihoods due to climate change towards framing the resilience policies: a study in West Bengal, India

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Project Outline

Human induced climate change (say HICC) has been extending multifaceted threats to mankind. In a straightforward way, the increasing numbers of extreme events is affecting the social, economic and human development of all corners of the globe. If the location is concerned, the extreme events are evidently causing larger damages at the high altitudinal mountainous areas as well as low lying coastal tracts than that of the areas lying in-between. On the other hand, the effects of HICC and related disasters have the potential to adversely impact the majority of areas where the majority of the population depends directly on land and natural resources for their livelihoods. Marginalised economy and the related workforces are mostly stampeded by the climatic extremity whereas the strong main stream economy has the elasticity to absorb the threat. The international datasets from United Nation Development Program (UNDP), Intergovernmental Authority on Development (IGAD), Climate Prediction and Applications Centre (ICPAC), Intergovernmental Panel on Climate Change (IPCC) etc. are widely used for building physical models to predict the HICC and the forthcoming threats on society and economy at national scale. However, micro spatial observations are becoming inevitable for adopting resilience policies. The impact of HICC is enormous and diverse on the unorganized marginal agricultural labour forces, tribal communities, coastal fishermen, alpine grassland cattle rearers, tea garden labourers, forest fringe dwellers, slum dwellers, migrating urban-industrial labourers and even also on folk artists (e.g. Chau dancers) and rural handicraft artisans. These micro impacts of the mega phenomena of HICC should be attained with careful policy framework for a quick resilience of their economy and livelihood in the verge of extreme events. The present project will try to contour the vulnerability of the HICC on economies and livelihoods in the state of West Bengal that could be used as inventory to the state run planning processes.

The unrestrained increase in the concentration of greenhouse gases in the atmosphere emanates more frequent extreme events during the last few decades which the present civilization hardly witnessed earlier. The multifaceted impacts of the HICC on environment, society, economy, culture and politics have been the research concern

for almost all the academic disciplines who are working with their own perspectives for the noble goal of human wellbeing. The phenomena related to the HICC are evidently threatening the Sustainable Development Goals (SDGs) which has been accepted by the states' leaders round the globe in the United Nations General Assembly in 2015 to be achieved by 2030 as the urgent call for action. United Nations Framework Convention on Climate Change (UNFCCC) calls for stabilization of the Greenhouse gases (GHGs) emissions in the atmosphere to ensure that food production is not threatened to enable economic development to proceed in sustainable manner. What may the causes be, the impacts of future changes in climatic phenomena on economies and livelihood assets is going to be very devastating at a wider part of the globe. Besides, some ethnic groups and occupational communities are becoming more vulnerable to these unpredictable climatic variability than others.

The state of West Bengal possesses a diverse physiographic setup ranging from 11930 feet at Sandakfu of the Sinagalila Range to lowest mudflats of Mangrove forest at the Ganges delta at the south. Besides, the tribal dominated 'Jungle Mahal' (i.e. deciduous forest lands) of Purulia in the West to the modern urban landscape in the State Capital Kolkata and urban-industrial landscapes of Durgapur and Assansol give a 'socio-cultural gradient' in the state. Being the diverse nature of physical, social, economic, cultural set-up in this state, the pattern of response to the HICC phenomena or the levels of vulnerability to extreme events are also typical here. Different economies and livelihoods have different levels of dependency to the natural resources that inevitably drives the spatial pattern of response to HICC phenomena in this state. The unpredictability of monsoon induced rainfall, shifting and shattering of monsoon axis, occurrences of heavy rain spells at pre-monsoon and post-monsoon phases utterly disturbing the agro-based rural economy of the state. Besides, the increasing risk of flooding in the plains, drought condition at the western plateau, cyclones over coastal plains put havoc on the state's economy.

A resilience policy approach traces on building capacity within the system to recover quickly from the condition of difficulties. The HICC vulnerable groups, communities and spatial units are required to be identified through logic based scientific approach which would be the basis of formulating policy measures for HICC threatened economies and livelihoods to move out of the state of suppression.