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The Role of Official Statistics in the Measurement of the Impacts of Climate Change: Indian Experience

Climate is the long-term statistical expression of short-term weather which can be defined qualitatively as 'Expected Weather' or quantitatively by statistical expressions such as central tendencies and variances in key parameters. Changes in climate are the differences between the average conditions in terms of key parameters over time. There is broad consensus that major or minor climate change leads to many hazards and disasters viz increased flood, land slides, avalanche and mud slide damage, increased soil erosion, increased flood run off, increased recharge floodplain aquifers etc. It also causes displacement of people and increased deaths and serious illness in older age groups and urban poor, increased heat stress in life stock and wild life, increased risk of damage to a number of crops, decreased crop yields, decreased water resource quantity and quality, increased risk of forest fires etc. Relating such disaster like events to climate change can provide robust basis for assessing the impacts of such changes. These would require availability of sound database on the indicators of climate changes and occurrences of disaster type events.

In India different Ministries/Organisations/Institutions measures and monitors some indicators of climate changes but as such there is no regular information on climate change induced events such as flashfloods. Central Statistical Organisation in collaboration of National Institute of Disaster Management initiated a joint exercise to develop a Disaster Statistics database. This database will be one which can help researchers and policy makers to assess the impact of climate changes on major or minor disaster. The database will contain data of both hazards and disasters. Some of these hazards and disasters are manmade while most of them are due to change of climate over a considerable period of time. This paper will try to highlight the progress of this endeavour and also will try to explore the possibilities of measuring the impacts of climate change on hazards and disasters.