

# BIODIVERSITY IN THE TIME OF DELUGE

Relevant for: Environment | Topic: Disaster and disaster management

In mid-August 2018, Kerala experienced severe floods and is still struggling to deal with their devastating impact. It is a matter of deep concern that, a year later, the State is facing a similar situation. This only shows that there is a considerable human-induced natural imbalance in the State, making it vulnerable to the vagaries of climate change.

Such floods impact the poorest strata of the society the most, causing a loss of lives, livelihood options and assets. They also place an enormous burden on the government in terms of reconstruction budgets. In this context, a broader assessment of floods from a 'sustainable development' perspective, by limiting economic growth options to within the carrying capacity of the ecosystem, is the need of the hour.

True, the root cause of such floods, not only in Kerala but elsewhere, is the high precipitation levels. However, one cannot discount the role of anthropogenic factors like unscientific development and over-exploitation of nature in aggravating the damages.

In recent decades, the global climate has been changing in an unpredictable manner. As per an IPCC report, the Global Green House Gases emissions grew by 70% between 1970 and 2004. Global warming has had critical effects on the hydrological cycle and water is the primary medium through which the climate change impacts trickle down to the people.

The changing precipitation alters the hydrological systems, resulting in floods and droughts in different regions. With the certainty that climate change is already impacting most countries, there is no option but to take adequate precautions through dam management and timely public alerts.

In the case of Kerala, a structural transformation and changing patterns of land use are affecting its environment. Agriculture is becoming insignificant (11.3% of State GDP) and services (63.1%) and industry (25.6%) sectors dominate the State's economy. Further, a high population density — as per the 2011 census, it was 860 persons per sq. km, much higher than the Indian average of 382 — the shift from a joint family system to a single-family one and a greater inflow of money, particularly from Gulf countries, has resulted in an increased construction of luxurious houses and resorts.

The government, on its part, has also been developing extensive infrastructure to support the booming services and industry sectors.

Speaking of construction, it is important to take the appropriate decision on the type and size of the structure, its location, materials it proposes to use, and permissible damages it will cause to the nature. One cannot just replicate the Gulf model of construction in Kerala's fragile and ecologically sensitive landscapes. Land transactions suggest that people in the State have bought land from farmers over the decades not for cultivation, but for construction. If this trend continues, vast tracts of paddy fields and other low-lying places will get converted to plots or buildings. A loss in wetland area will naturally impact the State's ability to handle floods.

People fail to account for the damage done to natural ecosystems while estimating losses suffered due to natural disasters. Floods also wash away top soil and substantial biodiversity of the area, resulting in a reduced river-water flow, death of earthworms and spread of viral and bacterial diseases among crops. There is, at present, a lack of clarity on how best these natural

assets could be restored. However, the urgency to devise suitable corrective measures has never been greater.

The writer is a Chennai-based researcher working in the areas of environment and sustainable development

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