

The Economic Impact of Climate Change in India: Adopting A New Reality

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Abstract:

From this article I will be highlighting some aspects in which climate change has been deemed to be not only an environmental threat but also an economic one. More to the point, we experience more heat waves, more floods, more droughts, and more hurricanes as the climate changes. These disasters are doing a lot of harm to our products which are costly to fix; they are also hindering agriculture for production of foods, hence high prices. In response to these challenges, governments and businesses must begin to act now so as to address the existing problems. This implies to put money and effort on better constructions and carriageways, seek how to harness the renewable sources of power and the best strategies for the future. Hence the reason why we have to embrace this 'new reality' as a means of safeguarding the economy and preparing for the next big thing.

Keywords: *Climate Change, economic impact, renewable energy, agriculture, adaptation strategy.*

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Introduction:

Climate change is current daunting issue that is fast threatening the existence and stability of Indian society. Living in one of the largest populated countries of the world with a fast-developing economy, Indians are highly sensitive to climate change. Temperature increase, reduced rainfall and frequent cyclones and other disasters are already having devastating impacts on the economy, agri-business, infrastructure and people's lives in the country.

Global warming has become an issue that infringes on our daily existence and not only through micro-climatic changes but also through economical changes. With climate change, we have realized that there is an increase in occurrence of disaster such as hurricanes, wild fires, and floods. They lead to a lot of losses to property and other infrastructure, and this results to huge sums to be spent in rehabilitation.

Climate change is also experienced in our food basket as the following effects will

impress on. This is because random rainfall is becoming a problem for farmers to grow crops and as a result the consumer may pay a higher price for what He/she is consuming at the supermarket. Coastal cities are experiencing early signs of a rise in sea levels and expect to have their homes and businesses flooded which will be disastrous to all the community members.

India is one country which is gravely affected by climate change; this article will unveil different ways through which by neglecting these threats India would stand to lose more and finally highlight different ways in which India can adapt to this new reality. It is highly important to understand these factors so as to sustainably advance India's economy whilst the climate shifts.

Objective of the study

The goal of this research study is thus to find out how climate change is impacting our economy and how the impacts can be addressed. The major objective of the study as follows:

- To Understand the Current Effects of climate change in India.
- Consider the Costs of Doing Nothing: Consider how the lack of a proactive approach to climate change will affect the economy.
- Find Solution and adoption strategy for this threats.

Finding and Analysis

The synthesis of the results shows that climate change has already resulted in many economic costs for India especially on agricultural and infrastructure and industries relying on the coastal areas. These impacts, such as development-induced displacement, job insecurity, inflation, generation of poverty and inequality, will be a test to India's economic democracy and development.

Therefore, to minimise these risks, India needs to put in place proper adaptation measures in order to address vulnerabilities in these most sensitive economic segments. Therefore, the boosting expenditures in climate-safe agriculture, lengthening and developing infrastructure, safeguarding the coastlines, and fortifying social security measures are useful actions towards bringing the country towards resilient and sustainable economy. Without these measures, the burden of climate change costs for India's economy and society will only increase further challenging India's development trajectory.

Impact on Indian Economy due to Climatic Change

Climate change is not something that India will face in the future but it is already being faced in some of the economic sectors of the country such as agricultural, infrastructural and coastal sectors. Such impacts are not only leading to present loss of money but also tow towards the risk of future growth of the countries economy.

1. Agriculture

India is an agricultural country, contains more than forty percent of the population directly or indirectly linked with agricultural and allied activities, agricultural is one of the important sector of the Indian economy. Still, this is one of the most sensitive and quickly affected sectors in the face of climate change. This is because the weather conditions are different with increased temperatures, unpredictable monsoon rains and frequent occasions of floods and droughts this makes farming to be a difficult affair.

For instance, the rains are unpredictable as there are no fixed rains during the so-called monsoon season and this results in lack of rains at all or very frequent rains that are also unwanted for agriculture. This in turn has implications on food production and earnings for millions of farmers many of whom rely on the industry for their livelihood. Farmers of Maharashtra carry out rain-fed agriculture and due to back to back droughts all farmer has lost their crops and have become jobless and relocated to cities. This not only affects the rural economy, but also leads to such emergent negative consequences as poverty and population over density in large cities.

In the economic aspect, Impacts of climate change on agriculture have been fust felt in India. Investigations project that global warming may cut the Indian agricultural yield by a fifth by the year 2080. This decline in productivity might lead to an increase in the prices of foods products, food insecurity and poverty most especially in the rural areas.

2. Infrastructure

Even the infrastructure such as roads, railways and buildings needed for any country's development are also very much vulnerable to climatic change in India. Some of the detrimental weather factors include; floods, cyclones and drought which result in damage of structures, high cost in terms of repair and definitely affect the provision of services.

For instance, the Chennai floods in 2015 due to what has been described as a 100-year rain resulted in the destruction of the city's infrastructures that include roads, bridges

and other infrastructural facilities. The economic impact was put at more than \$3 billion, and it was not only the local economy, but also the national economy, which was affected, given that Chennai is one of the technical IT – city.

There was also a middle ground. Moreover, heat and humidity affects several infrastructures of a community which consequently contribute to the increases in the incidences of transport hindrances and costs of maintenance of roads and railways inclusive. Delhi, for example, experiences winter temperature rise, above 40 degrees Celsius, and such circumstances entice power cut and skyrocketing cooling costs.

3. Coastal Places

India has a long coastline and several large populated centres such as Mumbai, Kolkata and Chennai are located in coastal regions. These are the areas that are most sensitive to the increase in the sea level as well as the regularity of the strong storms. With increasing intensity levels, sea levels also rise thus possible floods dominate the coastal areas and affect property, structures and business.

For instance, Mumbai, which is the economic nerve centre of India, is highly vulnerable to flooding as a result of increasing levels of sea surge and annual precipitation. The loss case caused by one major flood can be in millions of dollars and halt the economy while forcing millions of people to abandon their homes.

It should also be pointed out that coastal zones' economics are not confined to officially designated large cities. Before they lose their economic base, coastal populations that depend on fishing and tourism are also vulnerable. Climatic factors such as increases in sea level and changes in the physical and biological characteristics of bodies of water decrease fish supply in water bodies, which in one way or the other have an impact on fishermen. Likewise, deterioration of the 'back' and coastal environment can be costly to the tourist trade, which is one of the main earners for many coastal states.

The Costs of Doing Nothing

While the economic impacts are already being felt and priced at millions of rupees or more it is still a question whether inaction is not going to be even costlier. The devastating costs of climate change from a long-term point of view are apparent if India can neither prevent nor prepare.

1. Economic Losses

The costs to the economy from changes in climate are hard to imagine. A research paper prepared for the Indian government's Ministry of Earth Sciences argued that if

temperatures increase the world over by 2°C, the country's GDP might undergo a contraction of 2%. 5% by 2100. This would go a long way in meaning trillions of dollars in lost economic production.

Moreover, climate change has been evidenced such that the costs of climate-related disasters are increasing. India has been hit by several big climate disasters in the past decade, including floods, droughts and cyclones. The losses spectrum is amply in the billions of US dollar each year on these events. If the necessary adaptation measures are not employed, such claims will continue rising, thereby chiefly affecting India's economy.

2. Increased Poverty and Inequality

It is informative to set out the impact of climate change on poverty and inequality in India. To a large extent, the intensity of such climatic conditions is expected to increase in the future, and with this, groups of people in zones that have been considered previously marginal such as the rural areas and the coastal strips will be the worst affected. These are vulnerable groups such as small holder farmers, fishermen and those living in the lower end of the poverty bracket who cannot afford to invest in changing conditions.

They also resoundingly assert that lack of adequate coping mechanisms to climate change can plunge millions into poverty. As per the research made by the World Bank, due to climate change, there is a likelihood of 100 million people going to further into extreme poverty after the year 2030 and the largest number of people is expected to be in India. This would increase income inequality, not only between people of different individual income status but also between people of different geographical location in Algeria.

3. Strain on Public Resources

The drawbacks of the non-action are not only concerning the private sphere but also exert much pressure on public sources. Obviously, the Indian government will come under more pressure in responding to the needs for disaster relief and rehabilitation, reconstruction and rebuilding of the lost infrastructure and the supporting of the affected communities. This risk could reduce funding for other sectors needed in meeting the challenges of climate change including the health sector, education and social services among others that are likely to be worsened by climate change impacts.

In addition, neglecting climate change would mean higher risks of political unrest, as the availability of resources shrinks, and people pour out from their devastated homes.

It could have nasty consequences for national security and economy stability at worst.

Adaptation Strategies for India

All these factors being the socially relevant indicators of vulnerability impose certain risks to the Indian economy and call for the proactive implementation of adaptive measures. These need to be directed on developing protective capacity in vital areas including agriculture, infrastructure and energy besides the sustainable economic development.

1. Investing in Climate-Resilient Agriculture

Given the danger that climate change poses to India's agriculture production, it is imperative therefore for the country to foster climate smart farming process. This encompasses identifying high-value germplasm based on water-use efficiency traits (drought and flood-tolerant crop), efficient water use through water conservation techniques (drip irrigation), multipurpose trees in farming system (agroforestry).

Also, pre-disaster warning and accurate weather information can prove to be useful in determining times to plant and harvest crops and thus manage on instances when crops may fail. Other assistance such as crop insurance can also assist farmers to overcome such blows administered by the harsh weather situations.

2. Strengthening Infrastructure

India has to ensure that the future capacities for infrastructure construction are built to be resilient to climate change. This comprises of enhancing the production of roads, bridges as well as structures which are resistant to calamities. It also seeks to enhance the bids on the current infrastructure to enhance reliability as in the flooding prone cities it seeks to enhance the drainage systems .

It is essential, for coastal areas, to protect these structures through the construction of sea barriers and the conservation of mangroves, which have a way of protecting against tsunamis and the rise in sea level. Similarly, it is possible to coordinate urban development to ensure that climate risks are incorporated hence minimizing the susceptibility of cities to climate change.

3. Transitioning to Renewable Energy

India is already progressing towards increase in share of renewable energy in its energy mix, but there is further scope for improvement. Increasing the consumption of solar, wind, and hydropower energy can somewhat decrease the utilization of fossil fuel that is

a culprit to climate change. Renewable energy sources are not only less dangerous to the environment but are less susceptible to the effects associated with climate change for instance in the supply and price of the energy supply.

Switching to renewable energy sources can also have positive impacts on the economic level, according to certain points: employment in the renewable energy field and lower energy costs in the future. It can improve energy supply reliability and decrease population vulnerability to electrical blackouts in the storm.

4. Improving Disaster Preparedness

India needs to wake up and strengthen its disaster preparedness and response mechanism to minimize economic losses arising out of climate disasters. For instance, supporting development of systems for early warning, building up of response infrastructures, as well as enhancing peoples' understanding of risks regarding certain disasters.

Thirdly, climate change can also be addressed in the context of development by making climate change considerations as a cross-cutting issue at national, regional and local government development planning's.

Conclusion

Another constrain is climate change, which is one of the biggest threats that face India; the effects of climate change on the economy of India are felt in almost every sector. Rising out of the hills and across coastal plains, climate change is pervasively stomping on industries, stretching public stalwart, and threatening lives. The cost of inaction is high – economic damage, further poverty and inequality, and pressure on public finances.

But by implementing appropriate measures of adaptation these negative impacts can be avoided and sustainable development of economy can be achieved in India. To make a more climate change resilient nation for India one has to invest on climate smart agriculture, infrastructure, renewable energy and disaster risk management.

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