

Contribution of Indigenous People to the impending crisis of Climate Change: A Study in Tribal Odisha

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Abstract:

For centuries, the Indigenous population has been the custodian of this Planet and has lived in harmony with nature. They were skilled in the art of existing with mother earth instead of harming it. Up until the early 21st century, Indigenous people were even looked down upon as sufferers of climate change rather as defenders of the environment. But in reality, developing the science and knowledge of the impact that climate change has on the lives of these people, can actually help develop the policies, plans and programmes that can combat and reduce the effects of global warming. Their representatives have in fact been energetically looking for ways to combat the climate crisis by active participation in various environmental conferences and involvement both regionally and nationally since 2008. This paper asserts that the Indigenous population, particularly forest inhabitants, have a chief role in fighting the impending crisis of climate. They have reorganized the potential that they have in making decisions at global and local levels that may play a part in saving our earth.

Keywords: Indigenous People, Environment, Climate Change, Forest, Ecology

Introduction

Since time immemorial, the efforts of indigenous people in being involved in global climate concords are of utmost significance. In 1997, the representatives of indigenous people were actively involved in the climate change agreement which was held in the Kyoto Protocol to minimize

worldwide carbon emissions. By 2004, the Rio de Janeiro Earth Summit hosted negotiations that were supported by the United Nations Framework Convention on Climate Change (UNFCCC). Their representatives have been taking part in international conferences since 2013, which has allowed them to collaborate to advocate both their own

rights and those for the protection of the environment under local, state, and international laws. Having secured the rights for the “Convention concerning Indigenous and Tribal peoples” in 1989, the ILO has been a constant support for the Indigenous people. This right came into effect on 5th September 1991 and has since then laid the foundation with reference to the United Nations Declaration of the Rights of Indigenous Peoples (UNDRIP) of 2007. As per the news of UN Climate Change, 9th August 2021 – “The International Day of the World’s Indigenous Peoples” is celebrated as a reminder of the indigenous peoples’ noteworthy contribution to the battle against climate change. Despite contributing to less than 5% of the world’s population, indigenous people defend more than 80% of the world’s biodiversity simply by living peacefully with nature. The main reason for this is simply the centuries of traditional knowledge that has been handed down from their forefathers. Patricia Espinosa, the UN’s executive secretary for climate change, said “That knowledge has a significant worth that just cannot be overstated and must not be. Achieving the Paris Agreement targets of keeping the temperature increase to 1.5°C above pre-industrial levels worldwide requires taking into account the rights of these indigenous groups and taking their perspectives into consideration when formulating climate policies. At the UN Climate Change Conference in Paris in 2015, it was created the Local Communities

and Indigenous Peoples Platform (LCIPP) as a result of this recognition, providing indigenous peoples a voice and allowing them to participate more effectively in the UN climate process. Patricia Espinosa, the UN’s executive secretary for climate change, cited the Intergovernmental Panel on Climate Change (IPCC)., the empowerment of indigenous people is crucial since it enables better supervision of forests for climate mitigation. This is what Archana Soreng, a 26-year-old Khadia girl at COP26, from Odisha promotes the use of local methods to combat the climate catastrophe. Indigenous peoples must take the lead in addressing climate change, not become its casualties. If other people adopted the techniques and equipment employed by the tribal people on a broader scale, they would aid in protecting the ecosystem and battling climate change, according to Ms. Soreng. These techniques and instruments included organic farming, rainwater gathering, and preserving biodiversity.

The condition of indigenous people is significantly different from poor people given the grand scale of threats they face in their livelihoods, cultures and ways of life with respect to climate change. But at the same time, Indigenous people employ their centuries-old knowledge and occupation in mitigating the climate crisis and adapting several transition policies. For there to be any success in the climate action, the contribution of Indigenous Peoples must be recognized

and they must be given further scopes and opportunities to take part in the creation and assessment of sustainable strategies aimed at this crisis, at a global level. At the same time, the factors that make indigenous tribes especially affected by climate change must also to be addressed and worked out distinctly.

The unique coastline of Odisha stretches from Balasore district to Ganjam across some 480 kilometres. This geographical advantage plays a significant part in the socio-economic health of the state. The marine environment has a strong interconnection with the state's industrial development, aquaculture, agriculture and port-related commerce and transport. Rising sea levels are a recurrent phenomenon and have been linked with annual disasters like cyclones over the years. Ocean dynamics and coastal topography play a major influence on climate change. The main cause for the rise in sea levels, increased activity in tropical cyclones, droughts, and rainfall can directly be linked with human activities like fossil fuel burning, greenhouse emissions and coastal development which contribute majorly to climate change.

Objectives

The principal objectives of this study are the following:

1. To examine the increased climate change's effects on the indigenous peoples dispersed in different districts of Odisha.
2. To demonstrate the various ways in which these people are affected by global policies and initiatives aimed at resolving the issue as well as by climate change in general.
3. To study the vital role these tribes, play as agents of change for the success of the policies and actions aimed at controlling the climate crisis.

Methodology

For the present study, a stratified random field survey was carried out in the tribal districts of Odisha. Based on their traditional knowledge of farming and irrigation, the interviews have been performed in the research region. Besides, Focus Group Discussions (FGDs) were conducted with tribal-village people to determine visible influences of low and heavy rainfall on farming, livestock and complete livelihoods in the areas. Along with survey and interaction with the indigenous peoples, reviewing several literatures helped a lot in collection. A digital camera was employed in the study area to record the documentary. Secondary data has been gathered mostly from Gram Panchayats and District Irrigation, Agriculture and Departments of Statistics.

Impact of changing climate in Odisha

Soil degradation is a result of large-scale monoculture farming, which guarantees a better yield to the agribusiness in order to meet the rising food demand and turn agriculture into

a lucrative economic activity. Large scale single crop farming that ensures a higher yield to the agri-business so as to face the increasing demand for food and make agriculture a successful economic activity, leading to soil deterioration. Such farming practices not only act against nature but also destroy the quality of the land due to their association with inorganic pesticides and fertilisers. They also lend a huge hand in the loss of local biodiversity, health and way of life for local residents and ultimately exacerbate the impacts of climate change throughout time. They also have a significant role in the decline of the area's biodiversity, health, and which eventually exacerbates the long-term effects of climate change. In several districts in Odisha, the mad rush to get high-yielding crops has caused an irreparable change in the soil. A prime example of this can be seen in Koraput's Kadamguda village where the Gadaba Tribe began cultivating high-yielding-variety (HYV) paddy crops after relentless persuasions by the government.

We had to make loans to meet these needs because it needed frequent input in the form of chemical fertilisers and pesticides. The yield was initially good. Due to persistent summer heat and little rainfall two years later, the crop failed. According to Bhagaban Gadaba, a 62-year-old member of the Gadaba tribe and farmer, "we went through a lot and had to find other employment to pay back the loans". Chandar Gadaba,

68, claims that while HYV seeds were grown, other crops, such as native tuber crops and other conventional crops, failed to sprout on the margins and borders of our land. We discovered that common visitors as the insects and birds stopped coming to the fields where HYV crop production was taking place. A wide range of food plants also disappeared from the area.

These instances clearly show evidence that the soil at Kadamguda village did not immediately support the native variety of crops when the farmers stopped using the HYV seeds. "The ground becomes poisoned after three years of chemical application," Purushottam Gadaba observed that when displaying a variety of native seeds he raises in his own fields without the use of any inorganic substances. Overusing fertilisers drastically increases the alkalinity and salinity of the soil and kills the natural micro flora present in it.

A traditional method still exists where the Dongria Kondh farmer grows multiple crops simultaneously in their donger without using any chemical fertilisers in Rayagada district. Our donges are primarily inspired by the forest ecosystem and are typically located on the periphery of woods. We plant more than 60 different varieties of crops, including vegetables, paddy, millets, legumes, and leaves in a season starting in May and harvesting them one by one throughout a nine-month period starting in August, according to Pala Urlaka from the hamlet of Darukona.

Kanhu Radhika, a 65-year-old from the Tikarpada village observed, Land is not something we make; it is a gift from nature. It provides us with everything we need, including food, energy, resources for making cloth, space, and all of our building supplies. Everyone can use it, including people, animals, birds, plants, and other wildlife. We should coexist peacefully with all of them rather than in strife.

Chemical fertilizers not only destroy the quality of the soil but also harm biodiversity which in turn exacerbates climate change and the overall ability of an environment to control diseases. They disrupt the interactions between pathogens and hosts that take place in pristine ecosystems, speaking on the sensitive interaction between viruses, people, and wildlife, Bernard Bett of the International Livestock Research Institute noted that it increases the possibility of zoonotic spillovers.

“We used to produce most of our food on our land,” viewed by Budhbari Mandra, a farmer from village of Baunsapada of Malkangiri district. “However, things have evolved over time. Our crops are frequently destroyed by heavy rain. Farming is now less profitable.”

Sukruni Kirsani, a 33-year-old tribal woman, stated, “Last year, flash floods damaged our paddy. The fertile top layer of soil was washed away by the torrential rain.

“Our grounds have grown less fertile as soon as we began adding chemical inputs in an effort to enhance crop

productivity,” Kirsani claimed. “And hybrid seeds frequently couldn’t tolerate extreme weather conditions.”

This hypothetical situation illustrates the plight of hundreds of other Bonda farmers who have been severely impacted by climate change, torrential rain, flash floods, and landslides.

According to Fredrick Stephen, director of the Asha Kiran Society, an NGO located in Koraput that has been working on the general development of the Bonda community for more than 20 years, “Young Bondas have started travelling to cities for better possibilities.”

Recurrent landslides and flash floods from soil erosion have been destroying mono-crops over the past few decades in Odisha. But innovative measures like conventional millet cultivation and surface soil conservation have enhanced and the damaging effects caused by soil erosion have dramatically decreased on the Bonda hills. By returning to the farming of naturally occurring millets that are resistant to salinity, drought, excessive heat, pests, and diseases, Indigenous Bonda women are coping with the effects of climate change and nutritional problems. This is mutually beneficial to both the farmers as well as to several other communities cohabiting the bottom valleys of Bonda Hills.

With regard to the attack of insects and pests on crops, Raibari Mandra, a Bonda woman of Malkangiri district said that they never use any type of chemicals on their crops but permit verities of insects and birds prey on other insects

and pests. “This is a sustainable method of defending our crops. They are a part of Mother Nature, the living things. The drafter of the Odisha Organic Policy 2018, Dinesh Balam, stated that “These women farmers are reaping different benefits from their indigenous climate-smart crops.” Basically, the introduction of organic farming policy has been helpful to the indigenous people to boost farmers’ income levels, boost their confidence, and make farming more climates resilient. The farming methods used by the Bondas have developed in step with nature; their ecology and climate resiliency are inextricably entwined.

Government Policies and Action

The Chief Secretary stressed the need for continuous State and local government leadership while taking note of the ongoing climate change measures in Odisha. The SAPCC 2018-23 adheres to the first plan’s format and is organised using the Monitoring Framework of the progress report, as well as making reference to co-benefits. Therefore, it is necessary to consider the SAPCC 2018-23 in light of these findings as a whole rather than separately.

According to the report, Odisha’s agriculture, forestry resources, industry, fisheries resources, environmental priorities, energy needs, freshwater supply, aquatic and terrestrial ecosystems, and human health are all likely to be impacted by the changing global climate. This assessment is done at the state level to undertake evaluations, a thorough literature

analysis, and model projections, the Cell collaborated with a working group comprising department nodal officials, consultants, and experts for peer review. It also provides an overview of certain significant climatic events, their effects, and potential future occurrences.

Indigenous, regional, and traditional knowledge sources are a significant resource for coping with climate change, according to the IPCC (5th Assessment Report). Indigenous peoples and other natural resource-dependent cultures have a long history of adapting to drastically different and shifting social and ecological environments. However, the effects of climate change will decrease the value of local, traditional, and indigenous knowledge. Since such forms of knowledge are typically disregarded in policy and research, the mutual acknowledgment and integration of such types of information with scientific knowledge will increase the effectiveness of adaptation. One of the best widely used strategies is climate-smart agriculture, which is advocated by the Food and Agriculture Organization of the UN (FAO) for adapting and mitigating to climate change. It integrates a combination of both modern and traditional techniques incorporated by the initiatives of private and public enterprise based on indigenous knowledge.

Forests are the main source of livelihood of large number of forest dwellers. As per the FSI (Forest Survey of India), the cover area of forest has been increasing in the state. It is a good sign

of improvement that is possible through large scale plantation and conservation of forest. In the western and northern parts of Odisha, the flora and fauna might be influenced by the current temperature rise in Odisha which directly affect the biodiversity system. Frequent natural disasters make the state of Odisha more victims to floods, drought, cyclones, heat waves and tamados due to its precise geo-climatic situation. Out of 30 district of Odisha, eighteen districts are flood prone areas. Basically, Odisha state experiences natural calamities in the month of September and October. The worst tropical cyclones to hit the state of Odisha were the super cyclone in 1999, Phailin in 2013, and severe cyclonic storm Fani, which caused water-borne and vector-borne diseases.

The Way Forward

To lessen the impact of the climate change crisis, the way forward may be:

- i) Coastal Protection in tribal belt of Odisha: The coastal regions should be preserved by research, awareness, prompt forecasting, adaptation, evacuation, and warning systems.
- ii) Water Efficient Technology: By using rain water harvesting, better drainage system, preservation of wetlands, use of ocean water and effective irrigation system, the state of Odisha is able to reduce the whim of climate change.
- iii) Green and Sustainable Economy: It can be attained through protecting flora and fauna, creating Afforestation and adopting sustainable agriculture.

- iv) Skill Development Strategy: Adopting skill up-gradation, providing training and employability to get sustainable livelihood in tribal based areas.
- v) Self-Help Group: Involving in SHGs, tribal women can be empowered in drought/flood areas.

Conclusion

Despite countless efforts and government approved policies preventing climate change, there is still a milestone to be achieved in this direction. Climate change is now one of the biggest global issues that we face as a species and it has severe adverse effects on not only our lives but also on the economic systems, socio-infrastructure and biodiversity of the planet. Therefore, now is the time for the most influential institutions in the world, both public and private, to support indigenous peoples' efforts to be included in decision-making regarding actions that will secure their rights and help combat climate change. This study provides an overview of the climate issue and its impacts on the tribal region of Odisha while keeping the larger context in mind. Several attempts have been taken by the state to solve this issue and consistent higher allocations made to the budget. Although the state is actively taking charge of this problem, current studies indicate that climate financing must be mobilized more forcefully for there to be an equalized pressure on the state budget.

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