

# SYNERGIZING WEBBED GOVERNOMICS WITH STRATEGIES OF CLIMATE CHANGE

**Ms. Mrinalini Faujdar**

*Research Scholar, Department of Public Administration  
University of Rajasthan*

## **Abstract**

*The only way to move forward, if we are going to improve the quality of environment, is to get everybody involved- Richard Rogers*

*The levity and frigidity of masses towards the disastrous effect of climate change makes the monstrous problem more despotic in nature. The paralyzed climate requires lited efforts not only on global compendium but also on domestic grounds. Frequent droughts, sudden bursts of heavy downpour and unseasonal snowfall cannot be dismissed merely as vagaries of weather but are the result of deteriorated climate. The climate crisis and the current state of our planet demands responses that go beyond technology and finance. A reorientation of thoughts and renewed consciousness is required in every Indian household which rest upon our ancient values and also employ the tools of the present. Governomics is termed as standing up for the government raimenting its statutory accountability. Today's concern reflects the active role of masses along with government to deal with ill effects of climate change. The anthropogenic impact or the most recent term is used anthropocene defined as the era of climate change caused by the human activities describes as the planetary effect of collective action or behavior. The government action are dissipated unless concatenated with the seclusive masses. The paper deals with the progressive efforts of the government to combat the ill effects of climate change accommodating the people's participation.*

**Keywords:** climate change, governomics and people's participation.

## **Introduction**

Climate change is one of the most complex challenges of our young century. No country is immune from this major issue. No government alone can take on interconnected challenges posed by climate change, including daunting technological change and its far reaching consequences. The empowered institutions created to address the issues concerning climate change are not solely sufficient to handle this lion's mouth problem. The

questions related to development to disaster need to be addressed holistically. The question we confront everyday is very fundamental how do we manage to stay alive? Erratic disorders of climate change have dug the grave of the people. Future climate and its impact could well deny to people the access to basic necessities like drinking water in the coming years. The greenhouse effect is causing melting of glaciers that are very precious resources of clean water. Melting would not only destroy the fresh water reservoirs, but it is also projected to cause floods and droughts, reduce the area of the arable land, adversely impact fish and food stocks, erode coastline due to rise of sea levels and trigger large movement of population to safer areas. This all will eventually compromise life on the earth.

The issue of climate change is portrayed as a battle between developed and developing countries. But this insight question is answered as, wrong, the origin of climate change lie principally in the developed economies, but, it affects us all and desired need is to tackle it at all the levels including not only international institutions, the government but also the masses. In the critical areas of technology, energy efficiency and reduction commitments, there is a need for collaboration between the government and the seclusive masses. The policies made by the government will be drowned unless the citizens of the countries make rigorous attempt to reduce the ill effects causing climate change. The reports of the Intergovernmental Panel on Climate Change have made it clear that climate change is happening largely because of human activity. The government is preparing a climate change strategy. The government agenda includes three sections. One international negotiations, second implementation of national action plan at the domestic level and, third research on climate change. The viability of second strategy revolves around the large scale people's participation. People's participation is commonly advocated in policy responses to climate change. Inclusion of broad range of stakeholders is frequently promoted in policy responses to climate change. References such as 'participation', 'stakeholders engagement' and 'bottom up approach' are defined as inclusive governance. The paralytic climate can only be sanitized with the combined effort of government and the people. Participation, as we use here, in the sense of securing active involvement of masses in decision making and action. Such participation marks its importance in formal decision making structure as well as in the deliberative democratic set up that have been advocated particularly in the environmental governance in recent years. The concept of governomics coordinates the participation of masses with the governmental institution and the other agencies. Given, widespread efforts to increase public involvement in many spheres of environmental management, call for an inclusionary approach to mitigate future climate risks has been a logical step. Discarding the tailoring approach of mitigation of climate change, the duo, of government and the people work to strengthen the more sensitive and constructive approaches towards the policies dealing with the climate change.

## Objective

The objective of the paper is to address how human societies contribute to environmental change and how, in turn, become vulnerable to these changes. The paper also explore the steps taken by the government in dealing with issues of climatic oscillations and the combined effort of the people and their ability to cope with those changes ( social resilience). The key objective is to conserve and enhance the environmental resources and to improve environmental governance and capabilities by promoting the peoples participation.

## Review of Literature

**1. Ahluwalia, M. (1997). "Representing communities: The case of a community-based watershed management project in Rajasthan, India." *IDS Bulletin* 28(4): 23-34.** Focusing on a community-based watershed project implemented in Rajasthan, this article applies the tools of environmental entitlements analysis in a project evaluation mode to explore the effects of social difference on project experience and impact. Yet natural resource management remains an arena of conflict: while certain stakeholders have benefited from soil and moisture conservation activities and the enclosure of commons, others - especially pastoralists and women - have faced high costs to their livelihoods.

**2. Akhtar, R. (2010). "El Niño related health hazards in India." *Current Science* 98(2): 144-147.** There is the growing concern of the impact of climate change and variability including rainfall anomaly, rising temperature in mountain areas and occurrence of heat waves in relation to human mortality pattern in India. The paper investigates the historical perspective of rainfall, and discusses current studies to show how climate change and variability resulted in large scale human loss in India.

**3. Attri, S. D. and L. S. Rathore (2003). "Simulation of impact of projected climate change on wheat in India." *International Journal of Climatology* 23(6): 693-705.** Climate change scenarios projected by the middle of the current century, based on the latest studies, were created and the impacts of concurrent changes of temperature and CO<sub>2</sub> on the growth, development and yields of wheat in northwest India were quantified using a state-of-the-art dynamic simulation model.

**4. Boykoff, M. (2010). "Indian media representations of climate change in a threatened journalistic ecosystem." *Climatic Change* 99(1): 17-25.** Mass media translations of climate change predicaments and progress remain key influences that shape discourses and bind considerations for possible climate mitigation and adaptation actions. Assessments of Indian media representational practices against this backdrop of global trends may provide mixed feelings of both hope and despair.

## Methodology

The contribution of this nascent research to the existent literature is fundamental in two respects:

- The research provides underpinning principles about how to involve conceptually the policies designed for climate change with practical thrust.
- It paves way for further research so as to generate data and information that might be crucial for adopting innovations

The topic of research is not new in its origin and its extraction is based on the availability of the secondary data collected from various sources. It is fundamentally qualitative work with content analysis as the research strategy. The inference drawn are projections from the studied material included in developing arguments. The paper opens new vistas for conducting more research in this field. The content analysis of above quoted literature is done with the major idea of elaborating the nuances of policy structure but it is futuristic in nature as it proposes a course of action that might generate more authentic thrust.

## Humans and Climate Change

Climate change also called as global warming, refers to the long term increase in the global temperatures which is currently being observed all around the globe. Climate change is responsible for the swings in weather pattern, potentially increasing the frequency and severity of natural disasters, exposing the most vulnerable communities to personal and financial ruin. Fossil fuel burning and deforestation emerged as the major source of carbon emission. Specific human activities are disturbing the delicate balance of greenhouse gases in the atmosphere resulting in the rise of global temperatures at an alarming rate. Observational data from land and oceans concluded that social, economical and ecological systems are affected by the climate change. Indeed there are compelling, comprehensive and objective evidences that human being are altering the climate that cause threat to ecological and social system. Scientific community is coherent on the fundamental conclusions about climate change:-

- Most of the increase in concentration of greenhouses over the last century is due to human activities particularly the burning fossil fuels and deforestation.
- The combination of the complex climate changes threatens coastal communities, cities and rural systems, our food and water supplies, marine and fresh water ecosystems, forests and high mountain environment.
- The planet earth is warming due to increased concentrations of heat-trapping gases in atmosphere. Snowy winters in some parts do not alter this fact.
- Natural causes always play a role in changing in the earth's climate, but are now being overwhelmed

by anthropogenic changes.

- Warming of the planet will cause many other climatic patterns to change at a speed unprecedented in modern times, including increasing rates of sea level rise and alterations in the hydrologic cycle. Rising concentration of CO<sub>2</sub> are making the ocean more acidic.

Issues related to environment, development, climate change and disasters risks have emerged out of the imbalance which are occurring in the *PANCHTATVA* (air, water, earth, fire and land) with unplanned human interventions. Environment has become more fragile and risks prone. People and the ecosystem have increasingly become more vulnerable. Poor and the vulnerable people will have the large impact. Human societies have evolved through complex interactions of climate and environmental systems. There is an intimate relationship of climate fluctuations and consequent human responses such as migration, adaptation and mitigation. In the entire gamut of environment and development, the peaceful human existence is becoming a major pipe dream.

### **Science Based Policy Option to Deal With Climate Change**

The policy makers should be far careful in realizing that mitigation and adaptation is not static. Rather society requires adaptive policy options to deal with associated uncertainties of climate change. A valuable and comprehensive study on adaptive policy design can be very helpful in this endeavour.

- *Using integrated and forward-looking analysis:* the policies can be made robust to the anticipated problem by identifying the key factors that affect the policy performance and effectively initiate policy measures if required.
- *Monitoring key performance indicators to trigger built-in policy adjustments:* the social, economic and ecological conditions under which a policy must operate can be anticipated through scenario analysis and local monitoring which helps to generate policy adjustments to keep the policy to run smoothly.
- *Undertaking formal policy review and continuous learning:* regular reviews and well designed pilot studies throughout the operation of the policy to test the assumptions related to the performance helps to deal with emerging issues and to trigger the loopholes in the current running policies.
- *Using multi-stakeholder deliberation:* it helps in analyzing the decisions taken before the policy implementation and provides a comprehensive understanding of causal relationships.
- *Enabling self-organization and social networking:* Policies should not undermine existing social capital. Some of the policies respond to social networking, good governance and remove barriers to social organizations.
- *Decentralizing decision making to the lowest and most effective jurisdictional level :* decentralization of authority and responsibility for a full proof decision making in the lowest unit of governance helps

in smooth functioning of decision making.

- *Promoting variation in policy responses:* the policy context are increasingly becoming complex and diverse due to a complex play of social-ecological systems. Therefore, implementing of various science based policy options to address the issue of climate change increases the likelihood of achieving desired outcomes.

These tools are used as pragmatic guide for policymakers working in highly complex, dynamic and uncertain context such as presented by climate change challenges, and the consequent need for robust adaptation and mitigation. One of the overarching insights emerging from the literature assembled here is that climate change poses one of the serious threat to national and international security and also the human security on the other scale. The concept of human security was introduced first by UNDP in 1994 and then developed further in a report by the Human Security Commission, co-chaired by Sadako Ogata and Amartya Sen, in its report Human Security Now (2003). The environmental dimension of human security has been addressed by an international team working on Global Environmental Change and Human Security (GECHS) and in several studies by the United Nations University Institute for Environment and Human Security (UNU-EHS). In February 1999, during its presidency of the United Nations Security Council, Canada, a founding member of the Human Security Network, put human security on the agenda by addressing the impact of armed conflicts on human beings. In March 2005, then UN Secretary General, Kofi Annan, in his report In Larger Freedom<sup>16</sup> wrote of human security in a broad sense, the issue was placed on the agenda of the UN GENERAL ASSEMBLY in the year 2005.

### **Environmental Governance in India**

The pace of infrastructure investments, which could reach \$500 billion in the 12<sup>th</sup> five year plan, calls for integrated and coordinated decision making systems. This is made especially challenging by fragmented policies and multiple institutional legal and economic planning frameworks, with often conflicting objectives and approaches.

India is highly vulnerable to climate change due to combination of:

- High levels of poverty
- Population density
- High reliance on natural resources
- An environment which is already under stress

By mid-century, the mean annual temperature in India is projected to increase 1.1 degree Celsius to 2.3 degree Celsius under the moderate climate change scenario of the Intergovernmental Panel On Climate Change with

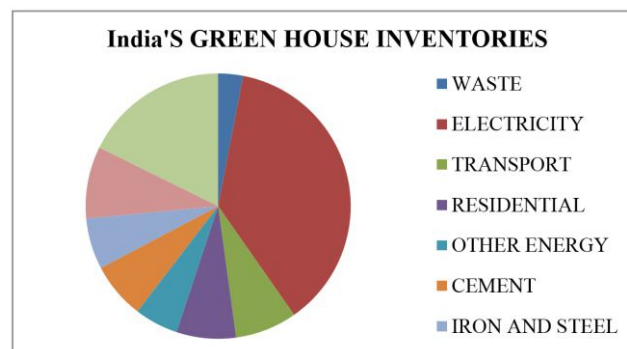
anticipated deterioration of agro-climatic conditions. Reflecting the size of its economy and population India is ranked as the sixth largest emitter of greenhouse gases in the world. But India is classified as a low carbon economy. It has

- A low intensity of emissions per unit of GDP.
- Per capita emissions that are among the lowest in the world.
- Indian forest cover is by far more stabilized than rest of the country.

But India's emissions are set to grow substantially due to its sustained economic growth. The government of India has made a substantial effort to address the environmental concerns in a more comprehensive and integrated manner. The government has enacted stringent environmental legislation and has created several institutions to monitor the better implementation of the programmes framed by the government. The National Environmental Policy recognizes the value of harnessing market forces and incentives as the part of the regulatory tool kit, and India is one of only three countries worldwide which has established a Green Tribunal to exclusively handle environmental litigation. On the environmental governance, the Government of India is contemplating the establishment of the National Appraisal and Monitoring Authority to carry out the environmental appraisal. In the eleventh five year plan, the government issued regulations to promote an integrated and inclusive approach to coastal zone planning and the sound management of hazardous wastes, issued a number of critical policies and established a Wildlife Crime control Bureau to supplement existing conservation measures for species at risk, such as tigers.

### Climate Change Mitigation

International protocols and conventions on climate change namely, United Nations Framework Convention on Climate Change and Kyoto protocol are binding on all the countries of the world to make greenhouse inventories for taking action towards stabilization of CO<sub>2</sub> concentration in the atmosphere. In the Copenhagen Summit, India volunteered GDP intensity reduction of 20-25% by 2020 from 2005 level. In the Post Kyoto phase, UN secretariat has desired all countries to give their Intended Nationally Determined Contributions (INDCs).



Source- World resource report, 2010

These INDCs were finalized during the Paris Summit in December 2015. India's stated objectives were:

- To bring down GDP intensity reduction of 30-35% by 2030 level from 2005 level.
- To have 40% non-fossil fuel based electricity capacity
- To add carbon sinks for 2.5-3 billion tons of carbon dioxide by 2030

### **Questions which need to be Addressed**

- How do different sectors contribute in different types of greenhouse gases?
- How to reduce these contributions?
- What are the policies needed to mitigate climate change?
- How to make people aware about the side effects of climate change and increase their cooperation to overcome this critical problem?

### **Climate Change Mitigation**

Integration of pathways of mitigation of those of adaptation and sustainable development is needed to tackle the problem of climate change. It is known that synergies between adaptation and mitigation strategies exist, but they have to be exploited. India should emphasize on 'common but differentiated responsibility' for mitigation and adaptation of climate change at global level as many developed countries committed historical wrongs during their colonial rule, hence efforts are to be made at national as well state level to reduce carbon emission. India should opt for following options for both mitigation and adaptation:

- Renewable sources should be given the topmost priority.
- Nuclear power is not safe for long term; hence it may be avoided.
- Promotion of public and private investment.
- All states should prepare full proof and comprehensive State Action Plans on climate change.
- As per article 12 of Kyoto protocol, there is carbon market for global reduction of carbon/greenhouse gas emissions through sale and purchase of credits this is called as 'clean development mechanism'.
- A national Adaptation Fund with a corpus of Rs.100 crores has been set up by government of India to support adaptation actions to combat the major challenge of climate change.
- Involvement of people at large scale in various programmes like 'swach bharat abhiyan' etc
- Proper implementation of carbon trading, carbon sequestration and clean coal technology.

The IPCC report says that effective adaptation and adaptive capacity in Asia, particularly in developing countries, will continue to be limited by several ecological, social and economic, technical and political constraints including spatial and temporal uncertainties associated with forecasts of regional climate, low



level awareness among people, little enthusiasm among decision makers and limited national capacities.

### Steps Already Taken

- BEE ratings have already been introduced for electrical appliances.
- Bharat iv emission norms for all 4 wheelers are introduced since 2010
- India has set up the Ministry of New and Renewable Energy, which provides funds for developing new sources of energy
- Asia's largest solar pond has been set up in BHUJ GUJRAT and largest solar power plant is installed in Rajasthan
- Introduction of programs like 'swach bharat abhiyaan' to involve the local people involvement of indigenous people and tribals to save land and forests cover of the country
- Establishment of Ocean Thermal Energy Plant in Kerela.
- Announcement of odd-even scheme by the Delhi government on cars to reduce the pollution levels.
- New website on climate change launch-[www.justclimateaction.org](http://www.justclimateaction.org) to put Indias stand on Paris summit

India has announced a National Biofuel Policy, by which, biofuels will be grown on non-agricultural land, using the plant Jatropha.

### Conclusion

It is widely agreed by the scientific community that climate change is an reality which poses serious threat to human lives. Effective formulation and implementation of policies are not effective unless advanced people's participation is promoted. The constitution has provided fundamental rights to the people to safeguard their lives and freedom. But fundamental duties also ensure the duties and responsibilities of the people to safeguard and protect the environment. Legislations results in failure unless duly accepted by the domestic people. The government runs effective measures to combat climate change only with the cooperation of the people. Climate change can be a mega catastrophe if we do not take action now, both in the area of adaptation and mitigation including the masses.

### WORKS CITED

1. Pandey, D. N., Equity in climate change treaty, Current Science, 86, 272-281, 2004.
2. J. S. Famiglietti, Satellite-based estimates of groundwater depletion in India, Nature, 460, 999-1002, 2009.
3. Kanitkar, D'Souza .M. Carbon budgets for climate change mitigation, current science, 104(9), 2013

4. Pradhan, B.K. and Dhar. Climate agreements in India: aligning options and opportunities on a new track. International Environment Agreements: politics, law and economics, 2011.
5. Pandey, N., Carbon sequestration in agroforestry systems, Climate Policy, 2, 367-377, 2002.
6. Pandey, N., Multifunctional agroforestry systems in India, Current Science, 92, 455-463, 2002.
7. UN sustainable developmental goals, United Nations <http://www.un.org/sustainabledevelopment/sustainable-development-goals>.
8. Stern, N. Stern Review on the economics of Climate Change. Cambridge, Cambridge University Press, 2007
9. World Bank. World development report, 2008.
10. [www.ndma.gov.in](http://www.ndma.gov.in) pp80
11. <http://www.jstor.org/stable/4194803>
12. [www.nssso.gov.in](http://www.nssso.gov.in)