

## CONTRIBUTORS

Soumya Swaminathan  
Suman Sahai  
Barron Joseph Orr  
Bharat Dogra  
K. J. Joy  
Nitoo Das  
Ayeshe Sadr  
Ghazala Shahabuddin  
Nishant M. Srinivasaiah  
Kaveri K. Iychettira  
Jhuma Datta  
Anindya Sinha  
Lavanya Rajamani  
Janki Andharia  
Paulina Lopez  
Madhuri Ramesh  
Navtej Singh Johar  
Srinivas Vaidyanathan  
Navroz K. Dubash  
Pradeep Kumar Monga  
Wagaki Wischnewski  
Raman Sukumar  
Soumya Dutta  
Nitya Rao  
Ravi Agarwal  
Sagar Dhara  
Vandana Singh  
Veena Srinivasan  
Poornima Prabhakaran  
Uttam Kumar Sinha  
Aravindhnan Nagarajan

# WeatherReport

THE CRISIS OF  
CLIMATE CHANGE

# WeatherReport

THE CRISIS OF  
CLIMATE CHANGE

IIC  
Quarternly

WINTER 2019  
SPRING 2020



India International Centre  
REGISTERED WITH THE REGISTRAR  
OF NEWSPAPERS OF INDIA UNDER  
R N 26757/74

IIC  
WINTER 2019  
SPRING 2020  
Quarternly

IIC  
WINTER 2019  
SPRING 2020  
Quarternly

# THE POSSIBILITY OF ACTING IN CLIMATE CHANGE

A Gandhian Perspective

PAULINA  
LOPEZ  
RAVI  
AGARWAL

## INTRODUCTION

**H**ardly a week goes by without a major news story about the threatened destruction of a valuable natural resource (Ostrom, 1990). These are the opening lines of *Governing the Commons: The Evolution of Institutions for Collective Action*, in which Elinor Ostrom (awarded the Nobel Prize in Economics in 2009) provided a crucial path to mitigate climate change and adapt to its impacts. On the one hand she informs us about the depletion of natural resources as a consequence of overconsumption, while, on the other, she expresses a more optimistic view than that proposed by Garrett Hardin (1968). Ostrom suggests that local communities have the capacity to implement effective systems for collective action, and reach a balance between consumption and resource availability. From this perspective, local action becomes essential to face the challenges of climate change.

Indeed, the capacity to self-organise and adapt to stresses and changes are two important dimensions of resilience.<sup>1</sup> Furthermore, there is a growing appeal from the scientific community and policy makers to promote Community Based Adaptation to climate change (McNamara and Buggy, 2016), which embodies small-scale and grassroots-driven adaptation practices.

Notwithstanding Ostrom's valuable contribution, even 30 years after the publication of her book we have still not been able to stop global warming, and face enormous difficulties in adapting to a highly disturbed environment. Indeed, the detection of the highest air temperature (~18°C) in the White Continent, since records exist,

and the recent rupture (February 2020) of the Pine Island glacier in West Antarctica, which released an iceberg of 300 km<sup>2</sup>, are further evidence. In fact, the burning of fossil fuels and greenhouse gas (GHG) emissions have not ceased to increase since the Industrial Revolution. In particular, carbon dioxide (CO<sub>2</sub>) emissions have currently reached 400 ppm. Consequently, the global temperature of the earth has risen by 1.1°C since 1850, and future projections indicate that global mean surface temperatures will increase in ranges from 0.3/1.7°C to 2.6/4.8°C for the years 2081–2100, relative to 1986–2005.<sup>2</sup>

Despite awareness of the serious impacts of climate change, why has the consumption of natural resources remained unabated? How can awareness of these facts and a lack of action coexist? The involvement of the capitalist system in climate change has been widely recognised (Barry, 2012; Storm, 2009). An imperative of economic growth, driven by capitalism, it has pushed people to consume more and more. As a result, natural resources are depleting and the climate system has already been severely affected. This system has also created inequalities and concentrations of wealth, besides being ecologically unsustainable. Yet, it is still in force.

Facilitated by a process of globalisation and an increasingly free circulation of capital (Köse and Senses, 2007), the capitalist system has only been strengthened and expanded—there is no part of the world that can escape from this (Nkrumah, 1966). It seems easier to accept climate change than to modify capitalism (Latour, 2017). It has apparently transgressed control by states, and left individuals without an agency to counter it. The omnipresence of capitalism—which is neither a political philosophy nor an economic doctrine, but a system, an organisation of society—seems to be accepted by all. We are both its victims and beneficiaries. However, considering that our lifestyles are not sustainable, something must be done. One thing is certain: we will be compelled to adapt to changes in the environments in which we live.

A central problem has been the ineffectiveness of actions to combat climate change. Attempts to reach agreements aimed at reducing GHG emissions, and policies formulated to mitigate and adapt, have clearly not led to real and effective enough solutions. Consequently, we live in fear of the end of the world, exacerbated by the growing evidence of natural catastrophes and a scarcity of

essential resources. Instead of collective action, based on common objectives, there has been inertia and passivity.

This disconnect between the response and dimensions of the crisis is rooted in an understanding of the very problem. Climate change confronts us with great complexity. It affects all countries of the world: it is multi-sectoral, involving political, economic and social sectors; and it is multi-actor, since it involves the largest possible network of actors—all the inhabitants of the planet. Additionally, the impacts of climate change are present at different spatial and temporal scales. Therefore, its analysis requires a wide range of perspectives.

### **FRAMING CLIMATE CHANGE**

The foundation of this work is based on the ideas of conflict transformation proposed by Lederach (2003). Dealing with conflicts, and with potential conflicts, it includes a mapping of actors and their relationships to understand the broader pattern, and its gaps and transformative potential. Using a bottom-up approach, it focuses on the question, 'what we want to build', as a fundamental step to solve problems at the root and change behaviours. By treating climate change as an inherent conflict between knowledge and action, this framework provides a potential way forward. This examination proposes the framing of the current picture of climate change, subsequently modified based on Gandhi's thoughts. In both cases, actors, the manner in which they are related and their functions have been taken into consideration, with special emphasis on the relevance of scientists, and the creation of knowledge through science.

### **THE CURRENT PICTURE**

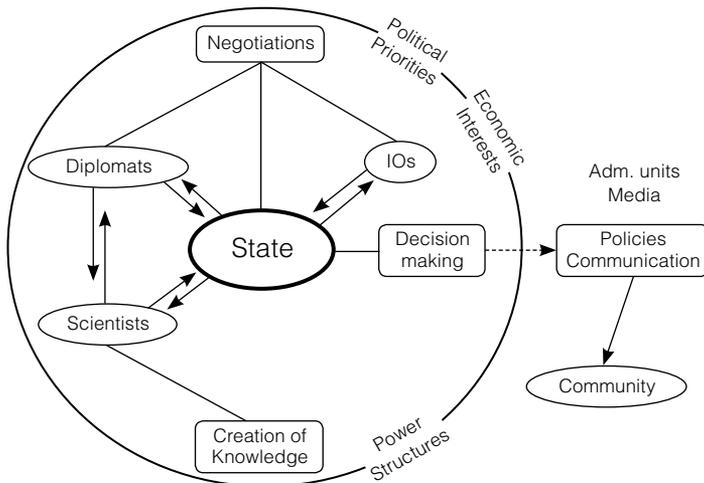
Figure 1 represents the principal actors currently responsible for framing climate change, their main functions and interactions. The state is located in the middle of the figure, since, at the national level, it is the only actor with the authority to make decisions on behalf of a country, and therefore has utmost importance. At the interstate level, besides the state, two prominent actors come to the fore: diplomats and international organisations (IOs). The diplomatic body represents the state, particularly in international negotiations, and contributes to the peaceful resolution of conflicts.

International organisations are established with the aim of pursuing the common interests of their members (Archer, 2001).

In the figure, the arrows represent interactions that take place between the mentioned actors. Arrows pointing in opposite directions depict a feedback between actors, i.e., their exchanges are synergic. However, when an arrow is uni-directional, it refers to unilateral action.

All the aforementioned actors, as well as their functions and interactions, are circumscribed in a circle that represents the closed environment in which these operations are performed. The system that develops inside ‘the circle’ is defined as ‘closed’ for two main reasons: the characteristics of the actors, and the structures that surround them. Indeed, actors share exclusive common characteristics: (i) all of them are skilled; (ii) they have received professional training, generally from institutions of the best standards, and reach high academic levels; (iii) as climate change is a global problem, the interactions are developed at the international level—therefore, a basic condition is advanced language skills (i.e., English); (iv) around each actor is a proper professional environment, through which is managed specific codes to interact with peers; and (v) they all belong to similar socio-economic conditions.

Figure 1: Representation of the main actors, their functions in the past, and current interactions related to climate change



Once the state follows the interactions as described, and carries out network-fed decision-making, it traverses ‘the circle’ in order to communicate its policies to the community. However, there is a disconnect between the delivered messages and the reality imposed by power structures (caste, race, gender, etc.), economic interests, political priorities, as well as the perspectives of economic and social development, which reinforce ‘the circle’. Indeed, in order to apply policies, there must be institutions, investments, laws, means, appropriate governance, etc., to explain and implement them.

To give an example of a disconnect in policy: several investigations have shown that extensive, large-scale agriculture is not compatible with the measures needed to combat climate change. To reduce the environmental footprint and protect biodiversity, policy makers and IOs, such as the Food and Agriculture Organization (FAO), have been promoting agro-ecology. On the ground, however, the small, marginal farmer in India<sup>3</sup> trying to meet daily family needs, and with access to subsidies for fertilisers as well as free groundwater, has little incentive to adopt agro-ecology.

The creation of knowledge is located at the bottom of Figure 1, because it provides the basis for the arguments used in the chain of operations carried out within ‘the circle’. Thus, it supports the state, the diplomatic body and IOs in negotiations and in decision making by furnishing expertise and information. This function is reserved exclusively for scientists. We may say then that science and scientists are the foundation of the system, thus playing a major role in framing the idea of climate change.

The influence of science in the formation of ideas related to climate change is based on the strong cultural belief that science is the bearer of truth. Moreover, the way in which science is developed (its objectives, principles and methods) acts upon our understanding of climate change. Indeed, the philosophical idea behind the definition of science today has been strongly influenced by Cartesianism since the 17th century, and in particular through *Discours de la Méthode* (Discourse on Method), published by René Descartes in 1637 (2011). This philosophical current sought truth by means of science-based deductive reasoning, thus marking a break with Scholasticism. Later, during Enlightenment, faith in science was reinforced. This philosophical standpoint determined

the epistemological perspective from which science has been developed. In that sense, one of its most characteristic aspects is the division of disciplines—the separation of exact sciences, human sciences and philosophy. This trend, which has increased over time, has led to a multiplication of specialisations, dividing the world and its complexity into increasingly smaller parcels.

It is not surprising, then, that ever since the first projections of global warming, science and scientists have been placed in the first line of discussion. Initially, scientific research focused on two main aspects: determining the magnitude of global warming through the quantification of the earth's temperature, and elucidating the origin of GHG emissions in order to assess whether or not main contributions have come from anthropogenic activities, especially those related to the burning of fossil fuel. These questions have raised major political debates, since they are closely related to economic interests (especially for great and middle powers), because countries have been expected to reduce their GHG emissions, targeted as the most important measure to decrease global earth temperature.

The main tool for that campaign has been international negotiations, leading to global agreements. The Earth Summit, held in Rio de Janeiro in 1992, was particularly important since the foundational United Nations Framework Convention on Climate Change (UNFCCC) was signed. From then on, the Conference of Parties (COP) has met annually: COP-1 (1995) took place in Berlin, and the most recent COP-25 (2019) was held in Madrid.

Scientific knowledge has been the crucial feature underlying agreements, by shaping negotiations. One example is epistemic communities, defined as networks of professionals with recognised expertise and competence in a particular domain, and an authoritative claim to policy-relevant knowledge; they have a shared set of normative beliefs and frame issues for collective debate, propose specific policies and identify salient dimensions (Haas, 1992). The epistemic community exerts an indirect influence to help bring about agreement (Sebenius, 1992). Unquestionably, scientific knowledge plays a vital and strategic role in those discussions.

The Intergovernmental Panel on Climate Change (IPCC)—implemented by the United Nations Environment Programme (UNEP), and the World Meteorological Organization (WMO) in 1988—provided the required knowledge on the state of the climate

for the negotiations. This epistemic community and its network of approximately a thousand scientists is governed by principles that are common to all its members (restricted to the country members of the UN and WMO): scientific integrity, objectivity, openness and transparency (Hulme and Mahoni, 2010). Besides the valuable knowledge about climate change that IPCC has produced, it plays a major political role. According to Adler and Haas (1992), the greater the extent to which epistemic communities are mobilised and are able to gain influence in their respective nation states, the greater is the likelihood that nation states will, in turn, exert power on behalf of the values and practices promoted by those communities, and will thus help in their international institutionalisation.

In summary, since the beginning, the issues related to climate change have been treated mainly at the international level and through interstate relations. Thus, negotiations became the most substantial interactions. In that manner, climate change has been conceptualised as an essentially political and economic problem, with the states being mainly responsible, leading to a perception of ‘otherness’ among communities. Moreover, the rationale is usually embodied in documents written in a technical language not comprehensible by all. Usually, explanations to the general public are widely provided by newspapers or social media with a clear tendency to sensationalism, narrowing the issue to descriptions of natural catastrophes.

### **THE PICTURE ACCORDING TO GANDHI**

Such framings of climate change have hampered collective responses. Generally, communities have been relegated to being recipients of ideas and policies that are not necessarily in agreement with their capacities, needs and real priorities. In fact, the space provided to civil society during climate negotiations is very small.

Considering climate change’s greater urgency today, all efforts should logically be brought together, regardless of their origin. Therefore, it is essential to make the processes of understanding, decision making and communication more grounded in community, moving away from the international to the local and individual level. Here, Gandhi’s ideas provide an important approach to not only understand *why* integrating communities is crucial, but also *how* they can be included as active actors.

In *Hind Swaraj*, Gandhi (1938) provides his view of real progress where communities have the capacity to build an equal and sustainable economic system from below. Gandhi argued that there is a connection between means and end. For him truth, non-violence and passive resistance founded in love are the most effective ways to combat injustice, inequality and conflict resolution. Swaraj (according to Gandhi) means learning to rule ourselves, as a moral experience of each individual, a standpoint which includes Nature. In that sense, Gandhi's ideas suggest that local production, and moderate consumption according to the basic needs of each individual, would allow the maintenance of a balance with our environment. He proposed a minimal use of machines as harmful to humanity, since they lead to an overconsumption of natural resources. Gandhi's message is mainly addressed to individuals, by pointing to their abilities and responsibilities in local communities. The notion of right and duty is also a fundamental aspect that addresses climate change and raises the question of lifestyle changes.

Indeed, in the state-centric approach, which pins responsibility solely on states, individuals are relegated to the status of non-thinking entities incapable of making any change. Moreover, as the failures in outcomes of climate negotiations have shown, resting solely on the decision-making capacity of states is not an effective way to achieve solutions. Indeed, states have demonstrated a lack of capacity for cooperation since their national interest, defined in terms of power, has prevailed. In Gandhi's view, communities are the essential bedrock of the nation and the global—that which is true for families and communities is true for nations. In Gandhi's imagined communities, each individual follows his own occupation in small villages. The nation has a constitution, courts, lawyers and doctors—all as equal to any other worker.

However, despite the richness and relevance of Gandhi's messages, their application in our societies seems impossible. Not only do they imply a radical change in our lifestyles, they are also strongly based on religious belief and suggest a modification of the capitalistic political economy of the current international system as well. Notwithstanding these huge obstacles, they are relevant to climate change issues. In that sense, instead of thinking about complete application, one possibility is to start by taking small steps.

Gandhi's ideas of science provide an encouraging entry point to the question of how communities can be integrated as active actors in climate change. Indeed, Gandhi thought of science as moral (Prasad, 2001), and, in that sense, he believed it ought to be oriented for the welfare of the poor (Khoshoo and Moolakkattu, 2009).

In fact, Gandhi understood science as integral to the individual to such an extent that, according to Prasad (2001), he saw himself as a scientist constantly doing experiments (e.g., brahmacharya and food). Furthermore, Gandhi frequently resorted not only to science, but to theories of scientists as well, which he used to express or reinforce his own ideas. For example, during a speech in a meeting organised by the Muir Central College Economic Society in 1916, he referred to Alfred Russel Wallace, a scientist well known for his contribution to the development of the theory of evolution and belief in an intangible origin (Parel, 1997).

Gandhi suggested that science ought to be practised by everyone without any distinctions—of expert and layman, or of elite and subaltern—giving more importance to a research attitude, rather than scientific qualifications (Khoshoo and Moolakkattu, 2009). That is to say, with regard to the creation of scientific knowledge, every person or every worker is recognised as *part of the scientific process* without replacing the specific expertise of everyone, including that of scientists.

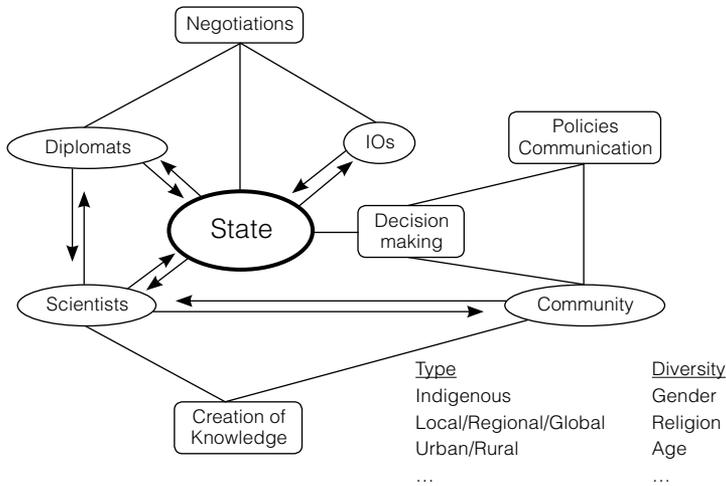
Similarly, regarding the popularisation of science (Prasad, 2001), Gandhi suggested that knowledge cannot be transferred from the expert to the lay person, but has to be a collaborative effort in which science can benefit from the process as well (Khoshoo and Moolakkattu, 2009), encouraging science to turn to the community.

As earlier mentioned, the creation of knowledge has provided the basis of all interactions related to climate change. Communities should participate not only as recipients, but also as constructors of the idea of climate change by bringing the testimonies of their realities (social, economic, political, cultural, etc.), and the knowledge they generate.

Integrating communities with the scientific process enables them to become active actors in decision making and can change their understanding of the problem. Thus, the perception of otherness could be replaced. By being part of the process, they would be transformed from objects of study to actors with their

own identity. From that standpoint, communities can comprehend that which is at stake, and the meaning of adaptation to climate change impacts. As community (along with scientists, diplomats, IOs and the state) would be part of the definition of policies, the implementation of those policies would be far more effective.

Figure 2: Representation of the main actors, their functions and interactions related to climate change from Gandhi's perspective



By changing the process thus, a new mapping of relationships could be imagined (Figure 2). In this new configuration, the circle in Figure 1 disappears, leaving the space open, recognising it as dynamic, flexible and changing. The diversity of communities themselves could be considered, and their own understanding of nature and the knowledge they create by means of their experience on the ground acknowledged. This new synergy could create a more conscious awareness through the development of a more holistic science and, by extension, a richer and more apt knowledge to face the challenges imposed by climate change.

### CONCLUSION

The gap between the enormity of the crisis of climate change and its deep implications for the future, and the lack of proportionate response needs to be examined as a fundamental problem of the manner in which scientific knowledge is produced, the development

of its subsequent policy processes, and its communication. Gandhian ideas on including communities both for the production of science as well as its implication for ownership of the issue from a ground-up perspective, suggest new partnerships and an equitable and effective way forward. Climate change is also an opportunity to reconsider problematic top-down frameworks for more cooperative approaches.



## NOTES

1. See IPCC, 2014. *Climate Change 2014. Mitigation of Climate Change. Summary for Policymakers*. Geneva, Intergovernmental Panel on Climate Change.
2. *Ibid.*
3. See Government of India, 2019. 'Agriculture Census 2015–2016 (Phase-I).' New Delhi: Government of India. 86 per cent of all farmers in India have less than two hectares of land and account for 47 per cent of the crop area.

## REFERENCES

- Adler, E. and P Haas. 1992. 'Conclusion: Epistemic Communities, World Order, and the Creation of a Reflective Research Program', *International Organization*, 46: 367–90.
- Archer, C. 2001. *International Organization*. Taylor & Francis e-Library.
- Barry, J. 2012. 'Climate Change, "The Cancer Stage of Capitalism" and the Return of Limits to Growth: Towards a Political Economy of Sustainability', in M. Pelling, D. Manuel-Navarrete and M. Redclift. (eds.), *Climate Change and the Crisis of Capitalism: A Chance to Reclaim, Self, Society and Nature*. London: Taylor and Francis.
- Descartes, R. 2011. *Discours de la méthode (1637)*. Édition électronique (ePub), Les Échos du Maquis.
- Gandhi, M. K. 1938. *Indian Home Rule or Hind Swaraj*. Ahmedabad: Navajivan Publishing House.
- Haas, P. 1992. 'Introduction: Epistemic Communities and International Policy Coordination', *International Organization*, 46: 1–35.
- Hardin, G. 1968. 'The Tragedy of the Commons', *Science*, 162: 1243–48.
- Hulme, M. and M. Mahoni. 2010. 'Climate Change: What do We Know About the IPCC?', *Progress in Physical Geography*, 34: 705–18.
- Khosho, T. and J. Moolakkattu. 2009. *Mahatma Gandhi and the Environment: Analysing Gandhian Environmental Thought*. New Delhi: The Energy and Resources Institute.
- Köse, A. and F Senses. 2007. *Neoliberal Globalization as New Imperialism: Case Studies on Reconstruction of the Periphery*. New York: Nova Science Publishers, Inc.

- Latour, B. 2017. *Où atterrir ? Comment s'orienter en politique*. Paris: La Découverte.
- Lederach, P. 2003. *Little Book of Conflict Transformation: Clear Articulation of the Guiding Principles by a Pioneer in the Field (The Little Books of Justice and Peacebuilding Series)*. US: Good Books.
- McNamara, K. E. and L. Buggy. 2016. 'Community-based Climate Change Adaptation: A Review of Academic Literature', *Local Environment: The International Journal of Justice and Sustainability*, 22 (4): 443–60. doi: 10.1080/13549839.2016.1216954
- Nkrumah, K. 1966. *Neo-Colonialism. The Last Stage of Imperialism*. New York: International Publishers.
- Ostrom, E. 1990. *Governing the Commons: The Evolution of Institutions for Collective Action*. US: Cambridge University Press.
- Parel, A. (ed.) 1997. *Gandhi: 'Hind Swaraj' and Other Writings*. New York: Cambridge University Press.
- Prasad, S. 2001. 'Towards an Understanding of Gandhi's Views on Science', *Economic and Political Weekly Review of Science Studies*, 36: 3721–32.
- Sebenius, J. 1992. 'Challenging Conventional Explanations of International Cooperation: Negotiation Analysis and the Case of Epistemic Communities', *International Organization*, 46: 323–65.
- Storm, S. 2009. 'Capitalism and Climate Change: Can the Invisible Hand Adjust the Natural Thermostat?', *Development and Change*, 40: 1011–38.

