

## **Adaptation, development and sustainability nexus: How to attain inclusive growth and a secure future?**

*Himangana GUPTA*

National Consultant (UNDP),  
Ministry of Environment, Forest and Climate Change,  
Government of India,  
New Delhi - 110003

*e-mail: [himangana@gmail.com](mailto:himangana@gmail.com)*

**ABSTRACT:** Climate change, adaptation and sustainable development are inextricably linked. These issues haunt the developing world Parties to the multilateral environmental agreements, who are trying hard to implement policies and plans within their national jurisdictions. These policies are required to be linked with overall economic growth and development objectives. With limited technical workforce and financial capacity, the developing world is facing a grave challenge of attaining inclusive growth and sustainable development, besides developing resilience to climate change. A parallel stream of activities for these three objectives is not the solution for poor countries. Some countries are already on the path of establishing linkages among climate change, development and sustainability activities. However, while grappling with these issues, most are still stuck at different levels of governance. Sustainable Development Goals (SDGs) and Nationally Determined Contributions (NDCs) under the United Nations Framework Convention on Climate Change (UNFCCC) have timelines until 2030. At least 60% of the NDCs, mostly those of the developing countries, contain an adaptation component which is closely linked to sustainable development. Convergence of NDC and SDG goals at the national level will assist in financing NDCs through SDG funds for achieving both mitigation and adaptation goals. The paper discusses barriers to good governance around these issues and opportunities available to link them at the national level. This includes improvement of knowledge base, and mainstreaming finance for both, adaptation and sustainable development, besides serving national needs. The trick is to include adaptation and sustainability into the developmental planning.

**KEYWORDS:** Climate change; adaptation; sustainable development; capacity; finance.

### **Introduction**

Climate change, adaptation and sustainable development are intimately linked. These linkages have been clearly recorded in Article 2 (Objective) and Article 3 (Principles) of the UNFCCC text<sup>1</sup>. Climate change and sustainable development interact in a circular fashion: Climate change will have an impact on prospects for sustainable development, and in turn, alternative development paths will affect future climate change. Seen from the development viewpoint, climate change vulnerability, impacts and adaptation are the main elements of concern. From the climate perspective, development pathways also determine emission levels and have implications for mitigation strategies.<sup>2</sup> Efforts to cope with the impacts of climate change and attempts to promote sustainable development share common goals and determinants including

<sup>1</sup>United Nations, (1992), United Nations Framework Convention on Climate Change, <http://unfccc.int/resource/docs/convkp/conveng.pdf>.

<sup>2</sup> Mohan Munasinghe, 'Climate Change and Sustainable Development Linkages: Points of Departure from IPCC TAR' (Geneva, Switzerland: Munasinghe Institute for Development, 2007), <https://pdfs.semanticscholar.org/2b95/9407c0019844a6b5ee23917e562ef80e25bc.pdf>.

access to resources (including information and technology), equity in the distribution of resources, stocks of human and social capital, access to risk-sharing mechanisms and abilities of decision-support mechanisms to cope with uncertainty<sup>3</sup>.

Both These issues haunt the developing world Parties to the much talked about multilateral environmental agreements as they try hard to implement policies and plans within their national jurisdictions. These policies require to be linked with overall economic growth and development objectives. With limited technical workforce and financial capacity, the developing world faces challenges in attaining inclusive growth and sustainable development, besides developing resilience to climate change. Linking the concept of sustainable development to climate change provides an opportunity to explore long-term balanced societal responses with global environmental change.<sup>4</sup> Most developing countries at the current time are stuck at different levels of governance. Implementing both the concerns in tandem is testing the limited technical know-how and financial capacity of the developing countries.

Though some synergies already exist between climate change policies and the sustainable development agenda in developing countries, such as energy efficiency, renewable energy, transport and sustainable land-use policies, more needs to be done to build synergies among levels of governance with a more decentralized approach within the national jurisdiction. Limiting global climate change to 'safe' levels in the long-term is likely to require connecting climate change policies to sustainable development strategies in both developing and industrialised countries. An exploration of linkages between climate change and sustainable development from a developing country perspective must start by considering local and regional circumstances and policy contexts. The social dimension of sustainability raises a number of 'fairness' issues in the context of climate change.<sup>5</sup>

Sustainable Development Goals (SDGs) and Nationally Determined Contributions (NDCs) under the UNFCCC have timelines until 2030. As many as 60 per cent of the NDCs, mostly those of the developing countries, contain an adaptation component closely linked to sustainable development. Convergence of NDC and SDG goals at the national level will assist in financing NDCs through SDG funds for achieving both mitigation and adaptation goals.

Developing nations are more vulnerable because of their greater reliance on agriculture, lower tolerance to coastal and water resource changes, and lower financial, technical, and institutional capacity to adapt. Although sustainable development may reduce this vulnerability, but question remains whether development could occur fast enough to make a difference<sup>6</sup>. The issue of adaptation to climate change is one of the top concerns in West Africa<sup>7</sup>.

The following discussion presents barriers to good governance around these issues and the opportunities available to link them at the national level. This includes improvement of knowledge base, and mainstreaming finance for both, adaptation and sustainable development,

---

<sup>3</sup> G. Yohe et al., 'Perspectives on Climate Change and Sustainability. Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change' (Cambridge: IPCC, 2007).

<sup>4</sup> John Robinson et al., 'Climate Change and Sustainable Development: Realizing the Opportunity', *AMBIO: A Journal of the Human Environment* 35, no. 1 (2006): 2–9.

<sup>5</sup> Tariq Banuri et al., 'Equity and Social Considerations', *Climate Change*, 1995, 79–124; Steve Rayner and Elizabeth L. Malone, 'Security, Governance, and the Environment', in *Environment and Security: Discourses and Practices*, ed. Miriam R. Lowi and Brian R. Shaw, International Political Economy Series (London: Palgrave Macmillan UK, 2000), 49–65, [https://doi.org/10.1057/9780230596634\\_4](https://doi.org/10.1057/9780230596634_4).

<sup>6</sup> Noreen Beg et al., 'Linkages between Climate Change and Sustainable Development', *Climate Policy* 2, no. 2–3 (1 January 2002): 129–44, <https://doi.org/10.3763/cpol.2002.0216>.

<sup>7</sup> F. Denton, Y. Sokona, and J. P. Thomas, *Climate Change and Sustainable Development Strategies in the Making: What Should West African Countries Should Expect* (OECD, 2002).

besides also serving national needs. Tweaking the current governance structures to include adaptation and sustainability into the developmental planning will positively affect other challenges faced by developing countries.

## 1. Challenges

The main challenges for developing countries in addressing climate related adaptation and sustainability issues are governance, capacity, and finance, knowledge and technological gaps. One reason for this state of affairs, especially in the developing countries, is that environment is not on the election agenda of political parties. Mainstreaming of finance for adaptation and developmental needs is a far-fetched dream until policy makers are driven by both environmental and public interest. Most development based policies lack long term sustainability studies and often end up as stranded assets due environmental vagaries. Adaptations to support sustainable practices, including mitigation strategies, have posed challenges to the developing economies.<sup>8</sup>

### 1.1. Governance

Governance refers to “institutionalized modes of coordinating societal activities toward collectively binding rules and/or the provision of collective goods for a defined group of people”<sup>9</sup>. The authors clarify that contrary to the broader definition of governance by Williamson<sup>10</sup>, the market itself is not a governance structure. “The famous baker of Adam Smith, who bakes bread out of self-interest and thereby contributes to food security, would not, therefore, perform a governance function.”

The developing countries mainly face four types of barriers to good governance: Information barrier, communication barrier, institutional/infrastructural barrier, and regulatory barrier. Key obstacles to good governance are corruption, inefficiency of bureaucracy, nepotism, politicization in public administration, improper use of resources, and poor planning strategy. Corruption diminishes the ability of law enforcement agencies to accomplish its mission. Capacity of policy implementation accountability and transparency is low in bureaucracies of developing countries is poor compared to developed economies. Nepotism: Privilege and unfair advantage to family members and kin of high officials is practiced widely in many countries. Improper and selective application of the rule of law in favour of privileged people is very common. Decentralisation and funding is not utilized properly and very often get diverted for other purposes, with the result that target groups are not covered properly. Improper planning in the use of resources results in scarcity.

### 1.2. Capacity

Apart from good governance, capacity building is equally needed to streamline activities for climate change and sustainable development. Developing countries lack financial, negotiating, and knowledge capacity. They also lack technological manpower and institutions.

#### 1.2.1. Finance

Current investments in adaptation to climate change are a fraction of what is required to avoid costly and disastrous future impacts. The costs of adaptation in developing countries is

---

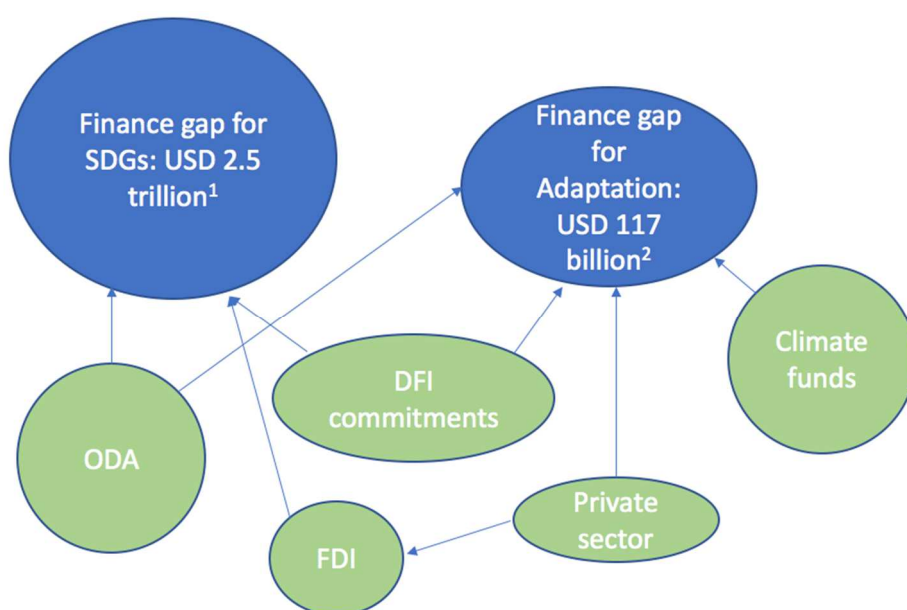
<sup>8</sup> Rajah Rasiah et al., ‘Climate Change and Sustainable Development Issues: Arguments and Policy Initiatives’, *Journal of the Asia Pacific Economy* 23, no. 2 (3 April 2018): 187–94, <https://doi.org/10.1080/13547860.2018.1442140>.

<sup>9</sup> Thomas Risse and Ursula Lehmkuhl, ‘Governance in Räumen Begrenzter Staatlichkeit: Anmerkungen Zu Konzeptionellen Problemen Der Gegenwärtigen Governance-Diskussion’, in *Staatszerfall Und Governance* (Nomos Verlagsgesellschaft mbH & Co. KG, 2007), 13–40.

<sup>10</sup> Oliver Williamson, ‘Markets and Hierarchies: Analysis and Antitrust Implications’, *New York*, 1975.

estimated to range from US\$ 140 billion to US\$ 300 billion per year by 2030.<sup>11</sup> Globally, the costs are estimated from US\$ 280 billion to US\$ 500 billion per year by 2050. Investment in the sector has not taken off, with only US\$ 22 billion of investment for climate change going towards adaptation in 2016<sup>12</sup>. Climate finance is steadily increasing and flows reached a high of US\$ 472 billion in 2015, primarily due to rising private investment in renewables. This was followed by a drop in 2016 to US\$ 455 billion, affected by falling costs of renewable energy technology and lower overall renewable capacity addition<sup>13</sup>.

Figure 1. Finance gap for adaptation and SDGs



### 1.2.2. Technology

Technology gap is the major barrier for the developing countries which lowers their capacity to take up new challenges. Technology Gap can be defined as the disparity between existing technologies or technological capacity and what is required achieve desired outcomes. Modern technology is mostly in private hands and its transfer is expensive. In a way, it again boils down to finance. Key challenges for developing countries are the weak absorptive capacity, lack of proper human resource and skill development.

## 2. The way out

The most effective way to address climate change is to adopt a sustainable development pathway by shifting to environmentally sustainable technologies and promotion of energy

<sup>11</sup> IRP UNEP et al., 'Global Material Flows and Resource Productivity', *Assessment Report for the UNEP International Resource Panel. United Nations Environment Programme, Nairobi*, 2016.

<sup>12</sup> P. Oliver, A. Clark, and C. Meattle, 'Global Climate Finance: An Updated View 2018', *Climate Policy Initiative, November*, 2018.

<sup>13</sup> Oliver, Clark, and Meattle.

efficiency, renewable energy, forest conservation, reforestation, water conservation, etc.<sup>14</sup> For this to happen, climate change and sustainable development need to be represented in a more explicit manner in each other's research agendas, and for integrated assessment of climate change to incorporate alternative methodologies that complement global scale integrated assessment models<sup>15</sup>. One of the possible instruments through which both issues may be approached simultaneously is a multi-stakeholder partnership, a form of governance with the potential to address existing regulatory, participation, resource and learning gaps as it harnesses the strengths of private, public, and non-profit partners<sup>16</sup>.

The ways to address the barriers to good governance are within the reach of governments. To tackle information barrier, it is necessary to make an outreach to the public, to the policy makers, and use of mass media to propagate the government policies. Communication barrier can be managed by having umbrella institutions to handle similar issues, encouraging more interactions within various cells of ministries and departments, and increasing participation in international forums. Institutional and infrastructural barriers can be overcome by proper use of existing structures, streamlining of finance and organisation of workshops and conferences for the partners in governance structures. Regulatory barriers can be addressed by adopting good policies, increasing awareness and making sustainable development a public issue.

Table 1. Ways to overcome different types of barriers to good governance

Information barrier	Governance barrier	Institutional/ infrastructural barrier	Regulatory barrier
Easily understood academic inputs	Umbrella authority to handle similar issues	Use of existing infrastructure	Awareness among stakeholders and policy makers
Outreach to policy makers	Increased interactions within and among various ministries	Streamlined finance	Co-benefit policy structure
outreach to general public	Enhanced participation in international forums	Channelized use of resources	Making environmental concerns a public issue
Use of mass media	Reduced corruption	Multi-stakeholder partnership	eliminate red tapism

The role of different sectors in enhancing synergies can be as follow:

- **Public sector:** Facilitating structural change and investing as public actor, and integrating environment concerns into development strategies.
- **Civil society:** Create local level awareness on sustainability and adaptation issues, and its relation with day-to-day life.
- **Private sector:** Investment in sustainable options guided by the regulatory changes and public demand (market dynamics).

<sup>14</sup> Jayant Sathaye, P. R. Shukla, and N. H. Ravindranath, 'Climate Change, Sustainable Development and India: Global and National Concerns', *Current Science* 90, no. 3 (2006): 314–25, <https://www.jstor.org/stable/24091865>.

<sup>15</sup> Stewart Cohen et al., 'Climate Change and Sustainable Development: Towards Dialogue', *Global Environmental Change* 8, no. 4 (1 November 1998): 341–71, [https://doi.org/10.1016/S0959-3780\(98\)00017-X](https://doi.org/10.1016/S0959-3780(98)00017-X).

<sup>16</sup> Jonatan Pinkse and Ans Kolk, 'Addressing the Climate Change—Sustainable Development Nexus: The Role of Multistakeholder Partnerships', *Business & Society* 51, no. 1 (1 March 2012): 176–210, <https://doi.org/10.1177/0007650311427426>.

- **Academic community:** Present to the policy makers the reality we are heading to in the simplest possible manner and language.

- **Citizens:** Stop perceiving Sustainable Development as a lifestyle change, but as a change which secures the future for upcoming generations.

- **Multilateral Agreements:** Create effective implementation atmosphere for various decisions by engaging maximum countries and stakeholders, although the primary responsibility resides with the nations.

## Conclusion

While climate change is important in the long run, it is crucial to recognise that there are a number of other development issues that affect human welfare— such as hunger and malnutrition, poverty, health, and pressing local environmental issues. Other development issues are more close to the agreed Sustainable Development Goals. Climate change and sustainable development are inextricably linked. Climate change will have an impact on prospects for sustainable development, and in turn, alternative development paths will certainly affect future climate change. Convergence of climate change with Sustainable Development actions at the national level will improve resource efficiency. To make this possible, there is a need to tweak the current governance structures. Finance also needs to be channelized to give more than one benefit. Power among different institutions and stakeholders must be distributed and coordinated to encourage polycentric governance. Policy makers must be sensitised by academic and civil society community in easy to understand language. Local level environmental and sustainability indicators, if developed, will encourage environmentally sound policies. In addition to this, discussions at international fora to encourage linkages will spearhead the process.

## References

- Banuri, Tariq, K. Göran-Mäler, Michael Grubb, Harold K. Jacobson, and Farhana Yamin. 'Equity and Social Considerations'. *Climate Change*, 1995, 79–124.
- Beg, Noreen, Jan Corfee Morlot, Ogunlade Davidson, Yaw Afrane-Okesse, Lwazikazi Tyani, Fatma Denton, Youba Sokona, et al. 'Linkages between Climate Change and Sustainable Development'. *Climate Policy* 2, no. 2–3 (1 January 2002): 129–44. <https://doi.org/10.3763/cpol.2002.0216>.
- Cohen, Stewart, David Demeritt, John Robinson, and Dale Rothman. 'Climate Change and Sustainable Development: Towards Dialogue'. *Global Environmental Change* 8, no. 4 (1 November 1998): 341–71. [https://doi.org/10.1016/S0959-3780\(98\)00017-X](https://doi.org/10.1016/S0959-3780(98)00017-X).
- Denton, F., Y. Sokona, and J. P. Thomas. *Climate Change and Sustainable Development Strategies in the Making: What Should West African Countries Should Expect*. OECD, 2002.
- Munasinghe, Mohan. 'Climate Change and Sustainable Development Linkages: Points of Departure from IPCC TAR'. Geneva, Switzerland: Munasinghe Institute for Development, 2007. <https://pdfs.semanticscholar.org/2b95/9407c0019844a6b5ee23917e562ef80e25bc.pdf>.
- Oliver, P., A. Clark, and C. Meattle. 'Global Climate Finance: An Updated View 2018'. *Climate Policy Initiative*, November, 2018.
- Pinkse, Jonatan, and Ans Kolk. 'Addressing the Climate Change—Sustainable Development Nexus: The Role of Multistakeholder Partnerships'. *Business & Society* 51, no. 1 (1 March 2012): 176–210. <https://doi.org/10.1177/0007650311427426>.
- Rasiah, Rajah, Fatimah Kari, Yuri Sadoi, and Nazia Mintz-Habib. 'Climate Change and Sustainable Development Issues: Arguments and Policy Initiatives'. *Journal of the Asia*

---

*Pacific Economy* 23, no. 2 (3 April 2018): 187–94.  
<https://doi.org/10.1080/13547860.2018.1442140>.

- Rayner, Steve, and Elizabeth L. Malone. 'Security, Governance, and the Environment'. In *Environment and Security: Discourses and Practices*, edited by Miriam R. Lowi and Brian R. Shaw, 49–65. International Political Economy Series. London: Palgrave Macmillan UK, 2000. [https://doi.org/10.1057/9780230596634\\_4](https://doi.org/10.1057/9780230596634_4).
- Risse, Thomas, and Ursula Lehmkuhl. 'Governance in Räumen Begrenzter Staatlichkeit: Anmerkungen Zu Konzeptionellen Problemen Der Gegenwärtigen Governance-Diskussion'. In *Staatszerfall Und Governance*, 144–160. Nomos Verlagsgesellschaft mbH & Co. KG, 2007.
- Robinson, John, Mike Bradley, Peter Busby, Denis Connor, Anne Murray, Bruce Sampson, and Wayne Soper. 'Climate Change and Sustainable Development: Realizing the Opportunity'. *AMBIO: A Journal of the Human Environment* 35, no. 1 (2006): 2–9.
- Sathaye, Jayant, P. R. Shukla, and N. H. Ravindranath. 'Climate Change, Sustainable Development and India: Global and National Concerns'. *Current Science* 90, no. 3 (2006): 314–25. <https://www.jstor.org/stable/24091865>.
- UNEP, IRP, M. Fischer-Kowalski, J. West, S. Giljum, M. Dittrich, N. Eisenmenger, A. Geschke, M. Lieber, H. Wieland, and A. Schaffartzik. 'Global Material Flows and Resource Productivity'. *Assessment Report for the UNEP International Resource Panel. United Nations Environment Programme, Nairobi, 2016*.
- United Nations. 'United Nations Framework Convention on Climate Change'. United Nations, 1992. <http://unfccc.int/resource/docs/convkp/conveng.pdf>.
- Williamson, Oliver. 'Markets and Hierarchies: Analysis and Antitrust Implications'. *New York, 1975*.
- Yohe, G., R. Lasco, Qazi K. Ahmad, N. Arnell UK, S. Cohen, T. Janetos, R. Perez, K. Ebi, P. Romero Lankao, and E. Malone. 'Perspectives on Climate Change and Sustainability. Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change'. Cambridge: IPCC, 2007.