

**NATIONAL LEGAL AND INSTITUTIONAL FRAMEWORKS FOR
IMPLEMENTING THE PARIS AGREEMENT PROVISIONS ON
ADAPTATION TO CLIMATE CHANGE**

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A strong and flexible legal and institutional framework is a necessary pre-requisite to support the implementation of the broad range of inter-twined national and local activities that are required to respond to current and prospective impacts of climate change. The sweeping nature of climate change impacts across boundaries of sector-based management systems will require transformative changes in the approach to the formulation of such legal and institutional mechanisms. In most part, tweaking existing legislation, complemented with supplementary regulations, may be sufficient to achieve this objective. To be successful, however, this process will need to be driven by a collegial body comprising the best available expertise in science, policy, management and law, underscored by a political will to effect transformative changes in the entrenched system of silo-based management.

A new international legal regime on sustainable development and climate change comprising, in the main, the Paris Agreement and UNFCCC COP Decision 1CP/21,ⁱ the 2030 Agenda and the SDGs,ⁱⁱ the Sendai Framework for Disaster Risk Reductionⁱⁱⁱ that came in force in 2015, form the essential backdrop to the national process. One hundred and thirteen countries ratified the Paris Agreement which came into force on 24 November 2016. They have agreed, inter alia, to hold the increase in the global average temperature to well below 2 degrees C above pre – industrial levels and to pursue efforts to limit the temperature increase to 1.5 degrees C above pre – industrial levels; to increase the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does not threaten food production; to make finance flows consistent with a pathway towards low GHG emissions and climate resilient development. Aligning itself with the main thrust of the Sustainable Development Goals adopted unanimously by the UN General Assembly three months earlier, the Parties have also agreed to pursue these goals in the context of sustainable development and efforts to eradicate poverty, to ensure equity, respect human rights, gender equality and the principles of common but differentiated responsibilities and respective capabilities, in light of different national circumstance.

A survey of National Adaptation Plans (NAPs), Intended Nationally Determined Contributions (INDCs), Nationally Determined Contributions (NDCs) and Adaptation Projects approved for international grant funding^{iv} provide an insight into the major adaptation challenges facing developing countries. It is expected that climate change will exacerbate vulnerabilities in the water resources sector, agricultural productivity, coastal systems, human settlements, biodiversity, ecosystems and human health. In many countries in the Asia-Pacific region these impacts are already being experienced with increasing frequency and ferocity. For example, increased occurrences of floods and water shortages, rising frequency and severity of droughts and frosts, increase in rate of retreat of glaciers in the Himalayan highlands and permafrost resulting in slope destabilization and a decrease in river flows, and inundation of some low-lying small island states due to sea-level rise, will

require significant, costly and immediate adaptations. Agricultural crop yield is expected to decline further, partly due to rising temperatures, pests and diseases as well as extreme weather events. Livestock rearing is also likely to be affected due to factors such as water scarcity and heat stress. Furthermore, over half of Asia's more than 4 billion inhabitants live on or near the coast and depend directly on coastal resources and face greater risks of occurrences such as sea-level rise, sea-water intrusion, and coastal inundation, which will render coastal populations, infrastructure, marine ecosystems and aquaculture more vulnerable, and affect the stability of wetlands, mangroves and coral reefs. Climate change will also threaten biodiversity in most countries, causing species migration and extinction and impact on forestry and natural habitats. The destruction and reduction of ecosystem services and functions will reduce their contribution to human well-beings and affect many livelihoods across the region. Finally, climate change is likely to cause adverse impacts on human health and well-being through deterioration of water and air quality, exponential increase in vector-borne, water-borne and air-borne diseases and natural disasters directly linked to climate change.

The following is a brief sampling of the adaptation measures proposed by countries in the Asia-Pacific region: integrated coastal zone management including research into and improved understanding of the coastal systems; the use of artificial reefs as a means of enhancing coastal protection; increasing biological diversity and populations at present reef sites; evaluating coastal protection options, including those which can be implemented at the community level; mangrove and reef protection and land use planning including reducing land reclamation of mangrove areas for residential, commercial, tourism or industrial purposes and discouraging the cutting of mangrove for other purposes; use of various high-tech monitoring approaches, especially satellite remote sensing and geographical information system, to strengthen monitoring of sea level changes, changes in the ecosystem of coastal wetlands, mangroves and coral reefs and Increasing marine natural protection areas at the national and local levels to protect marine biodiversity; water-catchment management and soil-conservation measures to reduce erosion and sedimentation; addressing impacts of climate change on urban settlements, especially in the face of increasing population and continued urban migration, including improving drainage and sewerage systems; addressing the problem of livelihood of village communities, threatened by the impacts of climate change, including damage to homes and properties, unreliable water supply and quality, damage to plantations for subsistence and commercial purposes, coastal erosion, flooding of low-lying areas and damage to cultural and heritage assets; Improving the monitoring of diseases and vectors affected by climate change and enhancing public health services; supporting capacity building, including institutional capacity, for preparedness and management of disasters affecting coastal areas; establishing and supporting national and regional networks for rapid responses to extreme weather events.

Although the Paris Agreement does not include a collective, quantified goal for adaptation finance, it has recognized the need for substantial adaptation finance and spiraling up adaptation action and support on par with mitigation finance. It also commits developed countries to implementing measures of technological cooperation and transfer of technology in favour of developing countries in order to help them cope with the inevitable impacts of climate change. COP 22 concluded on 18 November 2016 in Marrakesh, has reaffirmed the call for an increase in the volume,

flow and access to finance for climate projects, alongside improved capacity and technology, including from developed to developing countries. The Marrakesh Proclamation^v contains a specific reaffirmation by the Developed Country Parties to “our USD \$100 billion mobilization goal”. To facilitate oversight, the Agreement also provides that national adaptation communications will be part of the global stock taking process under Article 14 of the Agreement.

While almost all countries in Asia Pacific have developed, or are in the process of developing ‘strategies’, ‘plans’ and/or ‘policies’ to adapt to climate change (e.g. National Adaptation Plans, adaptation components in Nationally Determined Contributions etc.) there has been relatively little progress in ensuring the supporting legal framework is adequate and effectively enforced. Effective legal frameworks – i.e. those comprised of clear and coherent laws and regulatory instruments implemented and enforced by empowered institutions at all levels – provide the institutional architecture needed to achieve any national priorities and plans to adapt to climate change.

A survey of the legal requirements to implement the Paris Agreement and SDG 13 and others relating to or impacting on adaptation, indicates that this goal could in many instances be realized by using the regulation-making powers vested in the Minister in most legislation, and where necessary, strengthening existing laws and regulations through appropriate amendments. A few countries (Indonesia^{vi} and Philippines^{vii}) have enacted stand-alone Climate Change Laws, but these deal essentially with the establishment of a national apex institution to drive and oversee action on climate change.

Key areas of further regulation to support implementation of the Paris Agreement and the SDGs seem to include: governance and the rule of law; vertical and horizontal collaboration among national institutions; legal instruments such as, EIA, construction codes, economic instruments, private–public partnerships, and compliance and enforcement measures.

The following are some of the legal processes that might be considered for further strengthening the legal framework to facilitate this process:

- a. **Climate risk assessment:** It stands to reason that any action that is taken to address climate change impacts must per force, be predicated on a clear understanding, through recourse to relevant science and observation, of the nature, scope, intensity, frequency of climate change induced events and the most likely consequences of the worst that could happen and how likely that might be. It must be an interactive and flexible process taking into account factors that exacerbate the likelihood of the events that cause impacts, such as the future trajectory of GHG emissions. Such risk assessments must lead to the development of country-specific responses to prevent and/or mitigate the damaging consequences on the social, economic and environmental fabric of the country. Some of the tools used in this process could include spatial and temporal scenario planning, data gathering, simulation, and cost-benefit and multi-criteria analysis.

- b. **Technical Standards:** These standards- both international and national- have been used with increasing frequency for environmental management over several decades and are a highly suitable instrument for addressing climate resilience, based on the conclusions drawn through the climate risk assessment. They can be effectively applied in different infrastructure sectors, professions and occupations. Standards can apply during the planning phase (e.g. risk assessments, environmental standards), the design phase, the construction phase (European and national product standards, implementation standards) and the maintenance phase (environmental standards, safety standards). Compelling legal directives will drive necessary action in this regard by institutions empowered to formulate and enforce standards.
- c. **Environmental Impact Assessment:** Though developing countries face many challenges in the effective implementation of this process, EIA is a procedural and systemic tool that is, in principle, well suited to incorporate considerations of climate change impacts and adaptation within existing modalities for project design, approval, and implementation. The EU Directive on EIA which earlier required EIAs identify, describe and assess the direct and indirect effects of a project on human beings, fauna and flora, soil, water, air, climate, the landscape, material assets and cultural heritage and the interactions between these factors, now include addressing new challenges, such as, biodiversity loss, climate change impacts and disaster risks reduction. Strategic Environment Assessment (SEA) can also serve as an effective tool for climate change adaptation, especially by introducing climate change considerations into development and planning processes.
- d. **Insurance:** Appropriate insurance schemes support adaptive practices in three ways: by helping to manage climate change risks; by providing incentives for climate risk prevention; and by disseminating information on climate change risks and risk prevention measures. Experts in the insurance industry^{viii} are of the view that with core competencies in risk management and finance, the insurance industry is uniquely positioned to advance creative solutions to minimize climate change impacts. Insurers have now begun to embrace this huge opportunity, which will enable them to prosper while reducing the claims from climate change. The increasing incidence and ferocity of unrelenting rainfall, hurricanes and cyclones, alternating with long periods of rainless heat-spells, has already begun to cause extensive floods, destruction of infrastructure, droughts, dislocation of agriculture and livelihoods.
- These are, in turn, creating unprecedented challenges to the insurance industry. Gearing up to respond to these challenges, the insurance industry is taking innovative measures to help improve disaster resilience and adaptation to climate change, while reducing climate-related risks through strategies such as energy efficiency and renewable energy programmes and green building design, improved management of forests, agriculture and wetlands, withdrawal of carbon from the atmosphere and storage in biomass and soils coupled with increased resilience to drought, coastal erosion and other consequences of weather extremes etc. which could help to preserve insurability of high risk areas. Public-private schemes can also enhance the effectiveness of insurance and increase the pool of people who have access to

it, for example by flood insurance schemes that complement compensation provided by government programs. These developments require a careful examination of related legal frameworks dealing with compensation, insurance and other responses to harm caused by extreme weather events linked to climate change.

- e. **Economic Instruments:** Economic Instruments (EIs) encompass a range of policy tools from pollution taxes and marketable permits to deposit-refund systems and performance bonds. The common element of all EIs is that they operate on a decentralized level through their impact on market signals rather than through government fiat. Economic instruments that may be applied to promote adaptation measures include the following: Establishing property rights and clarifying or improving existing ones; tradable emission/effluent permits; tradable catch quotas and water shares; revenue recovery on the provision of public goods and services such as charges for services, user fees, collection charges for solid waste etc.; pollution taxes/permits; recovering damages associated with past activities; civil and criminal penalties for natural resource damages, addressing risks of future activities: issue of bonds for environmental performance, land reclamation bonds, waste delivery bonds, environmental accident bonds, forest management bonds; subsidies such as subsidizing transition to cleaner alternatives, including grant-based subsidies, soft loans, direct funding, tax-based subsidies such as tax credits, tax breaks, tax exemptions, tax differentiation, accelerated write-offs etc.. These economic instruments need to be embedded in national laws and regulations, especially as they involve fiscal measures.

Conclusion

The brief outline of the legal and institutional frameworks that are required for supporting national and local measures for adaptation to the impacts of climate change leads to the compelling conclusion that existing regulatory frameworks would not be adequate to encourage, support and monitor adaptation activities within and across a number of national economic sectors. This calls for urgent coordinated, collective national action backed by political will, to strengthen the relevant legal and institutional frameworks to facilitate effective and timely adaptation to the multiple inter-twined challenges of climate change, transcending entrenched, traditional, compartmentalized management schemes.

ⁱ <http://unfccc.int/resource/docs/2015/cop21/eng/10a01.pdf>

ⁱⁱ <https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf>

ⁱⁱⁱ http://www.preventionweb.net/files/43291_sendaiframeworkfordrren.pdf

^{iv} See Decisions of the Thirteenth Meeting of the Board of the GCF at https://www.greenclimate.fund/documents/20182/226888/GCF_B.13_32_Rev.01_-_Decisions_of_the_Board__thirteenth_meeting_of_the_Board__28-30_June_2016.pdf/c93a0291-28c1-4bfc-bc22-cf4c590c3c83.

^v See Marrakesh Action Proclamation of UNFCCC COP 22 at: https://unfccc.int/files/meetings/marrakech_nov_2016/application/pdf/marrakech_action_proclamation.pdf

^{vi} <http://www.iclg.co.uk/practice-areas/environment-and-climate-change-law/environment-and-climate-change-law-2016/indonesia>

^{vii} http://www.lawphil.net/statutes/repacts/ra2009/ra_9729_2009.html

^{viii} Dr. Evan Mills, Responding to climate change-An Insurance Industry perspective, see, <http://evanmills.lbl.gov/pubs/pdf/climate-action-insurance.pdf>