
27 Policy options in low-income countries: Achieving socially appropriate climate change response objectives

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Low-income countries have been propelled through international discourse to accord higher priority to adaptation to climate change compared to mitigation. The INDC 'bottom-up' approach to reaching the 2°C target gives the flexibility for low-income countries to articulate policies responsive to the needs of their communities and national development priorities. These include the entitlement of developing countries to growth and reduced climate change-induced scarcity of natural resources like water, food, energy, wood and fiber. Therefore, the negotiations should strike a balance between mitigation and adaptation and include financial support to carry out these policies in line with Article 4.7 of the convention on implementation of commitments by developing countries. In this spirit, this chapter recommends that the target output of COP21 should be a legally binding agreement applicable to all that would be based on the principles of the UNFCCC and, in particular, the principle of Common but Differentiated Responsibilities based on respective capabilities. Challenges with enforcement and the feasibility of all aspects of actions being legally binding should be anticipated.

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1 Introduction: Incorporating social inclusion in low-income development strategies

All developing countries aspire to rapid growth. Extrapolating from Somanathan's review of India's situation in this book, slowing down growth would be very economically, socially and politically costly for many developing countries. This focus on growth is notable in the position taken by the 'BRICS' (Brazil, Russia, India, China and South Africa) at UNFCCC negotiations and as shown by India's experience where, because of the need to safeguard committing only to what can be accommodated by national policy, the country submitted an INDC with a focus on reduction of CO₂ and not on the entire portfolio of GHGs (Moarif and Rastogi 2012). How such a decision will play with the rest of the low-income countries, and especially those that can benefit from methane auction due to their predominantly livestock economy, remains to be seen at COP21. In any case, efforts required to meet the demands of the Alliance of Small Island States (AOSIS) and those of Least Developed countries (LDCs) require strong mitigation efforts from the BRICs. This could threaten their rapidly growing economies.

Besides growth, social concerns are evident in the aspirations captured in continental development blueprints. For example, the Africa Union Agenda 2063 aspires that Africa should be "an integrated, prosperous and peaceful Africa, driven by its own citizens and representing a dynamic force in the global arena" (African Union 2014). Overall, Africa's Vision 2063 aspiration provides a foundation for policy orientation with respect to climate change negotiations in the sense that prosperity and peace cannot be achieved if climate-related natural disasters – which constitute up to 70% of disasters in countries like Kenya (Government of Kenya 2009) – lead to loss of achieved development and aggravate poverty. Indeed, summarising the evidence from 60 studies examining the links between climate and human conflict after controlling for location-specific and time-specific effects, Hsiang et al. (2013) conclude that a one standard deviation change in climate towards warmer temperatures or more extreme rainfall increases the frequency of interpersonal violence by 4% and intergroup conflict by 14%. These results suggest the possibility of amplified human conflict in the future as the inhabited world is expected to warm by between two and four standard deviations by 2050.

In pursuing this aspiration, African governments are initiating programmes on a continental scale that, if implemented effectively, should transform growth and human development towards a strategy that is compatible with the continent's environmental resources. For example, the free movement of people, goods and services among the East Africa Partner States and the pursuit of common climate change policies by the Regional Economic Communities are indications of the growing political will to pool and consolidate economic development to attain economies of scale benefits and associated efficiencies towards the Vision 2063. Such regional programmes present optimistic indications.

Addressing the social concerns of low-income countries should then drive the negotiation pathways that low-income parties adopt through the Group of 77 and China, the African Group of Negotiators (AGN), the Small Island Developing States (SIDS), and other low-income regional negotiation groups. The risks posed to the SIDS are particularly critical given that continued sea-level rise, which has already reached 0.19 meters according to the IPCC Fifth Assessment Report (AR5), is real and the sea level could rise by between 0.5 and 1.0 metres relative to 1986-2005 by the end of the century under a business-as-usual scenario (see the chapter by Stocker in this book).

Acknowledging the growth-related constraints on mitigation efforts by many high-emitter fast-growing middle-income countries, what are appropriate and implementable socially inclusive policy objectives for low-income countries and how should they pursue these objectives? Section 2 discusses these policies. Taking Kenya as an example, Section 3 discusses what could be an ambitious but implementable INDC for a low-income country. Section 4 gives examples of policies that have been carried out in this regard. Section 5 concludes with the commitments low-income countries should pursue at the negotiations.

2 Socially inclusive targets for low-income countries

The poor are generally more exposed to climate risks and more vulnerable because of their lesser resilience to negative shocks, especially so in low-income countries (see the chapter by Hallegate et al. in this book). On the environmental side, socially inclusive policies require securing the availability of environmental goods and services

like water, energy, food, biodiversity and quality air, as well as ensuring a healthy and hence productive population despite climate change.

Meeting these objectives will help low-income countries transition to de-carbonised lifestyles in their quest to reach ‘secure middle-class status’, i.e. when about 20% of the population has achieved that status.² Then, through their willingness to pay taxes, enough public goods are likely to be available and sufficiently ‘good’ policies are likely to be chosen to protect most of the population from adverse shocks.

Yet, ‘good’ policies are not a sufficient condition for the effective uptake of climate change mitigation, particularly in low-income countries where social expression of affluence is exhibited by ‘living large’ – multiple, large cars per household, a big house, food waste due to over-purchasing and so on, all of which are important contributors to GHG emissions. This is a major challenge for the low-income countries that are still far from having reached ‘middle-class status’ where the enforcement of climate-friendly policies is limited because of the confounding interplay between weak institutional settings, and the negative influence exercised by politically influential groups.

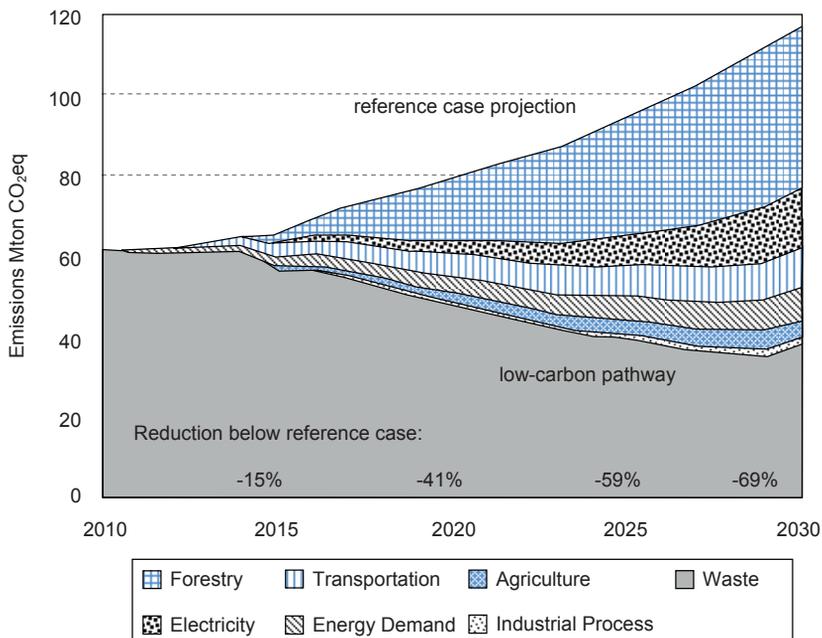
3 Are the INDCs of low-income countries appropriate?

A socially relevant agreement applicable to all should embrace policies that provide low-income groups with security and rights to life-supporting goods and services. Consideration of eradication of absolute poverty, equity, justice, rights, and halting or at least slowing the loss of biological diversity (an important source of income for the rural poor; see the chapter by Hallegate et al. in this book) should be the anchor points for the negotiation position of low-income countries. The challenge in reaching this objective arises from the diversity of needs and actions that are captured in the INDCs by low-income countries.

² In 2010, only 10% of Kenyans had reached the struggler status (daily per capita income, y.p. above the \$1.25/day poverty line and below \$10) and 2% had reached middle-class status ($\$10/d < y_p < \50). Projections for 2030 are 23% and 5% of the population, respectively. Birdsall (2015) argues that around 20% of a country’s population reaching middle-class status is a threshold to safeguard against impacts of negative shocks.

While all INDCs submitted by low-income countries could not be reviewed at the time of writing, early submissions by Gabon, Mexico, Kenya and Ethiopia illustrate some of the challenges. Let me illustrate this with Kenya's experience, which is typical of a low-income country moving up the growth ladder while aspiring to pursue climate-friendly policies. According to Kenya's INDC submission, its GHG emissions, estimated at 73 MtCO₂eq in 2010, are very low with an estimated 75% attributable to land-use activities including agriculture, forestry and free-range rearing of livestock. Figure 1 shows that under a business as usual (BAU) scenario where Kenya aspires to attain a 10% GDP growth by 2030, the country's GHG emissions are projected to be 143 MtCO₂eq by 2030; slightly double the 2010 estimates. According to Kenya's National Climate Action Plan, the country's INDC is to reduce its GHG emissions by 30% by 2030. This ambition is against a historical contribution of only 0.1% to total global emissions, with per-capita emissions at less than 1.26 MtCO₂eq compared to the global average of 7.58 MtCO₂eq. The wedge decomposition in Figure 1 shows that that forestry has the highest GHG abatement potential, underscoring the importance of REDD+ to Kenya's INDC.

Figure 1 Kenya's sectoral decomposition of GHG abatement potential



Source: Government of Kenya (2012b).

Kenya's submission, typical of low-income countries, suggests that these countries are subtly being pushed by COP19 and COP20 decisions to take up climate change mitigation targets that may not be feasible to attain if the principles of equity and fairness enshrined in the spirit of the UNFCCC convention are not honoured by developed countries. While it is understood that the commitments by low-income countries are interpreted as 'voluntary', a legally binding agreement applicable to all might not provide the necessary degree of freedom to low-income countries unless this is categorically specified in the agreement. The implications of high aspirations of INDCs against a background of limited emissions and limited means of implementation could overshadow balanced negotiations and the subsequent implementation of Nationally Determined Contributions (NDCs) post COP21. Besides, the INDCs of low-income countries are based on mitigation activities that require capital-intensive investments. This explains why, as in the case of Kenya, the INDC submissions of low-income countries are contingent on external financial resources and on technological capability.

4 Policies to support the implementation of a negotiated agreement

Taking Kenya as an example, I will review fiscal policies and environment and climate change policies aimed at mitigation and adaptation.

4.1 Fiscal policies

Fiscal policies, conceptualised broadly to embrace sustainable development in the context of a response to climate change, can be effective in encouraging a transition towards a sustainable production and consumption of critical life-supporting resources like water, energy, food and other natural resources (GGKP 2015). Well-designed and properly targeted fiscal policies would produce many benefits that include:

- *Reducing emissions through the introduction of taxes to curb polluting GHG emissions by applying the 'polluter pays' principle.* In Kenya, the government

has introduced a tax for older vehicles and limited the age of vehicles that can be imported to a maximum of eight years.

- *Pricing electricity.* Lee et al. (2014) report that the large majority of households in Kenya within a few hundred meters of the grid are not connected due to high connection fees. A recent presidential directive of May 2015 that reduces connection fees from about US\$35 to \$15, payable in instalments through monthly bills, should help increase connectivity to the grid. But connection to a grid does not guarantee supply and use of electricity; weak grid infrastructure and frequent power outage deny users services.
- *Pricing resources and managing consumption for efficiency and equity consideration.* Price is the most important decision-influencing factor for resource-poor communities. This is why a climate-friendly innovation like a clean, energy efficient cook-stove with evident climate and health benefits to the poor and costing \$50 will not reach many households over decades. Differentiated pricing should be applied either to curtail consumption or enable consumption by different segments of society.
- Along with energy, water is a key natural resource that can be managed by a pro-poor policy regime to ensure pro-poor distributional and efficiency impacts along with potential climate benefits. Some countries, like South Africa, have differentiated water tariffs so that the poor pay less than high-income consumers.

4.2 Environment and climate change policies

Most low-income countries rely on their natural capital to develop a green growth development strategy. In Kenya, tree-planting would be the least-cost approach to tackling climate change (UNEP 2008). This implies that these low-income countries should focus on environment and natural resource management.

Environmental policies

Environmental policies are critical for climate change and are very interconnected. Policies that have demonstrated impact are those relating to waste management, energy,

air pollution and human health and forestry. To accommodate space limitations, only Kenya's experience is reported here.

Policies that have incentivised minimising waste through increased resource-use efficiency and cleaner production have encouraged industries to invest in clean technology and processes, often resulting in multiple wins: increased profits, compliance with environment polices and regulations, secured dependable large market-share and improved public image. A case in point is Chandaria Industries Limited. Its line of personal hygiene products has achieved these outcomes through no, or low-cost, investment in regular energy audits, resulting in 25%, 2% and 63% reductions in energy, material and water use, respectively, in the manufacturing process (UNEP 2015).

Energy, and especially domestic energy, policies are closely linked to climate change mitigation, indoor air pollution and human health. In low-income countries like Kenya – where over 70% of households depend on wood-fuel as the primary source of energy for cooking and where cooking devices are still typically three–stone stoves – policies that promote the adoption of cleaner cooking devices have the co-benefit of contributing to improving human health. The adoption of improved stoves with higher thermal efficiency is noted to have the potential to reduce the chronic respiratory illnesses associated with indoor air pollution from short-lived organic pollutants, such as the soot emitted by traditional stoves. According to the World Health Organization, these emissions account for 14,300 deaths in Kenya annually (Global Alliance for Clean Cookstoves 2013).

Closely related to clean wood-fuel efficient technologies is the great potential of minimising GHG emissions through a slowdown in the rate of deforestation. As discussed by Angelsen his chapter in this book, REDD+ is potentially very promising, yet it has not materialised due to the combination of insufficient financial support and the slow pace of policy and political-level commitments to forest conservation. These limitations are compounded, in my view, by the volatile carbon markets that are controlled internationally. If developed countries transform their consumption and production systems towards highly efficient technologies that reduce GHG emissions, then existing cap and trade systems are likely to collapse.

Policies directly related to climate change

Following COP15, low-income countries started to develop policies to mitigate climate change. Some are anchored in the need to pursue national development against the background of a commitment to implementing decisions of the UNFCCC. For example, in Kenya, climate change has been integrated into the national planning process at the national and county level and for state and non-state actors. Climate Innovations Centers established through the InfoDev project of the World Bank have had a positive impact through climate change-driven investments at different levels and scales. Initially established in Kenya, Climate Innovation Centers have spread to other developing countries in the Caribbean, and to Vietnam, Ghana and South Africa. The technology solutions produced through these centres – like the production of livestock fodder using hydroponic solution in Kenya – reduce the release of soil carbon and hence contribute to the mitigation of climate change (although the impact is yet to be quantified). Such technology solutions in low-income countries will require finance that has so far proved elusive (see the chapter by Buchner and Wilkinson in this book).

5 What developing countries should target at the negotiations

Social inclusion, the eradication of absolute poverty, ensuring employment (especially for the young), equity, climate-driven risk management, rights-based development, entitlement to a life within a clean environment, along with education, gender and youth considerations, are the social issues that should influence the position of low-income countries at the upcoming climate change negotiations.

As discussed above, failure to focus on adaptation is a risk to be managed during the negotiations. Such a risk is evident from a report on climate change actions by cities, industries and other non-state actors by UNEP (2015). The report shows that out of over 180 analysed initiatives by industries, cities and other non-state actors, fewer than 10 included a focus on adaptation, indicating an over-focus on mitigation activities while an emphasis on adaptation measures is urgent for low-income countries. A lack of emphasis on initiatives focusing on adaptation in the determination of INDCs suggests the possibility of a commitment to targets that might not be met because of limited

implementation capacity in low-income countries. This implies that there should then be an emphasis on the inclusion of transparency for high-income countries in the form of effective monitoring, reporting and verification (MRV) (see the chapters by Aldy and Pizer and Wiener in this book). In light of these observations, the following negotiation positions should be considered by low-income countries to ensure that the proposed agreement continues to address their policy objectives while ensuring that resource-poor communities are able to adapt to changing climatic conditions.

More concretely, evaluation of the common position of the G77 and China and the common African position to COP20, as well as the outcomes of the Geneva and Bonn inter-session negotiations in February 2015 and June 2015, respectively, suggest that socially relevant negotiation points should articulate the following:

- Equal treatment of mitigation, adaptation and means of implementation in the climate policy compact.
- Ambitious mitigation actions by low-income countries and specific measurable, verifiable and reportable GHG reduction targets by developed countries that can lead to a steep decline in global emissions in line with a 2°C warming scenario, based on a uniform baseline for all Parties;
- A financial flow architecture that will ensure ease of access by low-income countries to predictable, adequate finance that will support adoption of and scaling up of low-emission, climate-friendly technologies at different scales of use;
- Appropriate financing for capacity building aimed at diffusing knowledge and understanding of the impact of unsustainable lifestyles and the importance of climate-friendly technologies by national and community-level actors;
- Ambitious international financing towards adaptation actions in line with the Cancun climate finance commitments of \$100 billion disbursement annually by 2020 – for the subsequent periods, adequate (large-scale and increasing) and predictable funding must be planned for and mobilised; and
- Last but not least, while the agreement will be applicable to all parties, continued compliance with the UNFCCC Charter recognising that the CBDR principle should be the over-arching reference document for the global climate change architecture as we elaborate a KP successor. In particular, the CBDR principle should be the

under-pinning principle if the world is to attain the aggregate commitments as for low-income countries are the most vulnerable to climate change (see the chapter by Mekonnen in this book).

Depending on the socio-political dynamics at the COP, the negotiation points listed above could influence the outcome of COP21. The slow pace at the Bonn negotiations in June 2015 and the decision by Parties to allow Co-Chairs to work on the text points towards continued challenges ahead. Regardless of the nature and content of the agreement that will be generated, drastic action to prevent further changes in climatic conditions is of the utmost priority for low-income countries. And building the capacity of vulnerable communities to adapt to climate change is a matter that does not need negotiation but calls for immediate action by all Parties.

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