Investigating the adequacy and equitability of INDCs: Case of Tanzania and South Africa

By

Chipo Mukonza[1], Vuyo Mjimba[2] and Godwell Nhamo[3]

The concept of Intended Nationally Determined Contributions (INDCs) pairs national policy settings, priorities, circumstances and capabilities with a global framework that drive collective action towards a low-carbon, compatible climate future. INDCs provide a foundation for countries to align their climate management goals with developmental objectives. This allows country-specific resource mobilisation in INDCs implementation. The 2015 Paris Agreement and the adoption of the Sustainable Development Goals (SDGs) framework provide an excellent foundation for the attainment of sustainable development. This paper investigates the extent to which Tanzania and South Africa can exploit benefits of their INDCs to realise positive economic, environmental and social outcomes. The study will employ a cross-country approach using composite indicators that comprise carbon budgets (that is the adopted mitigation pathways), and capability that will be determined through the use of a gross domestic product (GDP) and GDP per capita. We propose that the successful implementation of the INDCs is to a greater extent aligned with the financial aid the country will receive as well as the domestic mobilisation of financial and other resources.

Key Words: INDCs, adequacy, equitability, capabilities, Tanzania, South Africa

[1] Dr C. Mukonza is a Post-Doctoral Fellow under the Exxaro Chair in Business and Climate Change at the Institute for Corporate Citizenship, University of South Africa.

[2] Dr V. Mjimba is a Chief Research Specialist at the Africa Institute of South Africa (AISA) at the Human Sciences Research council (HSRC).

[3] Prof G. Nhamo is a Chief Researcher and Exxaro Chair in Business and Climate Change at the Institute for Corporate Citizenship, University of South Africa.

Introduction

All dressed up and nowhere to go! This is a suitable phrase to describe the status quo on the issue of a concerted and common global focus on addressing the persitent climate change phenomenon. Literally or figuratively, the phrase opening this paragraph refers to getting ready for something and then it never happens.

The 2015 Paris Agreement appears to be the key allowing the dressed up world to engage fully with the climate change challenge in a manner that mitigates the projected consequences of the previous partial engagements. A critical component of the 2015 Paris Agreement is the set of nationally initiated climate change management action under the Intended Nationally Determined Contributions (INDCs) theme. INDCs have been put forward by countries as individual contributions and pledges towards a global collective effort to manage climate change (Mbeva and Pauw, 2016). In principle, INDCs link the national policy settings with a global framework that drives collective action toward a low-carbon, climate-resilient future. An important feature of INDCs is that country contributions to climate management are made within the context of national priorities, circumstances and capabilities. It is argued that sending credible signals through instruments such as INDCS regarding future climate management plans has the potential to stimulate investment and international support for mitigation and adaptation activities. More important is that INDCs can encourage technological innovation in both private and public sector policy and practice spaces.

In this article, we explore the extent to which Tanzania and South Africa can exploit benefits of their INDCs to realise positive economic, environmental and social outcomes. In essence, the paper compares and contrasts the capacity and capabilities of Tanzania and South Africa towards low carbon development and growth. The documentation unfolds as follows: the nest section discusses the methodology, followed by results and discussion before concluding the arguments.

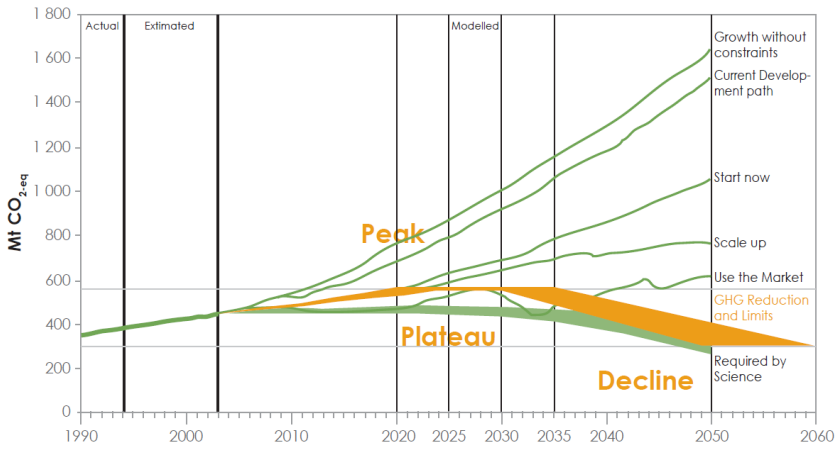
Methodology

The objective of the study was to investigate the extent to which Tanzania and South Africa can exploit benefits of their INDCs so as to realise positive economic, environmental and social outcomes. It should be noted that INDCs must not be treated in isolation with existing climate change policies and economic development policies in a particular country. Rather, these should complement each other so as to meet the desired goals. For the study to achieve its objectives existing economic and climate change policies, several documents which look at the population and Human Development Index (HDI) were consulted. In addition, international documents like the International Energy Agency (IEA) World Energy Outlook - WEO (IEA 2015, the South African Renewable Energy Status Report -REN21(2015) and Climate data explorer were consulted. To investigate whether the INDCs were adequate, equitable and fair, information was sourced from various sources, which developed various online maps and methodologies. Among these sources were: the CAT tools that calculate the adequacy of individual INDCs based on historical emissions, projected emissions and policy projections; Equity Reference Calculator, 2016 and the Equity Reference Framework. Furthermore, websites were visited and these included the following: http://climateobserver.org/country-profiles/tanzania/, and http://unfccc.int/ghg_data/ghg_data_unfccc/items/4146.php.

Results and Discussion

After carrying out its long term mitigation scenario study between 2005 and 2008, South Africa took a decision to adopt a peak, plateau and decline (PPD) approach to reducing GHG emissions. The overarching objective is to reach to peak between 2020 and 2025, plateau for roughly a decade and then starts to reduce GHGs (Figure 1). Emissions during the period 2025-2030 will be in the range 398-614 million tonnes of CO2 equivalent. Such emissions cover those from land and all sectors of the economy and these emissions stood at 461MtCO2e in 2000 (Department of Environmental Affairs-DEA, 2009).

Figure 1: South Africa's approach to reduction of GHG emissions



Source: Adpted from DEA (2009)

According to the Climate Action Tracker - CAT (2016) South Africa's INDCs have been rated inadequate as its target after accounting for Land Use, Land-Use Change and Forestry (LULUCF). As alluded before, South Africa proposes to reduce its GHG emissions levels to between 398–614 MtCO2e over 2025–2030 (CAT, 2016).

Tanzania INDCs state that there is a need for financial support for the country to fully implement its submission. Against this background, the country has done its calculation and concluded that an initial USD 500 million per up to 2020 is required to address climate change adaptation. Thereafter, Tanzania proposed to receive one billion United States dollars (US$) per year up to 2030. About US$60 billion by 2030 in mitigation investments is needed. Thus, the Tanzania INDCs (that also considers adaptation and mitigation) rest upon financial and technological support from the international community. There are sectors which have been identified as those that require adaptation to climate change namely: the crop sector, livestock, coastal, fisheries, water resources, forestry, health, tourism and human settlement. As for mitigation, the following priority sectors have been identified: energy, transport, forestry and waste management. From the United Nations Millennium Development Goals indicators Tanzania per capita carbon emission (CO3 equivalent in tonnes) stand at 0.15, a figure which is quite insignificant. Through

its INDCs Tanzanian has indicated that it will reduce its emission by 10-20% by 2030 relative to the business as usual scenario of 138-153 Million tonnes Carbon dioxide (CO2e). Furthermore, the INDCs state that emission reduction is subject to review after the first Biennial Update Report.

According to Day et al. (2016), Tanzania issued vague statements regarding their intentions. The country states, "The intended contributions by these sectors are considered fair and ambitious in light of Tanzanian's national circumstances and for achieving the UNFCCC objective" (Tanzania INDC, 2015:6). Based on the methodology developed by the CAT (2016) on comparability of effort determining adequacy and fairness, we consider these to be inadequate for Tanzania. As emission targets proposed are less ambitious towards the achievement of the 2^oC level. Therefore, warming is likely to exceed 3^oC. This conclusion is reached based on the historical emissions, especially from forestry, the long term pathway and the initial 2020 pledge hinged on financial and technical support from the international community which is a default. Implementing the pledge requires Tanzania to come up with strategies to finance the commitments at the national and sector levels. Given the Tanzania GDP/capita and the Human Development Index, it does not have the capability to implement its pledge. Table 1 provides a comparison of South Africa and Tanzania equity indicators.

Table 1: A comparison of South Africa and Tanzania Equity indicators

Indicator	*Tanzania*	*Rank*	*South Africa*	*Rank*
CO2 Emissions - Cumulative Per Capita 1850-2012	3.16 tCO_2 Per Capita	168 /185	284.01 tCO_2 Per Capita	47/185
CO2 Emissions - Cumulative 1850-2012	151.05 $MtCO_2$	119 /185	14.86 $MtCO_2$	16/185
GHG Emissions - Cumulative Per Capita 1990-2012 without LUCF	25.76 tCO_2 Per Capita	151 /185	168.50. tCO_2 Per Capita	158/185
GHG Emissions - Government Projected Total 2030 without LUCF	-	-	-	-
CO2 Emissions - EIA Projected Total 2030	-	-	-	-
Capacity to Adapt to Climate Impacts - 2010	3.00 On a Scale of 1-5	100 /178	4.00 on a scale of 1-5	56/178
Investment Required for Mitigation Potential Below $0 per tCO2e	-	-	7.67 2010 real USD billion	13/13
Investment Required for Mitigation Potential at $0-10 per tCO2e	-	-	0.36 2010 real USD billion	12/13
Human Development Index - Health 2013	61.50	151/182	56.90	163/182
GDP-PPP Per Capita 2012	2,205.97 Intl$ (2011) Per Capita	148/178	12,374.53 Intl$ (2011) Per Capita	82/178
GHG Emissions - Cumulative Per Capita 1990-2012 with LUCF	75.50 tCO_2 Per Capita	114/185	169.24 tCO_2 Per Capita	63/185
Capacity to Adapt to Climate Impacts - 2030	3.00 On a Scale of 1-5	101/178	4.00 On a Scale of 1-5	58/178

Human Development Index - Education 2013	5.10	142 /181	9.90	54 /181
Percentage of Population Living on More than $3.10 per Day 2012	23.90 Percentage	107 /125	65.30 Percentage	71 /125
Percentage of Population with Access to Electricity 2012	15.30 Percentage	174 /182	85.40 Percentage	116 /182
Mitigation Potential Below $0 per ton CO2e - 2030	-	-	130.60 $MtCO_2e$	13 /13
Mitigation Potential at $0-10 per ton CO2e - 2030	-	-	46.09 $MtCO_2e$	11 /13
Mitigation Potential at $10-30 per ton CO2e - 2030	-	-	74.76 $MtCO_2e$	Six /13
TPES per GDP (MULUS)	1.01 (2015)		0.44	
TPES/pop (toe/capita)	0.48		2.66	
CO_2/TPES(t CO_2/toe	0.41		2.98	
HDI	0.521	151	0.666	116

Source: CAIT Climate Data Explorer, Equity Explorer (2016) and IEA (2015)

* TPES: Total primary energy supply

Table 1 shows that Tanzania's CO2 emissions; cumulative per capita 1850-2012 was ranked 168 out of 185, whereas South Africa is ranked 47. Regarding Capacity to adapt to climate impacts by 2030 Tanzania is ranked 3 on a scale of 1- 5 while, South Africa is ranked 4. The Table shows the differences that exist between the two countries regarding human development, purchasing power parity (PPP) and the cumulative carbon emission. While South Africa emits more based on economic development and energy access of its population, it is by far developed. Hence it is better placed to have the capacity to implement its INDCs. For Tanzania there are many challenges. For starters the population that has access to energy is at 15%. In terms of mitigation potential it stands at $10-30 per tonnes CO2e – 2030. Capacity to Adapt to Climate Impacts by 2030 for Tanzania is ranked at three which indicates limited capacity. In the midst of fulfilling its INDCs obligations Tanzania has to improve energy access, access to education, access to health among other to improve the wellbeing of its population.

Conclusion

Through the investigation of the adequacy, fairness, capability and equity of the INDCs submitted by Tanzania and South Africa, the study established that these are generally inadequate. Both countries included conditionality clauses in their INDCs – the conditionality facilitated ambition. In the case of Tanzania, the vague statement not projecting its GHG reductions and stating that if circumstance allow, renders it unambitious. The conditionality clause brings uncertainty and has legal and financial implications once the document is ratified as the country's NDCs. It is also critical for both countries to start developing comprehensive sector based climate finance strategies that articulate their financial needs to enable the implementation of INDCs. Although South Africa has put forward ambitious targets, it is important to note that ambition without implementation is nothing. We therefore conclude that

the successful implementation of the INDCs is, to a greater extent, aligned with the financial aid the country will receive as well as domestic mobilisation of financial and other resources.

References

Day. T., Roser.F, and Kurdziel. M. (2016). Conditionality of Intended Nationally Determined Contributions (INDCs). New Climate Institute. Available online: http://mitigationpartnership.net/sites/default/files/indc-conditionality_0.pdf [Accessed 27 May 2016].

Department of Environmental Affairs (DEA). (2009). South Africa's Long Term Mitigation Scenarios and Climate Change Policy Response, PowerPoint presentation, presented at Workshop on Mitigation Potentials, Comparability of Effort and Sectoral Approaches, Bonn: DEA, http://ec.europa.eu/clima/events/docs/0010/south_africa_en.pdf. Accessed 01/06.2016

Harries, J. and Hoch, S. (2016). Long-term mitigation planning: implementing the Paris Climate Agreement. Available online: http://ee.ricardo.com/cms/long-term-mitigation-planning-implementing-the-paris-climate-agreement Accessed 10 June 2016

IEA. (2015). Key World Energy Statistics 2015. Available online: https://www.iea.org/publications/freepublications/publication/KeyWorld_Statistics_2015.pdf [Accessed 15 June 2916]

Mbeva, K.L. and Pauw, P. (2016). Self-Differentiation of Countries' Responsibilities. Addressing Climate Change through Intended Nationally Determined Contributions. Discussion Paper 4/2016. German Development Institute.

Roser. F., Day. T. and Kurdziel.M. (2016). After Paris: What is next for Intended Nationally Determined Contributions (INDCs)? New Climate Institute. Available online http://mitigationpartnership.net/sites/default/files/indcs_post_paris_1.pdf [Accessed 27 May 2016].

Schmitz, H. (2012). PEACH: Methodology, Brighton: IDS

Tanzania INDC. (2015). Available online: http://www4.unfccc.int/submissions/INDC/Published%20Documents/United%20Republic%20of

%20Tanzania%E2%80%8B/1/INDCs_The%20United%20Republic%20of%20Tanzania.pdf
[Accessed 27 April 2016].