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How do sectoral policies support climate compatible development? An empirical analysis focusing on southern Africa

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ABSTRACT

Promoting inclusive and sustainable economic and social development whilst simultaneously adapting to climate change impacts and mitigating greenhouse gas emissions – Climate Compatible Development (CCD) – requires coherent policy approaches that span multiple sectors. This paper develops and applies a qualitative content analysis to assess national sector policies of ten southern African countries to determine their approaches for water, agriculture, forestry and energy and their compatibility with the aims of the three dimensions of CCD (development, climate adaptation and climate mitigation). Results indicate that sector policies currently only partially support shifts towards CCD, with approaches that both complement and detract from CCD being prioritized by national governments. Agriculture offers the greatest number of potentially viable approaches capable of achieving the development, adaptation and mitigation aims inherent in CCD, while energy the least. National governments should focus on developing coherent, cross-sector approaches that deliver such potential triple wins in order to promote new forms of inclusive and sustainable economic and social development, whilst facilitating adaptation to climate change impacts and supporting mitigation activities. Doing so will also go a long way towards ensuring the progress needed for achieving the Sustainable Development Goals (SDGs) and Nationally Determined Contributions (NDCs) to the Paris Climate Agreement.

1. Introduction

Following the adoption of the two latest milestones of international governance, i.e. the Paris Agreement and the Sustainable Development Goals (SDGs), the world is faced anew with the multi-faceted and interconnected challenge of promoting inclusive and sustainable economic and social development, whilst adapting to the impacts of climate change and mitigating against further warming. Importantly, the SDGs will require transformative action precisely because of the need for climate change to be mainstreamed and integrated in all aspects of development work (Maxwell, 2017). The requisite level of ambition is prescribed by the Paris Agreement.

A key motivation for promoting flexible and transformative climate action is the identification of developing countries in Africa and elsewhere as particularly vulnerable to the impacts of climate change (IPCC, 2014). In recent years their number of experiences of significant climate shocks (notably floods and droughts) has multiplied and is perilously projected to only go in one direction: up. Extreme weather and the accompanying threats could potentially cancel the significant progress that these countries have made in poverty alleviation, agricultural productivity, disease control and malnutrition reduction (IPCC, 2014). Put differently, recent development gains are dangerously fragile, given they have been made in climate-sensitive sectors (CDKN, 2015), hence, the increased recognition of the imperativeness of incorporating climate policy into other policy sectors (Stringer et al., 2014).

Obviously, integrating climate policy and development goals is not a recent idea, going all the way back to the UNFCCC's (United Nations Framework Convention on Climate Change) identification of the complementarities between mitigation, adaptation and sustainable development. However, exploration of synergies between climate change and development goals only gained traction during the 2000s, as evidenced by the widespread deployment of, and experimentation with, a number of operational concepts, such as 'low carbon development', 'climate resilient development', 'co-benefits' and others (Nunan, 2017).

While the literature has offered a wide assortment of terminology, perhaps the most developed model is that of Climate Compatible Development (CCD), which seeks 'triple wins' and has thus been defined as 'development that minimizes the harm caused by climate impacts, while maximizing the many human development opportunities

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presented by a low emissions, more resilient future' (Mitchell and Maxwell, 2010, p. 1).

CCD is a relatively recent concept (c. 2010) and despite increasing policy support for it (e.g. Stringer et al., 2014), progress in moving towards CCD in practice, both within and across sectors, has not yet been explored in depth. Discussions in the literature have so far explored *inter alia* the drivers of CCD (Ellis et al., 2003), the potential impacts of CCD interventions (Suckall et al., 2015), as well as their implications for procedural justice (Wood et al., 2016). There is, however, pressing need for evidence-based empirical case studies analysing the interactions between adaptation, mitigation and development (Tompkins et al., 2013). Most commonly, adaptation and mitigation have been examined in the absence of development, although examples of case study research that identify the ability to provide potential 'triple-wins' for each of adaptation, mitigation and development are gradually emerging (e.g. Klein et al., 2007; Ellis et al., 2003; Suckall et al., 2015).

Synthesising lessons from the first seven years' experience with the concept of CCD, Maxwell (2017) acknowledges the breakthroughs in the understanding of how CCD can be operationalised in practice but posits that several challenges need still to be overcome if the concept is to gain traction with policymakers in developing countries. Prime among these is the need for eliminating ambiguity in the concept of CCD by exploring complementarities and tensions so as to 'tackle low awareness and poor information on uncertainties, risks, opportunities and trade-offs' (Tanner et al., 2014, p. 6). Stringer et al. (2017) have noted that policymakers regard the integrative template that CCD offers as useful when reviewing development policies, providing a reminder to actively place climate change at the centre of cross-sectoral and inter-ministerial discussions. However, concern has been concurrently expressed that adoption of the CCD concept stumbles upon the lack of concrete examples of 'triple wins', as well as of trade-offs (Nunan, 2017).

Adding to the empirical evidence base of 'triple-win' projects is consequently particularly important for natural resource based sectors that are most sensitive to climate change, and which support the livelihoods of millions of people globally. This paper targets this gap by focusing on national sector policies in southern Africa. In particular, it assesses policies from the water, agriculture, energy and forestry sectors and examines their potential to move towards CCD by analysing their alignment with CCD's three component parts: adaptation, mitigation and development. Different sectors of national policy making can address the priorities for adaptation, mitigation and development in different ways. While energy and forestry sectors are typically considered at the forefront of mitigation options, agriculture and water are generally considered to require more of an adaptation focus (IPCC, 2014; Klein et al., 2007). Understanding how different sectors handle the components of CCD is important in identifying scope for conflicts and mutual benefits between policy areas, as well as opportunities for harnessing benefits capable of supporting shifts towards enhanced climate adaptation, mitigation and development, within and across sectors.

This paper, therefore, contributes towards understanding how CCD 'triple wins' can be pursued and trade-offs reduced; an area that remains underexplored, with a dearth of assessments that examine possibilities to achieve CCD across different natural resource based sectors. By carrying out a cross-sectoral comparison of government policy documents, this paper aims to address the question of how national governments can harmonize their national policies in order to maximize their potential to move towards CCD. It therefore provides important insights that can help address some of these challenges around operationalising in practice CCD in southern Africa.

2. Research design and methods

Our research design and methodological approach is developed from the framework used by Tompkins et al. (2013) and involves qualitative content analysis of SADC (Southern Africa Development Community) countries' national sector policies to determine their priority approaches for water, agriculture, forestry and energy. Approaches were assessed according to whether and how they contribute towards the three components of CCD (adaptation, mitigation and development).

National policies for water, agriculture, forestry and energy in ten Anglophone SADC countries (Botswana, Lesotho, Malawi, Mauritius, Namibia, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe) were chosen as the focus in order to understand government priorities for each sector in relation to the three components of CCD.[1] National policies were developed by governments to provide overall direction, objectives and management strategies for environmental sectors. We did not restrict the timeframe of our analysis as some countries have not updated their policies recently. Internet searches were conducted in order to locate the sector policies on government and other relevant websites. For policies that could not be located online, staff members working for relevant government departments were contacted by email in order to obtain the policies (full list of analysed policies given in Supplementary material Table 1).

Qualitative content analysis was used to facilitate impartial analysis of written documents, including policies (Altheide et al., 2008; Bowen, 2009), and was carried out to determine the priorities in water, agriculture, forestry and energy sector policies. Given the multitude of policies outlined in these documents for each of the four sectors per country, only the ones that were emphasized upon the most were selected. Textual terminology and positioning was used to determine the emphasis of one approach relative to another, with identification of emphasis based on whether a specific approach was noted in the relevant policy document as being a 'top priority', of 'particular focus', 'urgent', an 'important consideration' or a 'main policy objective'. The entire content of the policies were read in order to determine emphasis, with the keywords relating to the approaches being searched for within each policy document.

To determine policy alignment with the three CCD components each of the priority approaches was assessed on its potential ability to positively and/or negatively contribute to the three components of CCD, following Tompkins et al. (2013). The identified priority approaches within each of the four sector policies for each study country were then scored according to the criteria in Table 1. Note here that we aim for a qualitative analysis of 'triple-wins' in the three sectors and not for a quantitative assessment of adaptation, mitigation and development aspects.

Each priority approach was coded once, based upon its specific theme within the policy in which it was named (water, agriculture, energy or forestry policy), then subjectively assessed regarding the potential benefits (often termed 'wins') and potential negative impacts (or 'losses') for climate adaptation, mitigation and development at a national level. In this manner, each of the priority approaches for the ten countries was systematically coded and entered into a table, ensuring consistency and validity across sector policies. Each approach was then coded with regards to the assessment criteria detailed in Table 1. For example, if an approach contributed to potential wins for adaptation, mitigation and development with no negative consequences for each, then it was assigned a score of four. If an approach contributed to two components of adaptation, mitigation or development and had no negative consequences for each component, it was assigned a score of three. If an approach contributed to adaptation, mitigation and development but had negative consequences for one or more of the components, it was assigned a score of two (see Lesotho water policy example below). A score of one, potential double wins with regrets, was

[1] Only national policies written in English were considered within the selected countries where the language of government is English.