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Regular Examination

Examiner: Ndapewa Fenny Nakanyete

External Moderator: Prof. R. Donaldson (University of Stellenbosch)

This question paper consists of 2 pages including this front page.

Instructions

1. Answer **all** the questions.
2. While most of the marks will be awarded for content, candidates must bear in mind the importance of presentation, i.e. insight and critical thinking.

1. Prepare a working outline for a journal paper that you would like to write.
 - 1.1 In a sequential format, list at least 10 basic elements and common sections of journal paper. (10)
 - 1.2 For your Geography-related paper, formulate an abstract and at least three main statements that you will make in your introduction. (20)
2. Read and examine the attached article entitled “A climate of control: flooding, displacement and planned resettlement in the Lower Zambezi River valley, Mozambique”¹, also referenced in the footnote below and answer the following questions.
 - 2.1 From the geographical paradigms, identify which one is used as the key object of analysis in this research article? Justify your answer. (20)
 - 2.2 Point out and discuss four features which make this article fall under applied geography. (30)
3. Evaluate how and why Geography shifted data collection and analysis from exclusive quantitative to include qualitative and mix-method since the 20th century. (10)
4. Discuss what views the humanistic approach contribute to Geography. (10)

Total: [100]

END OF EXAMINATION

¹ Arnal, A. (2014). A climate of control: Flooding, displacement and planned resettlement in the Lower Zambezi River valley, Mozambique. *The Geographical Journal*, 180(2), 141-150.

A climate of control: flooding, displacement and planned resettlement in the Lower Zambezi River valley, Mozambique

ALEX ARNALL

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In recent years, the potential role of planned, internal resettlement as a climate change adaptation measure has been highlighted by national governments and the international policy community. However, in many developing countries, resettlement is a deeply political process that often results in an unequal distribution of costs and benefits among relocated persons. This paper examines these tensions in Mozambique, drawing on a case study of flood-affected communities in the Lower Zambezi River valley. It takes a political ecology approach – focusing on discourses of human–environment interaction, as well as the power relationships that are supported by such discourses – to show how a dominant narrative of climate change-induced hazards for small-scale farmers is contributing to their involuntary resettlement to higher-altitude, less fertile areas of land. These forced relocations are buttressed by a series of wider economic and political interests in the Lower Zambezi River region, such as dam construction for hydroelectric power generation and the extension of control over rural populations, from which resettled people derive little direct benefit. Rather than engaging with these challenging issues, most international donors present in the country accept the ‘inevitability’ of extreme weather impacts and view resettlement as an unfortunate and, in some cases, necessary step to increase people’s ‘resilience’, thus rationalising the top-down imposition of unpopular social policies. The findings add weight to the argument that a depoliticised interpretation of climate change can deflect attention away from underlying drivers of vulnerability and poverty, as well as obscure the interests of governments that are intent on reordering poor and vulnerable populations.

KEY WORDS: Mozambique, Lower Zambezi River, political ecology, narrative, climate change, involuntary resettlement

Introduction

Growing recognition that the global community is failing to meet its targets for greenhouse gas mitigation has prompted increased interest in finding ways to facilitate climate change adaptation (IPCC 2007). In recent years, the potential role of planned, internal resettlement – the ‘systematic relocation of groups of people from one or more places to other locations within a given country’ (Baird and Shoemaker 2007, 865) – as a climate change adaptation measure has been highlighted (Foresight 2011). ‘Planned relocation’ now features in the UNFCCC Cancun Adaptation Framework’s list of activities that might qualify for future adaptation funding (Warner 2011). At the national level, countries located in deltas and flood-prone coastal areas

and islands of the Pacific are already pursuing resettlement programmes as a matter of course (Bogardi and Warner 2008). Although approaches to internal resettlement are highly diverse, the common goal is to proactively remove people from areas considered to be at risk or no longer viable under an increasingly unpredictable or dangerous climate. Similarly, following climate-induced displacement, it should be possible to encourage people to resettle in new, safer areas rather than return to their places of origin.

Planned resettlement is often viewed as a mainly technical exercise involving the delivery of ‘hardware’, such as new houses and infrastructure, to relocated people (Rew *et al.* 2006). However, in many developing countries, resettlement is a deeply political process that raises fundamental questions about state–rural relations (Mehta 2009), and often results in

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an unequal distribution of costs and benefits amongst relocated persons (McDowell 1996). This article explores these tensions in Mozambique, which is considered to be one of the poorest nations in the world (UNDP 2011), as well as one of the most vulnerable countries to climate-related disasters (primarily flood, drought and cyclone) and change (UNISDR 2009). Since 2007, the Mozambican Government has been implementing a major resettlement programme to permanently relocate hundreds of communities deemed to be at 'flood risk' in the Lower Zambezi River valley, a region of crucial importance to the national economy as well as the livelihoods of hundreds of thousands of small-scale farmers.

The analysis takes a political ecology approach, focusing on discourses of human–environment interaction, as well as the power relationships that are supported by such discourses, to critically evaluate the drivers and outcomes of a programme that seemingly represents a policy response rooted within a disaster risk reduction (DRR) and climate change adaptation framework. The paper reveals how a dominant narrative of climate change-induced hazards for small-scale farmers is contributing to their involuntary resettlement to higher-altitude, less fertile areas of land. These forced relocations, and the narratives that underpin them, are buttressed by a series of wider economic and political interests in the Lower Zambezi River region from which resettled populations derive little direct benefit. Rather than engaging with these challenging issues, donors are instead using climate change discourse in an opportune manner to justify a rapid dispersal of funds to these populations, thus rationalising the top-down imposition of unpopular social policies. The findings add weight to the argument that an insufficiently socialised interpretation of climate change can result in the reconfiguration of adaptation programmes intended to provide livelihoods support to the poorest and most marginalised in favour of the already powerful.

Discourse, power and environmental change

Political ecology (Blaikie and Brookfield 1987; Bryant and Bailey 1997) is an approach to understanding environmental issues and outcomes through the power relationships that produce them. According to Scott and Sullivan (2000), two central themes of political ecology are the examination of the nature and origins of discourses concerning the 'environment'; and the identification of the power relationships that are supported by such discourses. These themes provide an analytical framework for the deconstruction of policies and interventions designed to decrease the vulnerability of populations affected by climatic shocks and change.

The first theme – exploring discourse – can be undertaken via discourse analysis, a 'constructivist approach to the study of the social world which

focuses not directly on specific phenomena themselves, but rather on claims concerning these phenomena, claim-makers and the claims-making process' (Adger *et al.* 2001, 684). A wide range of approaches have been taken to discourse analysis in environment and development, including examination of 'labels' (Long and van der Ploeg 1989), 'images' (Tembo 2001) and 'representations' (McNamara and Gibson 2009). The approach adopted here builds on the concept of the development 'narrative', defined as a story with a chronological order and a particular structure consisting of an involved 'cast' of actors (Adger *et al.* 2001). In his critique of the 'Third World disaster' narrative, Bankoff (2001, 29) argued that the West has constructed a story that 'denigrates large regions . . . as dangerous – disease-ridden, poverty-stricken and disaster-prone; one that depicts the inhabitants of these regions as inferior – untutored, incapable, victims; and that it reposes in Western medicine, investment and preventative systems required to remedy these ills'. According to Escobar (1995, 56), narratives like these are powerful because they 'set up the world as a picture, so that the whole system can be grasped in some orderly fashion as forming a structure or system'. However, as with any story, it is often possible to find alternative understandings that do not necessarily fit with the mainstream interpretations of events.

The second theme – identifying power relationships – recognises that, through discourse, certain ways of understanding society, including its organisation and the distribution of power, become excluded, whereas others attain authority (Hilhorst 2001). Discourses, therefore, serve to promote particular political, cultural or moral standpoints, and are often mobilised in struggles over social meanings and strategic resources. For example, Fairhead and Leach (1996) showed how national and international actors maintained a dominant narrative of African deforestation and savannisation that supported their economic and political interests. Little *et al.* (2008), drawing on the case of pastoral livelihoods in East Africa, demonstrated that discourses concerning 'poverty' can empower outside agents to intervene in order to transform rather than strengthen livelihoods. More recently, commentators have highlighted the connections between climate change and the interests of those promoting neoliberalism. These critiques originated in the work of scholars who showed how the role of the 'professional' or 'technocrat' in the international development 'industry' has allowed the expansion of the neoliberal agenda of development agencies (e.g. Kothari 2005). In the past few years, researchers have built on these earlier analyses to argue that a narrow, scientifically driven climatic change narrative fits a global environmental management policy model that buttresses dominant neoliberal interpretations of human–nature relationships. This has been argued, for example, in relation to

carbon trading (Lohmann 2011) and US defence interests (Hartmann 2010) where the principles of free market supremacy have been extended to new spheres of activity and regions of the globe as a response to the climate change threat. A key concern here is that neoliberalisation of climate change discourse leads to policy solutions that aim to increase the 'resilience' of vulnerable people to 'external' shocks (most often through integration into the global labour and market systems) rather than any serious attempt to transform those wider political and economic conditions that gave rise to their vulnerability in the first place (Felli and Castree 2012).

The next section further explores what the two themes outlined mean in the context of climate change and planned resettlement in Mozambique.

Climate change, flooding and resettlement in Mozambique

The Zambezi River rises in Angola and traverses six countries (Zambia, Angola, Namibia, Botswana and Zimbabwe) over a distance of 2524 km, making it the fourth largest floodplain river system on the African continent (Thá and Deager 2008). The Lower Zambezi River extends over 700 km, from the Cahora Bassa dam, which is located in Tete Province, central Mozambique, to the Indian Ocean. It is used directly by about 2.8 million people to build their livelihoods, which centre on mainly small-scale agricultural production and fishing. In early 2007, widespread flooding occurred along the lower portion of the river, directly affecting around 160,000 people and temporarily displacing 107,000 (INGC 2007). Shortly after the incident, in March 2007, the Mozambican Government launched a US\$71 million Preliminary Plan for Post-Disaster Resettlement and Reconstruction, which included the planned resettlement of some 140,000 people out of the floodplains. To date, about 100 low-lying *bairros* or villages deemed to be 'at risk' from floods have been relocated to designated sites in areas of higher elevation. Although the exact numbers of people moved is not known, they add up to tens of thousands. The process is being led by the *Instituto Nacional de Gestão de Calamidades* (INGC; National Disasters Management Institute), a government agency formed in 1997 and operating under the Ministry of State Administration (MAE), which also has responsibility for DRR. Today, most international agencies concerned with DRR and climate change prefer to work via the INGC (Artur and Hilhorst 2011).

The case of climate change, flooding and resettlement in the Lower Zambezi River valley provides rich context to explore the discursive and political processes outlined above. Data are based on three main sources. First, 19 semi-structured interviews with key informants, including government officials¹, donor and NGO personnel, and academics were conducted in the Zambezi valley region and the national capital,

Maputo, in August–September 2011, and May and September 2012. Second, the findings draw on the author's experiences carrying out livelihoods research during the same time periods across four resettlement communities situated alongside the Zambezi River in Caia District, Sofala Province. In total, 65 semi-structured individual and group-based interviews were carried out with farmers, and community-based leaders and organisations. Third, information was drawn from secondary documents on climate change, displacement and resettlement produced by the Mozambican Government and development agencies operating in the country. The findings from these qualitative data have been grouped into the two themes developed above, which form the focus of the next two sections. These themes are, in turn, the nature and origins of narratives concerning displacement and resettlement; and the power relationships that are supported by such narratives.

Narratives and counter-narratives: problems, causes and solutions

According to Wolmer *et al.* (2006, 10), a narrative in the context of policymaking on environment and development issues is concerned with 'defining a problem, explaining how it comes about, and showing what needs to be done to avert disaster or bring about a happy ending'. The analysis that follows has been organised along these lines, in terms of 'problem', 'cause' and 'policy solution'. In each case, the dominant discourse is described. Counter-narratives – interpretations that do not fit easily with prevailing views of environment–development interactions – are then presented to highlight alternative understandings of climate change, flooding and resettlement in Mozambique.

Nature of the flooding problem

Climate-related disasters in Mozambique are widely considered to be one of the most serious challenges that the country faces (INGC 2009). The origins of modern-day concern over flooding as a source of hazard largely stem from the widely publicised inundation that took place in the southern and central regions of the country in 2000/2001 during which approximately 491,000 people were displaced and 700 died (Christie and Hanlon 2001). This incident resulted in the arrival of large-scale humanitarian support to Mozambique, with over 49 countries and 30 international NGOs providing assistance (Moore *et al.* 2003). A range of international and national stakeholders have since produced numerous media, policy and science reports emphasising the risks that floods pose to small-scale farmers in low-lying areas, and how these risks should be managed in the context of successive, unpredictable inundations. These concerns were communicated in interviews with key

informants, the majority of which believed that the Lower Zambezi River floodplain has become an increasingly dangerous place to live since 2000. Large-scale inundations in these areas were viewed as a threat to lives and livelihoods, either directly through the washing away of people's crops and possessions, or indirectly through the trauma and inconvenience of displacement, or the spread of waterborne diseases and malaria. These impacts were commonly perceived to be the greatest dangers that people living in low-lying areas faced, and were consistently ranked above non-climate related factors, such as animal diseases and fluctuations in food prices.

The view of floods in the Lower Zambezi valley as primarily a source of risk and danger has been subscribed to by the Mozambican Government and the majority of donors operating in the country. However, a minority of key informants stressed that this viewpoint overlooked the technical, socioeconomic and cultural contexts in which small-scale farmers have interacted with the Lower Zambezi floodplain system for hundreds of years. This has occurred in three main ways. First, floods have always been an integral part of the Zambezi River system, with records of major inundations dating back to the sixteenth century (Chidiamassamba and Liesegang 1997). Small-scale farmers rely on the resources that floods bring, such as rich agricultural soils and fish, to construct their livelihoods, and almost universally incorporate the annual cycle of flooding into their crop production strategies. Most farmers interviewed during the livelihoods research described how they minimised risk by growing across a number of plots situated within different agro-ecological zones in a single year, typically up to six plots per household. In this way, at least one or two plots could be expected to perform well every year regardless of prevailing climatic conditions. These findings reflect earlier work by Osbahr *et al.* (2008) who show how small-scale farmers in southern Mozambique respond to climate variability and shocks via diversification of land-use management practices.

Second, the impacts of floods in the Lower Zambezi floodplain, including those related to human displacement, are typically incorporated into day-to-day practice by farmers rather than being viewed as a series of externally created catastrophic events (Artur and Hilhorst 2011). This was confirmed during the livelihoods research which, for example, found that farmers in low-lying areas construct small, portable homes that can be easily disassembled and transferred to higher ground during the flooding season. Such a method of living with floods seemed ineffective and maladaptive to many of the key informants interviewed, although it was viewed as normal by small-scale farmers. These findings support Bankoff's (2001) argument that different belief systems view disasters in different ways, and means of coping with an event

that make sense to one culture can seem strange to Western scientists and policymakers.

Third, although large-scale human displacements can be dramatic in nature, and cause hardship for poor families, their effects can be relatively fleeting. This is because flood-affected households often have more resources at their disposal to cope with large-scale floods than is commonly perceived. For example, the Mozambican early-warning food security service (FEWS NET) recently argued that 'most households affected by flooding [in the Lower Zambezi region] will not face serious food insecurity as a result. They can earn more than enough from fishing to meet their immediate needs . . . and most will have a dry-season harvest from about July' (FEWS NET 2011). Similarly, Brouwer and Nhassengo (2006) described how communities affected by the 2000 floods were able to mobilise resources to provide support to community members long before the arrival of government aid. Taken together, these points help to explain why policymakers responsible for the management of DRR and climate change in Mozambique tend to view floods as a more serious risk than the farmers who actually experience them (Patt and Schröter 2008).

Causes of flooding

During key informant interviews, government personnel and most donors identified increasingly erratic weather as the main reason why the Lower Zambezi River floodplain is becoming a more dangerous place to live. The majority of interviewees assumed global warming to be the main underlying factor for why this was the case. However, whilst climate change is recognised as a long-term threat to the economic viability of the Lower Zambezi region (e.g. Beilfuss 2012), the potential role played by climate change in causing present day flooding is not yet understood (Goodness 2011). The reasons why interviewees appeared to conflate current climate hazard with climate change impacts in this manner are complex. From a political perspective, one possible explanation is the 'newness' of the climate change issue in Mozambique (Shankland and Chambote 2011). Its rise in prominence in recent years has fuelled competition between INGC and the country's Ministry for Coordination of Environmental Action (MICOA) over 'ownership' of the issue and hence lucrative climate change funding. In this context, policymakers tend to 'promote' the idea that climate change is a major contributing factor to flooding in the Zambezi region². Under such conditions of persistent uncertainty, understandings of environmental change might be as much based upon Western preconceptions concerning what constitutes 'normal' climate variability than actual scientific measurement (cf. Endfield and Nash 2002).

In spite of the dominance of the 'erratic weather' discourse, an alternative interpretation was identified during key informant interviews which questions climate-related causes as the main driver of population displacement from the Zambezi valley. Promoted by a smaller number of international donors, as well as national environmental NGOs, this position highlights the role of economic rather than environmental drivers as the primary cause of flooding impacts. Modification of the Lower Zambezi delta region for economic purposes dates back to 1893 with the development of embankments for commercial agricultural schemes (Beilfuss and Brown 2010). More recently, the greatest impacts have undoubtedly stemmed from the creation of dams along the river for hydroelectricity generation, most notably the Cahora Bassa dam in 1976. These developments, it is argued, have significantly increased the susceptibility of people living downstream to sudden inundations by significantly increasing the unpredictability of the river's annual flow characteristics (Beilfuss and Brown 2010), thereby hindering farmers' abilities to anticipate and take advantage of the natural rise and ebb of floodwaters³. Moreover, the release of sudden 'pulses' of water during the dry season for irrigation of industrial agriculture and as a navigation aid often catch farmers unawares, resulting in significant damage to their crops during the middle of the growing season. The impacts of dam-induced 'mini-floods' were widely acknowledged by NGO and government extension workers who regularly worked with resettlement communities. Impacts were found in three out of the four villages where livelihoods research was conducted, with the majority of farmers interviewed having lost most of their crops during one of the previous three dry growing seasons.

Policy solutions to flooding

In Mozambique, narratives concerning 'the dangers of floods' and 'erratic weather' are most commonly associated with resettlement of small-scale farmers out of floodplains to areas of higher land. Government-based policymakers consistently stated during interviews that local authorities were 'tired' of people being displaced and dependent on provision of humanitarian support. Permanent relocation was commonly viewed as creating a 'win-win' situation. This is because resettled families received improved houses that could be used as a secure base from which to continue cropping activities in the floodplains. Families that decided to abandon resettlement areas in favour of the low area again were viewed as 'irresponsible' or 'ignorant', and therefore relieved government of its obligations to provide assistance in the future should floods reoccur. Moreover, because climate change was leading to increasingly erratic weather, these problems were going to escalate in the future. Permanent resettlement was therefore seen as

one way of incorporating climate change considerations into the country's more established DRR framework⁴. In this manner, most government officials viewed resettlement as 'development', but also as a means to adapt.

In contrast, donors took a more diverse view of the suitability of resettlement as a response to climate extremes and change. Most international NGOs that had conducted livelihoods interventions in resettlement areas viewed the government's relocation programme as a means of 'making the most out of a bad situation'. This accepted the 'inevitability' of extreme weather impacts and viewed resettlement as an unfortunate and, in some cases, necessary step to increase people's 'resilience'. A smaller number of agencies, however, viewed interventions in resettlement sites as 'facilitating adaptation'. This position is encapsulated by a 2010 UK Department for International Development 'Climate change case study' which stated that: 'In the last ten years weather patterns [in the Lower Zambezi valley] have become more unpredictable. Rainfall is erratic and there have been more frequent floods and droughts'.

These dangers mean that 'vulnerable communities' need help adapting 'to the impacts of climate change by strengthening and diversifying' their livelihoods. In the Zambezi valley context, where the objectives of adaptation- and resettlement-related interventions are often conflated, these statements provide rationale for working with already-relocated populations.

Of the 10 or so representatives of donor organisations interviewed, two viewed resettlement as a flawed policy regardless of the mitigating circumstances. This is because resettlement, it was argued, removed the flooding hazard but created new sets of risks for people. Some of the more visible problems, such as delays in construction and a lack of resources, are openly acknowledged by government and implementing agencies. However, key informant interviews and livelihoods research revealed other risks that were yet to be formally acknowledged, and which undermine the government's 'win-win' argument as described above. These included, but were not confined to, significant changes in resettlers' natural resource base, particularly access to land, and alteration of the annual agricultural calendar; loss of social networks; rising prices and greater reliance on local markets; power struggles between leaders and disputes with host communities; increased risk of crime, both in new settlements, and due to cattle and crops left unattended in the low area; psychological risks due to sudden changes in life circumstances; loss of ancestors and sacred sites; and a host of cultural problems, such as toilet-sharing in close confines. Most seriously, many community-based respondents reported having to make long daily journeys to the low-lying area which, in most cases, significantly lessened the time that households had to commit to producing crops.

As a result of these 'hidden' risks, local authorities in the Lower Zambezi region often reported during interviews considerable resistance to their efforts to move people out of low areas. In many cases, communities were simply commanded to leave by INGC personnel and UNAPROC, the government agency's military-based wing. Most people obeyed these orders because they 'are used to doing what government tells them to do'⁵, although particularly resistant community leaders were bribed with the provision of new houses or, in more extreme cases, arrested. Community-based views of the advantages and disadvantages of resettlement are complex and have been explored in detail elsewhere (Arnall *et al.* forthcoming). During this research, however, most interviewees confirmed that they were initially reluctant to resettle and were 'ordered' or 'persuaded' to move by local authorities. These interventions have been indirectly supported via a government-led but donor-funded investment programme that targets resettlement sites but which has also seen the withdrawal of services, such as schools or clinics, from villages that are deemed to be at 'flood risk'⁶. In the past, this targeted support has been criticised on the grounds that it might have breached the principle that all beneficiaries are entitled to assistance in proportion to their needs (Disasters Emergency Committee 2001).

Power relationships supported by dominant narratives

The pressures being exerted on farmers living in the low-lying areas of the Lower Zambezi River valley are considerable, and persist despite active community resistance and significant implementation difficulties. They suggest the presence of interests behind the displacement and resettlement of people other than those concerned with responding to climatic shocks and change. In Mozambique, these interests are primarily structured around state-rural relations, and repeated government attempts to gain control over the national territory and its various populations (Bowen 2000). These interventions occurred during four major socioeconomic and political transitions characterised by Portuguese colonialism, Mozambican independence and implementation of socialist policies, a protracted and low-intensity civil war, and a more recent commitment to privatise state assets (Pitcher 1998). Taking cognisance of these wider, historical dynamics within the context of state-organised relocation programmes requires analytically distinguishing processes of displacement from those of resettlement (Dwivedi 1999). The remainder of this section has been structured to reflect this distinction.

Displacement interests

In Mozambique, there is a long history of economic development of floodplains leading to long-term dis-

placement of small-scale farmers. The phenomenon began in the 1930s, following the formation of Portugal's so-called 'New State' (*Novo Estado*), when many poorer Portuguese farmers were encouraged to settle in Mozambique. These measures led to land being withdrawn from indigenous agriculture in favour of the colonists in many of the country's major river valleys, including the Zambezi's (West and Myers 1996). Following independence in 1975, most indigenous farmers endeavoured to return to their lands. However, these attempts were hindered by the newly independent Frelimo (*Frente de Libertação de Moçambique*; Liberation Front of Mozambique) government which, faced with a national economic crisis, sequestered the most desirable colonial landholdings to create vast state-run farms (Myers 1994). This second wave of displaced persons angered many smallholder farmers – many of whom had originally lost their land under the Portuguese and then reclaimed it again when the colonisers left – and undermined the legitimacy and popularity of the new government.

The eventual failure of Frelimo's state-run farming system in the mid 1980s signalled the demise of the Party's socialist experiment and resulted in the mass divestiture of land from government back to private and 'family' farms (West and Myers 1996). However, as Bowen (1992) explained, the formal adoption of free market policies in the late 1980s set the scene for a new set of economic and political interventions in rural Mozambique carried out under the rubric of financial liberalisation and decentralisation. Today, many of the investments highlighted above as being responsible for displacement of small-scale farmers from the Lower Zambezi River valley – dams, industrial agriculture and navigation – represent important sources of revenue for the Mozambican government. For example, the second most important export from Mozambique in 2010 was electricity from the Cahora Bassa dam, which raised US\$140.8 million (Norwegian Council for Africa 2010). However, local populations derive no direct benefit from this infrastructure (Scodanibbio and Manez 2005). Moreover, growing concern was expressed by key informant representatives from national NGOs that the scene is being set along the Zambezi valley for further displacements due to additional dam construction (Beilfuss 2012) as well as the growth in large land acquisitions, both nationally (Deininger and Byerlee 2011) as well as specific to the Lower Zambezi River valley. These pressures became evident in the livelihoods research, during which two out of the four communities visited reported significant difficulties in securing new land in the high area following resettlement due to the presence of large-scale landowners representing economic interests 'from Maputo'.

In recent years, a number of initiatives have been undertaken by national and international NGOs that attempt to incorporate the interests of small-scale

farmers into regional development plans for the Lower Zambezi River valley. For example, in 2011, an international NGO led a study to assess the feasibility of working with dam managers to take into account people's high- and low-area cropping patterns. Moreover, there is scope for new decentralisation programmes introduced by the Mozambican Government, such as the 2003 Law for Local State Bodies (*Lei dos Órgãos Locais do Estado*), to provide a mechanism for local communities to voice their opinions of district affairs (Barnes 2005). The major problem facing such initiatives is a lack of political will by provincial and national leaders, as well as international donors, to see their implementation through⁷. Two major contributors to this predicament are the 'problem' and 'cause' parts of the dominant 'erratic weather' narrative outlined above. These deflect attention away from economic activity as a driver of vulnerability for small-scale farmers towards the 'distant', 'externally imposed' effects of a changing climate. This is the same situation as that envisaged by Felli and Castree (2012) in their critique of the neoliberalisation of the climate change discourse referred to above. The consequence of this process in the context of the Lower Zambezi River valley is that significant generators of local poverty continue unchallenged, thus maintaining power relationships between the state and rural populations within this region.

Resettlement interests

Like displacement, there is a long history of involuntary resettlement of rural populations in Mozambique. The interests behind these processes are complex as they arise as both a consequence of unintentional displacement, as occurred for example in post-tsunami South Asia (Fernando *et al.* 2010), as well as through deliberate intervention designed to 'order' populations that are viewed as dispersed or mobile, or situated on the periphery of society (Scott 1998). During the colonial era, Portuguese interests in rural resettlement were largely instrumental in nature, first designed to bring farmers into production to stimulate economic growth for the Portuguese 'motherland', and subsequently during the country's war of independence, when 'villagisation' policies were implemented in an attempt to control rebelling rural populations (Kyed and Buur 2006). Following independence, Frelimo similarly adopted a vision of peripheral production for Maputo, buttressed in this case by a strong ideological drive to 'modernise' the rural peasantry. These goals were pursued via the creation of communal villages which saw the large-scale relocation of populations to high areas in an effort to 'mobilise' the people, as well as make available social services, such as education and health care. During the civil war in the 1980s, these new villages also became the focal point of the conflict between Frelimo and Renamo (*Resistência Nacional*

Moçambicana; Mozambican National Resistance) which repeatedly clashed in their efforts to control them.

The legacy of this conflict is still evident within INGC's resettlement programme in the Lower Zambezi valley region today. Frelimo's power traditionally resides within the country's urban centres, and much of its historical 'struggle' to 'socialise' Mozambique's population has stemmed from its efforts to control rural areas where Renamo's influence is greatest. In regions such as central Mozambique, political power is more evenly dispersed across rival political parties than in southern provinces where Frelimo dominates. Resettlement, therefore, represents a highly effective way for the government to extend its influence in these areas⁸. This process has also been observed in relation to national democratic decentralisation which, it is argued, has been transformed into a 'top-down strategy of the state to regulate and control rural territories and populations' (Kyed and Buur 2006, 563). Frelimo has also transformed resettlement into a 'reward' for its supporters, with key informants and community members claiming that government authorities are keen to see resources for resettlement areas being channelled to districts that traditionally provide the ruling party with political backing. This politicisation of the supposedly 'technical' exercise of allocating climate change funds has also been described in relation to allocation of World Bank PPCR (Pilot Programme for Climate Resilience) funds to the municipality of Beira City, another politically contested area of the country (cf Shankland and Chambote 2011).

Such interests are deeply engrained in modern-day Mozambique but rarely acknowledged by donors (Linder 2010). Indeed, many international NGOs have arguably been drawn into this 'modernisation' agenda to some extent. Like Frelimo, all donor representatives interviewed stated that resettled populations are easier to reach and 'develop' as they have better access to markets, as exemplified by a recent spate of livelihood programmes intended to find 'alternatives' to low area agriculture in the region. However, no evidence exists of the overall costs and benefits of attempting to switch people's livelihood activities in this manner, nor to incorporate them more into national markets. There is also little clarity over how livelihood diversification projects established with newly relocated populations are supposed to continue following the withdrawal of development agencies, especially given the fact that district government has no money to support their continuation in the region⁹. Instead, this case study provides an example of how, rather than building 'resilience' to a changing climate, donors are allowing Frelimo to become one of the main 'arenas of negotiation' in Mozambique by 'channelling various demands and interests through its internal structures' (Sumich 2010, 679). In this case, a focus on the 'erratic weather' discourse by

external agencies serves to obscure the interests that lie behind the involuntary relocation of some of the poorest and most marginalised people within Mozambican society.

Conclusion

Previous research has attempted to account for the failures of environment and development interventions in Mozambique. For example, Patt and Schröter (2008) attributed abandonment of resettlement areas to differences in climate risk perception between farmers and policymakers, whereas Bunce *et al.* (2010, 485) highlighted failures by river basin managers to take into account 'cross-scale dynamics of change'. This paper argues that a more political perspective is required to understand the causes and consequences of flooding, displacement and planned resettlement in the Lower Zambezi River valley. It does this by taking a political-ecological approach to identify two competing 'stories' of environmental change: a dominant 'erratic weather' narrative in which the permanent resettlement of communities out of floodplains meets both 'adaptive' and 'developmental' objectives; and a counter-narrative from which resettlement emerges as a poor policy response due to the complex socioeconomic and cultural risks involved, and the failure of resettlers to be compensated by wider economic gains in the region.

To date, the first 'erratic weather' narrative has dominated policy debates in Mozambique in spite of the socially unjust outcomes that it produces. This is due, in large part, to the way in which it supports elite economic and political interests in and around the Zambezi River Basin concerning economic development of floodplains and securing control over rural populations. The narrative provides support to these interests in two ways: first, by drawing attention away from underlying drivers of vulnerability and poverty in the Lower Zambezi region; and second by obscuring the interests that lie behind both the displacement and relocation of people. The effect of these processes is that involuntary resettlement becomes the only viable 'adaptation' response in a region where future climate change threatens an increasingly 'uncontrollable' and 'dangerous' future for small-scale farmers. In reality, however, resettlement from the Lower Zambezi valley appears to be more of an 'adaptation' to economic rather than environmental change, in which the interests of some of the poorest and most marginalised people in society are largely overlooked. The case study therefore provides an illustration of the way in which a 'dominating construction of climate change as an overly physical phenomenon readily allows climate change to be appropriated uncritically in support of an expanding range of ideologies' (Hulme 2007, 9), in this instance Mozambique's dominant neoliberal development agenda (Hanlon and Mosse 2010).

Growing awareness of the true impacts of resettlement in Mozambique has helped galvanise an early counter-'living with floods' discourse among stakeholders who oppose resettlement as a solution to climate extremes and change. Previously marginalised national-level environmental NGOs, which have spearheaded efforts to expose the impacts of the Cahora Bassa dam, are beginning to have their voices heard within national discussion forums. There are also signals that the 'hidden' disquiet that resettlement creates among many relocated populations is beginning to filter through to government ministers, with the INGC stating privately that it is unlikely to attempt any future resettlement. These are promising signs. Overall, however, this paper emphasises the need for greater scrutiny of adaptation activities, and more attention to their discursive and political dimensions. As this case study demonstrates, climate change discourse can become entangled with the everyday political realities of people who occupy disadvantaged or marginalised spaces within society. For this reason, efforts to better understand how the idea of climate change is moving beyond its roots in natural sciences – taking on new meanings and serving new purposes as it does so – will be an important component of any future action by the international community to address the long-term problem of climate change.

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Notes

- 1 These were representatives of the INGC, Ministry of Coordination of Environmental Action, Ministry of Agriculture, and Ministry of Planning and Development.
- 2 Interview with donor-based DRR manager, 4 May 2012.
- 3 For a more detailed account of these changes and their impacts, see Ribeiro and Dolores (2011).
- 4 Interview with donor-based DRR manager, 4 May 2012.
- 5 Interview with government district officer, 1 September 2011.
- 6 Interview with international NGO manager, 7 September 2011.
- 7 Interview with international NGO manager, 19 September 2012.
- 8 Interview with international NGO manager, 7 September 2011.
- 9 Interview with government representative for district agriculture, 5 September 2012.

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