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CLIMATE CHANGE, WATER AND CONFLICT IN THE NIGER RIVER BASIN

A SUMMARY

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International Alert is a 25-year-old independent peacebuilding organisation. It works with people who are directly affected by violent conflict to improve their prospects of peace. It also seeks to influence the policies and ways of working of governments, international organisations like the United Nations and multinational companies, to reduce conflict risk and increase the prospects of peace. International Alert works in Africa, several parts of Asia, the South Caucasus, the Middle East and Latin America, and has recently started work in the UK. Its policy work focuses on several key institutions, the impact of development aid, and the effect of good and bad governance.

The Tyndall Centre for Climate Change Research was established in 2000 and has pioneered interdisciplinary research on the multiple dimensions of climate change. It is a partnership of the University of East Anglia and the Universities of Cambridge, Cardiff, Manchester, Newcastle, Oxford, Southampton and Sussex. The Fudan Tyndall Centre has recently been launched at Fudan University in Shanghai, China.

The School of International Development (DEV), UEA has a global reputation as a centre of research excellence, including policy work with international and national organisations. DEV research addresses contemporary challenges in developing and transition economies through methodological and theoretical innovation, interdisciplinary collaboration and a commitment that its research should make a difference. It works closely with individuals and communities, often taking a long-term approach.

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NIGER RIVER BASIN CONTEXT AND CASE STUDIES

The Niger River is the third longest river in Africa, flowing for 4,200 km from its source in the Guinea highlands, within the humid tropics, through Mali and Niger with their semi-arid Sahelian climates, to the Niger delta in Nigeria. The drainage basin covers a surface area of just over 2.2 million km², extending into 10 countries. Seventy-six percent of the basin area is located within Mali, Niger and Nigeria. The Niger River and its tributaries are a key source of water for the estimated 100 million people living in the basin, especially for the drier regions within the western Sahel zone.

This report examines the links between environmental stress, climate change, human security, conflict and adaptation at different scales and localities along the Niger River. Despite a growing interest in the possible linkages between climate and conflict, limited evidence on these linkages exists, much of which is contradictory. The Niger Basin has experienced significant climate variability during the 20th century, making it suitable for studying the links between climate and conflict.

This report explores a number of issues. Firstly, it examines how climatic and environmental stresses influence water resources and human security in the Niger Basin. Secondly, the report examines whether climate stress on water resources increases the risk of conflict. Thirdly, it asks what types of adaptations, conflict resolution and governance mechanisms provide resilience to climate stresses and reduce the risk of conflict.

We examine the impact of climate extremes, issues of river management, and access to land and water for pasture and agriculture for two case studies in Mali and one in Nigeria. The research draws on a review of published literature for the Niger Basin and Sahel region, and interviews with members of nine communities in the case study locations, as well as national and local government institutions, non-governmental organisations (NGOs) and academics in Mali and Nigeria.

The first case study – the Sélingué case study – focuses on the issues faced by the population settled near the Sélingué Dam in Mali. In 2001, to avoid damage to the dam, the gates were opened with little warning to downstream farmers and communities as upstream flood waters entered an already-full reservoir. This resulted in extensive flood damage to downstream irrigated rice fields, crops and settlements, prompting responses from the national and local government, and those affected. This case study also examines the effects of ongoing stresses related to climate extremes and variability, competition over access to land and water, and efforts to resolve conflicts between farmers and pastoralists.

The second case study examines an area within the Office du Niger (ODN) zone in the Ségou region, Mali. The focus is on the impacts of heavy rain and flooding in 2010, and land and water management decisions associated with the expansion of irrigation in the region. A planned 14,000-hectare sugarcane project requires the relocation of a number of communities and land-use change away from rain-fed agriculture and grazing. The case study also examines ongoing conflict between farmers and pastoralists, and how this relates to climatic stresses, land and water management.

A third case study in Lokoja, Kogi State, Nigeria, examines the impacts of climate variability, flooding, and natural and human induced changes in the river channel on communities engaged in crop farming and cattle herding close to Lokoja. Changes in rainfall seasons, flooding of crops and homes, and erosion of the river banks are significant problems for the riverside communities. Other changes to the river include the dredging of the river by the National Inland Waterways Authority.

HOW DO CLIMATIC AND ENVIRONMENTAL STRESSES INFLUENCE WATER RESOURCES AND HUMAN SECURITY IN THE NIGER RIVER BASIN?

Much of the Niger Basin is in a region of low rainfall, with high natural variability in rainfall and stream flows. This affects land and water resources and the livelihoods on which people depend. Climate/environment

links require careful scrutiny: we show how a systematic process of desertification and degradation in the Sahel is questioned by critical literature. There is a growing argument that the fluctuation of the desert boundary is a normal outcome of long-term climate variability. Climate variability is manifested both in seasonal variations in rainfall over the basin and year to year variability in rainfall and extremes.

Extreme events include droughts, which are recurrent in many parts of the basin, but also severe flood events with major impacts on lives, livelihoods, wellbeing and the productivity of sectors. The rural populations in the three case studies have all experienced significant losses and threats to their human security due to climate extremes and other environmental changes, despite varied coping strategies. There is a gendered dimension to impacts and the ability to cope.

The climatic future of the Niger Basin remains uncertain, but climate change is expected to have a key influence on water resources and human security through its impact on climate variability and extremes. There may be other indirect influences of climate change, for example higher temperatures leading to greater demand for water. Disagreement between climate models means that nothing can be said with certainty about the future evolution of rainfall in the basin. A very high degree of climatic variability is expected to continue and may well become more pronounced on seasonal, annual and decadal timescales.

Complex factors are likely to have an influence on the observed ongoing changes in the river and its flow. These factors include variations in rainfall over the river basin, the effect of dams on the timing and quantity of flows, small-scale water abstraction and deforestation in the basin.

DOES CLIMATE STRESS ON WATER RESOURCES INCREASE THE RISK OF CONFLICT?

Links between climate stresses and manifest or overt conflict are highly controversial and often challenged. Decades of research on wider issues of conflict underline the complexity of conflict generation and provide a clear warning against making environmentally-deterministic assumptions. Climate variations may be a contributory factor or a trigger, but are unlikely to fully explain the presence of conflict. Climatic change (and variability), in combination with other environmental change and wider dynamics in society, places stresses on people and their livelihoods. This has the potential to sow (or at least water) the seeds of conflict at different scales. Such conflict might be latent in terms of distrust and frustration, or become increasingly manifest.

Conflicts as a result of farmers encroaching on pastoral lands and routes, pastoralists encroaching on farmland and the cutting of trees for fodder are sometimes, but often not, violent. Conflict resolution mechanisms appear to be very important in reducing the risk of violence, with different types of mechanisms working well or not so well in different locations. Although the degree of climate influence on these types of conflicts is unclear, they are likely to be exacerbated if a change in rainfall, especially drying, forces changes in routes and grazing areas. However, the context in which this occurs – in terms of governance, agricultural or rural policy, changes in cattle population and other influences such as the expansion of irrigation and rain-fed agriculture or the displacement of grazing and agricultural land by dam reservoirs – will have a large influence. Perceptions of fairness associated with responses to problems are likely to influence whether conflict will increase or not.

Extreme events related to water flow management can raise latent or manifest conflict between the people exposed and governors (i.e. between citizen and state). This is particularly the case if there is minimal warning and an insufficient emergency response on the part of government. Similarly, water-related developments can be a source of tension between citizens and the state or other actors. A lack of accurate information on or understanding of the nature of benefits and disadvantages of water-related developments, and perceptions of uneven benefits, can lead to distrust and frustration – an indicator of latent conflict.

WHAT TYPE OF ADAPTATIONS, CONFLICT RESOLUTION AND GOVERNANCE MECHANISMS PROVIDE RESILIENCE TO CLIMATE STRESSES AND REDUCE THE RISK OF CONFLICT?

The report offers examples of both good and deficient adaptation occurring at a range of scales from local to national. Community level responses – such as the use of social networks, conflict resolution mechanisms and diversification of livelihood activities, some of which are gender sensitive – provide people with some resilience to climate impacts. However, these are clearly insufficient, under present climate conditions and stresses, to avoid the losses which contribute to human insecurity.

Existing local mechanisms and citizen-state mechanisms for resolving conflict over environmental resources and water management have had mixed success. Formal and informal local-scale institutions, such as community groups, appear to have more ability to respond and more trust than the formal institutions of the state, such as courts of law. Although there were some positive exceptions, where state-led governance mechanisms were able to resolve conflict experienced at the local level, not all groups in society were able to benefit equally. Those adaptations and conflict responses which do improve resilience need to be supported by governance structures and processes. At the same time, planned adaptations should be designed to work in synergy with people's own capabilities.

Peaceful adaptation to the effects of climate variability and climate change is dependent on a reasonable standard of governance, at least to ensure that the state authorities are not an obstacle to adaptation. Fair processes of adaptation, where people's views and concerns are taken into account and accurate information is given, are as important as fair outcomes of adaptation, where existing inequalities are reduced rather than increased. Attempts to improve participatory and stakeholder inclusive policy processes in water management initiatives will be important for achieving fair processes and outcomes and reducing risks of tensions between stakeholders, but only if the concerns of communities are adequately addressed.

While many of the determinants of resilience are to be found at the local scale, national and international government institutions and policies are also key to successful adaptation. Policy processes and structures emerging to address climate change show that thinking and planning for adaptation to climate change are emerging in the region. Existing activities not explicitly designed for climate change adaptation, such as early warning and disaster response activities, have had only limited effectiveness, since the capacities to respond at the local government level are limited.

Climate stresses have an impact in combination with other features of the environmental, social, economic and political landscape. Therefore, approaches to adaptation and development are closely linked, and initiatives to support adaptation cannot afford to address climate-related problems alone. Water resources management and other government policies must be flexible enough to cope with uncertainty and growing climate variability on long-term timescales. Future development must avoid maladaptation through “lock-in” to unsustainable practices in a changing and variable climate; for example, by maximising irrigated production when times are favourable, but risking collapse when conditions become drier. Building peace through resolving conflicts, adapting to the consequences of climate variability and climate change, and pursuing equitable and sustainable development are linked elements of enhancing human security and building resilience.

POLICY GUIDELINES

The complexity of the environmental, social and political context of the Niger River Basin and the specific nature of many of the case study findings do not lend themselves to simple policy recommendations. Nevertheless, we offer the following set of policy guidelines, supported by the study's findings. There are clear linkages between these guidelines.

1. A focus on building resilience and supporting the ability of the population to adapt is often more appropriate than seeking to promote specific adaptation strategies at the local level.

Outside actors should acknowledge the adaptations and responses already providing resilience within communities and aim to support the ability of societies to adapt. The principle of “do no harm” should be followed to avoid weakening community resilience. Both outside actors and community participants should seek to understand the factors which enable and inhibit resilience to build on the former and diminish the latter, based on knowledge of local circumstances and on working together. This requires flexibility and attention to the different contexts in which adaptation is occurring, rather than relying on promoting specific planned adaptations or using templates or models for how to build resilience. Therefore, those adaptations and conflict responses which do improve resilience need to be supported by governance structures and processes. At the same time, planned adaptations should be designed to work in synergy with people’s own capabilities.

One element of ensuring that local communities are engaged is to bring together formal and informal institutions and mechanisms; for example, to work together with trusted individuals, village level institutions and women’s groups, as well as government and NGOs. Local institutions are where adaptation, conflict resolution and conflict management may be seen in practice. Formal institutions, on the other hand, can play a complementary and supporting role.

2. Equitable, participatory and transparent forms of governance are all important for reducing the risk of conflict and increasing the ability to adapt.

Opportunities for government and donor initiatives to complement the adaptation and conflict-resolution strategies at community level can be improved by increased engagement between communities, government institutions and other outside organisations. Engagement can be improved by better consultation and participation of community members, by efforts to improve communication of accurate information to affected communities about development projects, and by establishing better channels of communication between the state and its citizens. In particular, efforts could be focused on community members, such as women and landless households, who are often marginalised. It could also be focused on particular communities, such as pastoralist groups, which can lack the confidence and trust to engage directly with government institutions. It is vital to ensure that mechanisms for resolving conflict – both within and between communities and between state institutions and citizens – are equitable and participatory, through training and support.

To support community resilience (guideline 1), it is important that people are actively involved in making the decisions which affect them. The approach of outsiders must therefore be inclusive, rich in communication, and patient. It must be able to engage with and enrich local communities’ own awareness of climate variability and its environmental impacts. Such an approach can reduce the risk of there being outliers who, by not being involved in consultation and decision making, could become spoilers of both peace and resilience.

There is an increasing role for participatory water management mechanisms to reduce risks from extreme events. Attempts to improve participatory and stakeholder-inclusive policy processes in water management initiatives will be important to achieve fair processes and outcomes and to reduce risks of tensions arising between different stakeholders, but only if the concerns of community members are adequately addressed.

3. Multiple scales of action are relevant for responding to climate stresses and reducing the risk of conflict.

In the first guideline, we emphasised the importance of resilience building at the local scale. For governments, donors and international organisations, this means taking the very local context as the starting point. However, the broader context will be equally important for successful responses. The case studies offer evidence of the inadequacy of national and regional government responses to climate and water issues at the local scale through being unresponsive, under-resourced or poorly thought through and communicated. Although the evidence from the case studies supports a preference for local solutions, it is misleading to think that all local solutions will work for everyone. They may be inadequate, particularly for more vulnerable members of society. Moreover, if externally resourced, they may suffer through inadequate follow-up.

The influence of national policies on local abilities to adapt and on tensions between different groups, such as farmers and pastoralists, also needs to be recognised. Steps should be taken to reduce negative impacts and increase positive impacts of policies. There are opportunities for the newly-emerging national climate change adaptation institutions and policies to foster closer links with development and water management institutions, policies and programmes, including intergovernmental institutions such as the Niger Basin Authority. This can help to ensure that planned infrastructure and water management decisions consider adaptation to climate change. Since water resource developments often create winners and losers, principles of good governance and engagement between national- and local-level institutions (guideline 2) can be used to ensure that resilience of different social groups is not compromised. A useful way for those involved in supporting adaptation to view this issue of multiple scales of action is through the concept of subsidiarity. In this approach, decisions and actions should be taken at the lowest appropriate level, with successively higher levels adding value to and enabling the actions that are undertaken at a more local level.

4. An increased recognition of the interconnections between development and adaptation will facilitate resilience building.

In a resilience-building approach to adaptation (guideline 1), keeping adaptation and development efforts separate makes no practical sense. There may be political reasons for separation, related to the international financing of adaptation and development; however, on the ground, this risks incoherent policies and programmes, as the same donor governments support activities of separate state institutions with their own separate priorities and strategies which would benefit from integration. It is therefore incumbent on those responsible for adaptation and development funding to work closely together in recognition of the substantial overlap between their mandates.

Adaptation can be facilitated by ensuring that environmental management and development policies are flexible enough to cope with uncertainty and growing climate variability on long-term timescales. Future development must avoid maladaptation through “lock-in” to unsustainable practices of water and land use in a changing and variable climate. If flexibility can be built into governance structures and processes for managing land and water, such as land tenure systems, they will be more resilient to climate variability and climate change.

While it is both possible and necessary to incorporate adaptation into development and peacebuilding policies, some tensions between different approaches may arise. For example, adaptation is seen to be urgent; however, building resilience is not something that can be achieved quickly. Its components include key elements of development including education, good governance, jobs, household asset accumulation and protection, gender equality, and the qualities of trust and self-esteem which grow from these. These elements take decades to build.