

Executive Summary

Climate change and its impact have dominated international policy agendas and public attention in recent times. The focus on the security implications of climate change has helped to bring climate change to the realm of international policymaking by placing it as a key threat to state and global stability. Recent events in the Sahel, drawing attention to its role in the development of international terrorism and illegal trafficking and its particular vulnerability, place this region of Africa at the centre of global security concerns. The project '*Security implications of climate change in the Sahel region*' aimed to increase understanding of the linkages and impacts of climate change and security and on how climate change could contribute to insecurity in the future. This paper summarises and brings together the conclusions of the analyses carried out and identifies key issues for policy makers, specific interest for future work and gaps and uncertainties in existing research.

The climate of the Sahel has always been characterised by its extreme seasonal and decadal variability of rainfall. Rainfall variability in this region is likely to be driven by complex interactions between several processes and no process in isolation appears able to explain all the observed variability. Despite the large effort put into establishing the cause of the severe and long lasting drought period at the end of the 20th century, a full consensus on its origin has not been reached in the scientific community. These uncertainties as well as the large variability make climate projections for the Sahel particularly challenging and lead to significant disagreement between climate model projections. This is particularly true for precipitation where models disagree even on the direction of change (greening vs. drying). Given these uncertainties and awaiting more robust models, policies should focus on management of and lessen the impact of climate variability. The possible options range from improving seasonal forecasting, to investing in increasing observational capacity.

Our analysis of security events in the Sahel highlights the absence of a generalisable and direct impact of climate change on security. It also found no deterministic relation between environment and security dynamics. Environmental variables are of secondary importance at best compared to political, historical and economic variables. We used a broad definition for security including '*human security*' issues such as food crises and low-scale localised tensions, as well as more traditional concepts of security such as violent conflict and state security. This approach appears more instructive and constructive for the following reasons: first, it covers a more relevant range of potential security implications of climate change and second, it highlights the need to focus the policy debate on developmental, environmental and economic aspects. In this context, livelihoods and food security appear to be the most prominent transmission mechanisms between climate variables and security.

The transmission from climate variables to security via livelihoods and food security are based on two particular characteristics. First, the impact of climate and climate variability (in particular rainfall) on livelihoods and food security is direct and second, both are sensitive to sudden events. The great vulnerability of the Sahelian population to climate change is linked to its high dependence on agricultural activities and absence of alternative income earning activities. In the Sahel agricultural production is predominantly rainfed and therefore particularly

sensitive to climate variability. Addressing these impacts require integrating the long-term features of climate change in national and regional development strategies. As concerns agricultural production opportunities to develop portfolios of climate resilient measures at different costs and time scales are ample.

Based on the analyses following policy considerations have been derived:

- **Manage uncertainty:** develop strategies that allow for better management of and lessen the impact of climate variability, options range from reducing certain forms of uncertainties (improved seasonal and long-term forecasting) to smoothing impacts (improved water management, more efficient management of food insecurity).
- **Promote open and constructive dialogue:** dealing with climate change requires multilateral regulatory mechanisms. Taking into account national concerns and policy choices – including those in the Sahel – is key to developing effective multilateralism. Bilateral and multilateral dialogue between Sahelian and OECD countries as well as at promoting dialogue at the level of regional African institutions should figure among priorities. International partners should support efforts towards the formulation of regional agendas and climate change policy responses, a cornerstone for enhanced coordination and effectiveness of activities. Propose a dialogue process on integrating environmental variables into the monitoring and analysis of early warning mechanisms.
- **Integrate climate change in development strategies:** climate change impacts are a development concern and investment in development is the best instrument for promoting peace and security. Development strategies dealing sustainably with vulnerability to climate change should be based on an analysis of interactions between all vectors of change: climate change, population dynamics, migration, trade and economic development.