The 3rd International Forum on Water and Food
Tshwane, South Africa
November 14 – 17, 2011

Co-hosted by:

Climate Compatible Development Strategies for Resilience to Climate Change in the Andes and Beyond

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Session: Sharefair and Spatial Analysis Modeling

Key Message

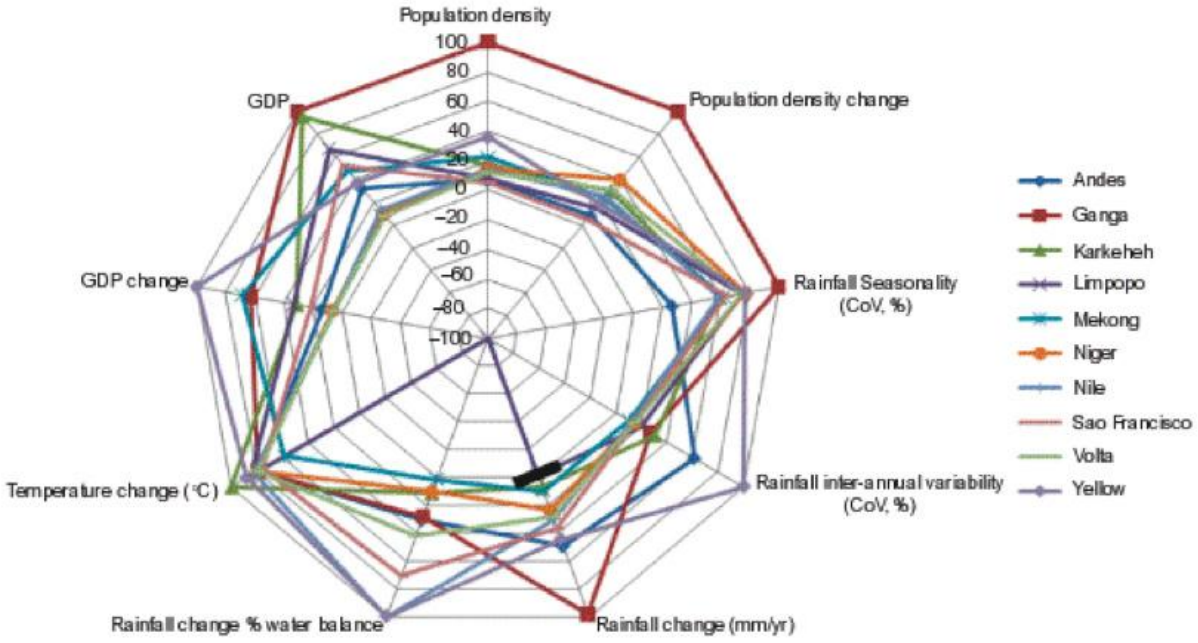
Given the rate and nature of climate change projected for the CPWF basins, development strategies around water that do not factor in the impact of climate change on future water resources run the risk of becoming irrelevant within decades (Mulligan et al., 2010). Moreover, development strategies for water should not exacerbate regional and global impacts on atmospheric carbon and energy balances and thus further exacerbate climate change.

Summary

Understanding the implications of climate change requires detailed local projections and hydrological models capable of applying climate change scenario information in their analyses and alongside proposed interventions and land use changes. In AguAAndes/Waterworld we provide such data and systems for all CPWF basins and examine here the impacts of climate change basin by basin, building on work carried out for the CPWF Basin Focal Project Special Issue and on CPWF Phase II work on AguaAndes. We find that the nature, magnitude and rate of climate change will vary significantly between and within CPWF basins and that in some cases the outcomes may be beneficial for crop production whilst in others the outcomes may be detrimental.

Climate change occurs within the context of complex socio-economic, biophysical and political states and changes and these add considerabe complexity to understanding the likely impact of climate

change as a global and regional driver on water and food in the basins. Results are presented basin by basin for Phase II basins.



TRAJECTORIES OF CHANGE AND THEIR CONTEXT FOR THE CPWF BASINS. THE BLACK BAR INDICATES ZERO CHANGE FOR RAINFALL.