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Climate Vulnerability, Local Knowledge and Adaptation to Climate Impacts in Peru

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Abstract

In the face of global change, development progress in Peru is significantly influenced by the high climate vulnerability. Thereby, climate conditions in Northern Peru are dominantly influenced by El Niño, while in the Peruvian Altiplano El Niño effects are superimposed on the highly variable climate. In the context of rural development, community assessments delivered important insights on diverse local climate knowledge and adaptation options. Communities in Northern Peru mainly associate climate risks with major El Niño events, while in contrast communities in the Altiplano relate El Niño events largely to the Northern Peruvian coast; not to their own situation.

The ability to cope with climatic hazards depends on livelihood assets and the ability to diversify income sources. Particularly in the Altiplano, the possession of livestock is an important coping strategy, since credits are difficult to access and monetary resources are limited. Communal support systems and share cropping also play an important role in reducing climate vulnerability. Assessments with community members led them to identify strategies they could develop on their own, and strategies that would require outside support.

In order to improve rural livelihood conditions, climate risk management can play an essential role. For example, climate forecasts have the potential to support communities' decision making in improving their agricultural production. However, current communication formats are limited as they are not well integrated into the local knowledge networks and decision-making processes. In order to be successful, the local understanding of El Niño effects needs to be better taken into account. Furthermore, climate information systems should reflect the interest of the communities in learning more about their disaster risks and strengthening early warning capabilities for floods, droughts and other hazards, which in the case of the Andes requires focusing on local scale forecasts.

Climate change is altering the exposure of rural areas to weather related hazards, often exacerbating already existing vulnerabilities. Spatial analysis of vulnerability to specific climatic risks can provide further entry points for adaptation. Given the importance of climate sensitive sectors for rural development progress, climate proofing of development processes is urgently needed through a pro-active management of current and future climate risks.

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