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“Development on the margin”

Identification of Agro-pastoralist Adaptation Strategies to Climate Variability: A Case Study in Mopti-Mali

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Abstract

The climate of the West-African Sahel has changed significantly during the past decades, and climate models showed an increase variation in the amount and periods of precipitation, and an increase in temperature. Agro-pastoralists in drylands of Mopti are affected by increasing climate variability due to high reliance on rain-fed agriculture, a climatic sensitive sector. The objective of this study is to identify changes observed by agro-pastoralists, and which strategies they use to adapt to the changes. Ten villages were used in this study, two host villages and eight neighbouring villages. Two weeks was the stay in each host village, and eight neighbouring villages visited on daily basis, using a motor-bike. Data collection was qualitative, with a combination of the following methods: key informants interviews, individual and group interviews, workshops and participants observation. Interviews were translated from Fulani to French, recorded and further transcribed for content analysis.

Climatic changes observed by agro-pastoralists are: insufficient rainfall, unreliable precipitation, increase in wind speed and temperature. Regarding crop farming, observed changes alter the period of farm activities, with impacts on crop yields. Regarding livestock keeping, such changes impacts feed availability, growth and calving interval in cattle. The results of this study show that, agro-pastoralists in Mopti adopted a series of measures, with the aim to ensure harvest and livestock productivity. However, most adaption measures identified occurred within the livestock sector. Such strategies include alternative feed sources for the livestock kept in the vicinity of the villages, for example by using wild fruits such as: balanzan (*Acacia albida*), barkehi (*Piliostigma thonningii*) and kohic (*Prosopis africana*) to sustain livestock through the long dry season. Due to fodder scarcity, crop residues are important sources of livestock feed during the dry season period, hence livestock keepers seek storage techniques that preserve the quality of stored residues for a longer period of time. Autonomous adaptation is incessant in the agro-pastoral systems of Mopti; however, the magnitude and speed of climatic changes might increase and since its impact is intertwined with effects of population growth and reduction of agricultural land, agro-pastoralists innovative capacity might lack behind the occurring changes.

Keywords: Adaptation strategies, agro-pastoralists, climate variability