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## Adoption of Land Use Options as Adaptation to Climate Change in Northern Benin, West Africa

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### Abstract

Land use decisions play an important role in farm management. Subsequently, supporting the farmers' practices related to land use management in times of climate change might be a relevant policy intervention for enhancing livelihoods and food security in rural areas. This study investigated the land use strategies implemented by farmers as a means of adapting to climate change. Interviews with key informants and group discussions with farmers were organised in four agro-ecological zones in northern Benin. As well, a household survey was conducted on 336 farmers to further highlight the main factors determining the farmers' decision to adopt the identified climate change adaptation strategies related to land use, using a Multivariate Probit (MVP) model. Crops association/rotation, land reallocation, soil erosion control, and change of site are the four land use related options identified as adaptation to climate change. About 89% of the farmers adopt at least one of these options. The socio-economic and demographic characteristics of the respondents determine whether they adopt one or another adaptation strategy related to land use management. On the one hand, the choice of land use options as adaptation strategies to climate change is positively linked with the farmer's experience in agriculture, participation in off-farm activity, and the available land. On the other hand, organisation membership and access to credit have negative effects on farmers' choice while contact with extension and household size have mixed effects. Therefore, targeting farmers that are least advantaged socio-economically may enhance their choice of adopting land use management as adaptation to climate change.

**Keywords:** Adaptation, Benin, climate change, determinants, land use management