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## Urbanisation Shapes the Vulnerability of Farmers in the Decentralised Benin

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### Abstract

This paper offers an assessment of farmers' vulnerability to climate risks in relation to the location of farms from farmers' ordinary dwelling place in rural communities of northern Benin. The ongoing urbanisation processes in the district of Banikoara, main cotton production area of Benin and one of the biggest producers of different food crops, is considered to be responsible for the exacerbation of the existing land access problems. Sixty farmers of  $40 \pm 9$  years old, cultivating  $8.4 \pm 6.02$  ha and producing about  $7.3 \pm 6.65$  tonnes per year, supplied empirical data in four different villages: Gomparou, Alibori, Somperékou and Godokpagounou. The key respondents were selected through purposive sampling during fieldworks. At the end of the data collection period, a half-day participatory workshop was organized for all interviewees, including some local stakeholders, in order to draw a jointly validated Sensitivity Matrix and Vulnerability Profile of farmers. Plausible exposure and impact indexes were calculated. The results show that: (i) The urbanisation process has resulted in the geographical remoteness of farms by preventing local farmers from cultivating more land. 85% of farmers move about 10 km up and down to perform farm works, 12% commute daily over 45 km to reach their farms and only 3% live on or closely to their farms. (ii) Five major climate risks with highly sensitive impact indexes affect agricultural production: drought (73%), floods (66%), fires (60%), lack of rainfall (60%) and high winds (46%); and three resources having high exposure indexes are most damaged: soil (76%), water (68%) and vegetation (64%). (iii) The distance from farms to residence is a factor of vulnerability to the various climate risks leading to three categories of farmers: “Waterist Farmers” (Agri-BF) shriveled up in valley bottoms and most vulnerable to floods regardless of their residence, “Nearist Farmers” most vulnerable to droughts (Agri-CP) and at last “Farist Farmers” (Agri-CE) most vulnerable to wildfires. This vulnerability is likely to affect the national economy which is dependent on agriculture and especially on Banikoara produced cotton. These findings should be used to reframe both environmental and agricultural policies in the context of climate change.

**Keywords:** Agriculture, Benin, climate change, decentralisation, urbanisation, vulnerability