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## Land Use in Agriculture: Econometric Modelling of the Land Allocation within the Northern Benin Farms

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### Abstract

Agriculture is an important activity for many people in tropical West Africa. Among the factors involved in agricultural production, land is considered as one of the main factors that influences widely the outputs. Furthermore, land-cover and land-use changes might affect livelihoods as well as food security in rural areas. Therefore one of the most important issues to be decided on by farmers is how to allocate the available land among a given numbers of crops. This article aims at understanding the driving forces that determine the decision making on land allocation on West African farms, giving evidence of farms in the Northern Benin. Using an individual inquiry questionnaire, primary data were collected from a sample of 210 farmers randomly selected in two villages. Agricultural lands are mainly allocated to cereal, legumes and cash crops. The seemingly unrelated regression of land sizes allocated to these three categories of crops revealed that socio-economic and demographic characteristics, institutional arrangements on land and access to production factors (labour and capital for instance) explained 33 % to 58 % of the variations observed in land allocation. The findings highlight at different levels of significance - 1 %, 5 %, and 10 % - that the main determinants of land use are the location (village), the household head characteristics (sex, side activity, group membership, experience in agriculture), the household size, the number of household members working in agriculture, the salaried workers use, the household's capital, and the access to credit. Consequently agricultural policy has to focus on enhancing household's capital. This could be done by facilitating the access to credit. In this line, requirements and conditions for accessing credit should be reviewed. Moreover, support and advice from extension service need to be enhanced in order to improve farmers' skills and promotion of farmers associations.

**Keywords:** Agriculture, allocation, determinants, land use design, northern Benin