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Attitudinal Compromises between Risks, Returns and Resource Use among Maize Farmers in the Dry Savannah Zone of Nigeria

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Abstract

A number of programmes aimed at agricultural and rural development have been put in place by various levels of Nigerian government at different periods. However many of these programmes have recorded unprecedented low success. It has been demonstrated that the limited success of Nigeria in rural development programmes is due to the absence of a prior analysis of attitudes towards risk inherent in new technologies and the inability to ascertain the farmers' trade-off between risk and return in traditional agriculture. Also, the observed factor use of farmers reveals the underlying degree of risk preference and that this inherent inability to choose based on risk preference affected farmers' adoption of technology.

This paper therefore assesses the level of resource-use within different farm plans, determines the returns accruable to these plans to evaluate the levels of trade-off that farmers can allow in the face of estimated risks. This essentially forms a resultant compromise with groups of farmers. To achieve these, a variant of linear programming, the minimization of total absolute deviation (MOTAD) is employed to determine the optimum resource-use and the trade-off between risk and return.

Results of the analyses revealed that reduction in risk level does not have any noticeable effect on the number of enterprises that form the optimal risk minimized plans for low risk farmers. For medium risk farmers, there is increase in returns as one moves from risk minimized plans ii to v, this brings about a general improvement in return. Capital and off-farm resources are also put to full use. The interaction of risk, return and resource-use vindicate the risk attitude of the high-risk averse maize farmers, with very high proportion of family labour employed for each farm plan. Own capital and off farm resource are completely used while borrowed capital, though adequately used, decrease with decrease in use.

The authors recommend that the focus of the research be diversified to include farming systems that integrate livestock so as to investigate the influence of its interaction with crop production and to intensify market research programmes to enable farmers reap the maximum benefit of farming.

Keywords: Attitudinal compromises, dry savannah, minimization of total absolute deviation (MOTAD), risk attitudes