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Assessment of the Cost-benefits of Climate Change Adaptation Strategies of Cassava-based Farmers in Southern Nigeria

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Abstract

Climate change affects agriculture and food security. Adaptation strategies are one critical instrument deployed to ameliorate the perils caused by climate change. Modification of the adaptation strategies of the cassava-based farmers increases economic returns. The study examined the assessment of the cost-benefits of climate change adaptation strategies of cassava-based farmers in southern Nigeria. Specifically, the study achieved the following objectives: ascertain the perceived causes of climate change, estimate the net income of the cassava-based farmers and to compute the cost-benefit of climate change adaptation strategies used by the farmers. About 300 cassava-based farmers were randomly selected using multi-stage sampling procedure. Primary data were obtained through administration of questionnaire, interview schedule and Focus Group Discussion (FGD). Data were analysed using descriptive and inferential statistics, Net Return model and Cost-Benefit Analysis (CBA). The findings of this study revealed that more than 55% of the cassava crop farmers indicated depletion of the ozone layer as the most cause of climate change in the area. The net returns of the cassava production were estimated at N₂15,240.86(\$614.97) and the gross marginal returns of N₂20078.86 (\$628.80) respectively. This indicates that the cassava production using the adaptation strategies is profitable. Conservation agriculture recorded the highest internal rate of return of 68% over other adaptation strategies with Net Present Value of E399.53. Farmers should be encouraged to practice conservation techniques as the cost-effective and efficient climate change adaptation strategies in the study area. Government support in bridging the gap between climate change and crop farmers' adaptation strategies and farm inputs provisions at a subsidised rates were recommended.

Keywords: Adaptation, assessment, Cassava-based farmers, Climate Change, Cost-Benefits, Strategies