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## Socio-economic Evaluation of Manure Exchange Contracts — Impact on Farm Productivity in North Western Nigeria

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### Abstract

Following the withdraw of fertilizer subsidies in the mid 1980s by the Nigerian government, a majority of the resource poor rural farmers have found the prices of various brands of fertilizers unaffordable. Efforts have been made by these farmers to look inward to the development of local alternatives as means of maintaining the fertility of their soils. Prominent among such local innovations are the use of livestock manure. These manures are normally obtained through manure contract based on an exchange between croppers and herders and from farmers own livestock. These interactions between crop and livestock is beginning to receive increase attention and is popularly referred to as crop-livestock integration. This paper describes crop-livestock integration, manure contract exchanges, and it quantitatively determines the factors that facilitate this exchange. It studies the impact of manure contract exchange on crops yields and productivity of farmers in the study area of north western Nigeria. Finally, the problems that militate against manure exchange contracting and question on how they could be remedied to enhance effective contracting are examined. A nine months field survey was carried out in Zamfara reserve in Nigeria from December 2001 and August 2002. Information were collected from farmers using household level approach on socio-demographic characteristics, resource endowment, production activities, production inputs and outputs. Manure acquisition from owned livestock and through manure contract exchange and the reasons for participation in manure contract exchange were investigated. Other methods of soil fertility maintenance were also examined. Econometrics models are used to determine factors driving participation of farmers in manure contract exchange as well as impact of manure on crop productivity. First results shows that there are social and economic factors driving the adoption of manure contract and determine exchange participation by farmers. Sub-studies also shows that participation in manure contract have positive impact on sustainable crop productivity and food security in the study area.

**Keywords:** Manure exchange, crop-livestock integration, crop productivity, croppers and herders, Nigeria