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## **Demand Estimation of Subsistent Farm Households in the Dry Land of the Sudan: Almost Ideal Demand System Approach**

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### **Abstract**

It is found to be stubborn in the case of developing countries to estimate demand functions because of unavailability of reliable time series data. As a consequence of extensive household cross-sectional surveys, many academic persons estimated expenditure elasticities and disregarded the price elasticities. Undoubtedly, results from such partial analysis might not be very dependable for development policy planning. This paper presents estimates of the almost ideal demand system (AIDS) for bundle of consumed goods by farm household in western Sudan, to investigate the effect of prices as well as household characteristics on their consumption patterns. Primary data were collected from 139 farm households by means of structural questionnaire. Using data on expenditure shares and prices, a Seemingly Unrelated Regression (SUR) was used to estimate the model for the total surveyed sample as well as for three categories of farm household on the basis of farm size. However, variables other than income and prices like aggregate household size, location, age and education level of the household head, were found to have important roles in determining the consumption patterns. Two-stage budgeting and separability procedure was applied to the total expenditure allocation. Six food commodities were considered for running the AIDS. Compensated and uncompensated own and cross price elasticities were calculated by using the estimated parameters. The study results revealed a significant negative influence of the family size on expenditure allocated to health, clothing and education. Moreover, the calculated expenditure (income) elasticities showed that clothing, health and education were found to be luxury good and services. On the other hand, an income increase showed a negative effect on food expenditure, whilst positively influenced expenditure on health, education and clothing. To conclude, results from this study have confirmed that the smallholder households have the highest budget share of food in total expenditure among the different three farmer categories and the big share went for cereal and edible oil.

**Keywords:** AIDS, dryland, household demand, SUR, western Sudan