Optimisation of Market Supply for "*Hamari*" Desert Sheep in the Sudan

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Introduction

- Livestock particularly sheep play an important and growing role in the Sudan's economy.
- One of the trade-influencing factors is sheep are predominantly (90%) in the hands of traditional producers who are not fully commercially oriented. They tend to hold the belief that the two-year age is the best selling age - a situation leading to animal stocking for longer periods of time without due consideration to the economically optimum age combination for sale or the carrying capacity of natural pastures.
- It is believed that the potential from this sector has not been fully exploited, especially in terms of the need for greater business-oriented integration of its production and market-supply activities in the economy. Interventions in those two areas, therefore, gain paramount importance in boosting efficient functioning of the livestock sector.
- This study was conducted in Kordofan area - western Sudan, to determine the economically optimum off-take levels (market supply) of "hamari" sheep, as well as supply elasticities with respect to sheep price and their input prices (cost of production) under different scenarios of supply-underlying factors.

Methodology

- Accidental sampling technique was used to collect data from 115 sheep producers in Gibiesh market - west Kordofan area (to save in money and time).
- Linear programming and regression models were used in the analysis under different scenarios based on changes in environmental conditions that affect costs production.
- Elasticities of total market sheep supply in response to variations in sheep prices and their input prices (production costs) were derived using a Cobb-Douglas type of regression equation applied to the results of different runs of the model under various scenarios

Results and discussion

- The results revealed that the economically optimum marketing strategy would predominantly be that of selling young animals at ages of from 6 to 12 months and less than 6 months of age (contradicting farmers beliefs). These represent remarkable optimum male off-take increases, and substantial profit to the farmers.
- while sales at the 12-36 months age and greater in age would be reduced substantially.

- On the other hand, under good production conditions, all available sheep would be optimally eligible for sale.
- Market supply analysis, based on regression of optimal-level sales with prices and prices of inputs (production costs) indicated that the price elasticity of sheep supply was positive and significant during normal (existing), good and poor conditions.
- Further, negative and significant relationships were revealed between market supply of sheep and input prices (production costs).

Recommendation

- In order to increase sheep marketing efficiency, various policy measures are needed. These include:
- Promotion of extension services to promote more sales of younger sheep,
- Initiation of land rights arrangements to relief pressure on pastures,
- Facilitation of finance to enable adequate fodder and water availability,
- Improvement in production conditions to counteract negative weather effects, and
- Support for the supply of low-cost fodder, water and veterinary care.