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Adequacy of Small Holders Farming Systems to Achieve Food Security in North Kordofan State, Sudan

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Abstract

The study was conducted in North Kordofan State- Sudan and represented by four localities namely; Sheikan, Umruwaba, Ennuhud and Ghibaish. It covered two consecutive cropping seasons (2007/08 and 2008/09). The area is characterised by production of both cash and food crops as millet, sorghum, groundnut, sesame and roselle. The objectives of the study were to determine optimum crop combinations, assess food security situation, net income, production factors, comparative advantage and competitiveness pertinent to food and cash crops in the study area based on efficiency of resource allocation. Primary data were collected via structured questionnaires. A multi-stage random sampling technique was employed. Linear programming (L.P), partial crop budget, robust regression, household economy approach (HEA) and policy analysis matrix (PAM) as empirical approaches were used. Optimality in the area came with cultivation of 3.375 feddan (1 feddan = 0.42 ha) of groundnut and 3.00 feddan of cowpea to get a total gross margin of SDG 1596 (10 SDG = 1.70 €). Groundnut and cowpea were accepted as best crops with gross margin of SDG 152 and 361, respectively. Resource efficiency indicated that land, labour and capital were positive and significantly correlated at one percent level. PAM results revealed that millet production has extreme high comparative advantage and competitiveness. Food security situation showed that daily energy received per person was 1243 kCal which was found to be below the recommended amount by WHO. This indicates food insecurity in the area. Accordingly, the study recommends an adoption of the optimum cropping combinations, mitigation of factors affecting comparative advantages, competitiveness of the food and cash crops and improvement of nutritional status of people by using recommended energy intake.

Keywords: Food and cash crops, food insecurity, optimum crop combination