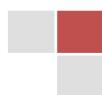ملخص رسالة دكتوراة الفلسفة في العلوم الأسرية بعنوان :

الفقر ، الأمن الغذائي وسوء التغذية حالة ولاية غرب كردفان (سابقاً)

مقدمة لكلية الدراسات العليا بجامعة الخرطوم
د.هاشم سليمان إبراهيم
قسم العلوم الأسرية كلية التربية جامعة الخرطوم
مايو 2008م

Poverty, Food Security and Malnutrition in an Urban and Rural Setting: Case of the former West Kordofan State

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1-Introduction:

Food security is a situation that exists when all people at all times have physical access to sufficiency safe and nutritious food for a healthy and active life (FAO, 1996).

Food availability and access to it are two essential determinants of food security, however , the former does not ensure the later as food may be available nationally or locally but is not accessible to all households   (Braune, 1993) .

Sudan, the largest country in Africa (2.5 million km^2) has diversified ecological zones and is known for its rich agricultural potentials, its under-fished waters (rivers and Red Sea Coast) and livestock raised on natural pastures. Because of this immense potential as a food producer to satisfy local demand and export the excess it was declared by the government in the 1970s as the "World Food Basket".(Salih private communication)

Food intake is a major component for achieving optimum nutritional status hence inadequate intake can lead to under nutrition. In developing countries under nutrition is mostly due to inadequate intake of energy and protein (Latham,1997).
Nearly most studies on nutritional status were aimd at the under five children as representative of the household. This study will involve the nutritional status of the whole household to reach abetter understanding of the relationship between food and nutrition security
The investigation was carried out in Al Nuhud town representing an urban area and six surrounding villages representing the rural area.

2- Objective:

To investigate whether households in West Kordofan were food and nutritionally secure, and if not, was the situation better in urban or rural areas?

Specific Objectives included :
- Assessment of the overall food situation using energy and protein intake as indicators of food security and anthropometric measurements for nutrition security .
- Detecting any differences found between urban and rural areas.
- Detecting any impact of some selected socioeconomic parameters on the food security and nutrition situation .
- Recommending appropriate measures for the authorities in the area to be implemented for improving the food and nutrition situation .

3. Materials and Methods :

3.1. Choice of study area :

An area in the former West Kordofan State, now apart of North Kordofan State, was chosen for this investigation as no combined study covering the food security and nutrition status was yet reported. In addition , the chosen area suffered periodic droughts that lead to periodic increases in the price of staple cereals and shortages in its storage capacity .

3.2. Sample Size :

Two stages cluster sampling methods were used . Stage 1, selection of primary sampling units covering subjects in urban areas (quarters) and rural areas (villages).

Stage 11, selection of secondary sampling units, the households. The sample was stratified by place of residence (urban and rural).Clusters were chosen using the method of probability proportional to size and households were drawn randomly from the selected clusters. The study included 100 urban and 120 rural households covering 1389 individuals.

3.3. Questionnaire :

The questionnaire was designed to collect the necessary information for assessment of the food security and nutrition situation in the designated study area. These include ;

1. Demographic data
2. Households food security as measured by monthly income, food expenditure , family size , number of meals /day, food intake, assets and other associated indicators.
3. Households nutrition situation was assessed by anthropometry.

.Statistical analysis:

Data was entered and analyzed using SPSS and EPI-INFO computer program .

4. Results

Incomes of <300 SDG reported by 68.2% of households of which 71.3% were rurals, and 31.8% earned >300 SDG of which 81.4% were urbans. 76.8% of the households earned <$1/day (68.0% rurals). Thus there was more poverty in rural areas (P=0.000). This was reflected in the food expenditure as 90.8% of the rurals spent <10 SDG/day compared to 45.0% by urbans (P=0.000) and in the normal number of meals/day as 2 meals/day in rurals (80.0%) and 3 meals/day in urban (85.0%) (P=0.000). Rurals also lived in poorer housing conditions e.g. type of house, number of rooms, source of drinking water and lighting.

Food frequency showed that bread was the energy food preferred in urban and sorghum acida in rural households. Meat was consumed daily or every-other-day by 86.0% of urbans but once/week by rurals (82.5%), while pulses' consumption was low (once/week), higher in rural areas (59.0%). Urbans (42.0%) consumed vegetables daily while rurals (71.7%) consumed it once/week. Fruits' intake was once/week, mostly (66.7%) by urbans. Hence the urban diet was better than the rural one in terms of frequency of intake.

Urbans with relatively better income spent more on food (5-15 SDG by 90.0%) while one-quarter of rurals spent <5 SDG and two-third spent 5-<10 SDG. Income positively correlated with food expenditure (P=0.000) and number of meals/day (P=0.000).

Energy and protein intake were higher in urban households (P=0.000). Cereals contributed more to total energy (P=0.000) and meat to total protein (P=0.000) in urban than rural households. Factors that influenced intakes of both areas were further elucidated.

Energy and protein intake increased with increasing income, the increase was significant for both in urban areas (P=0.027 and P=0.000) but significant only for energy in rural ones (P=.042) ,but not for protein (P=0.053). Food expenditure followed the same trend, but the increase in intake of both was only significant in rural areas (P=0.042 and P=0.025). Number of meals/day significantly affected energy and protein intake in urban (P=0.006 and P=0.002) but not in rural

households. Household size significantly influenced the intake of energy and protein in both urban and rural households.

Energy intake was adequate in urban but not in rural households (P=0.000) and also protein intake (P=0.000). More urban households were food secure (60.0%) than rural ones (38.3%).

Undernutrition as wasting (present status) or stunting (past status) was high among the under ten children. Among the under five wasting prevalence was 37.9%, 18.3% severe cases and 23.7% stunted, 11.4% severely. There was more wasting and stunting in rural areas ((P=0.003 and P=0.001). Similarly for the 5-<10 children with 55.9% wasted (23.7% severely) and 11.4% stunted with 4.3% severely. Both wasting and stunting were higher in rural areas but the differences were not significant.

Among those >10 years old, C.E.D(Chronic Energy Deficiency). prevalence was 46.4%, 18.0 severely. C.E.D. was very high (85.7%) among the adolescent 10-<18 group especially severe cases (58.1%). It was more prevalent in rural compared to urban households (P=0.017), among males than females (P=0.017) and among rural than urban females (P=0.027). In the income-generating category (18-60 years old) under nutrition was 33.3% with 6.5% severe cases. It was higher in rural than urban households (P=0.000), slightly higher but not significant in females compared to males (P=0.526) and also higher among rural males (P=0.000) and females (P=0.000) compared to urban ones.

The association between the selected socioeconomic parameters and the nutritional status was investigated. Monthly income had an inverse relationship (P=0.000), food expenditure (P=0.001/0.004) and number of meals/day (P=0.007/0.006) a direct relationship. However, household size relationship was only significant in rural areas (P=0.018).

5. Conclusion and recommendations:

It is evident that the indicators of monthly income, food expenditure, number of meals / day, and household size had a positive influence on the food and nutrition securities in the areas of studies.

It is therefore the duty of the authorities in the investigated areas , as those in other peripheral states , to give top priority to a nutrition policy to be implemented to improve the nutritional status of its population instead of small doses of activities in the area of food and nutrition which will not have the required impact.