

FOOD SECURITY OF DAIRY AND NON-DAIRY FARMING HOUSEHOLDS IN NORTHWEST CAMEROON

M. Sc. Thesis

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Specialization “International Agribusiness and Rural Development Economics”

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25. April 2019

Abstract

Food insecurity and lack of nutritional diversity remain a challenging problem in many central African countries. Several studies have investigated into the effect of livestock on food diversity, and security but have not explored if the households (HHs) having dairy cattle and selling milk are more food secure compared to the ones not selling milk or not having dairy cattle at all. Breakdown of the formal dairy market due to political crisis in Northwest Cameroon is expected to degrade the dairy farming, and the family dependent on it. The objective of the study is to compare the socioeconomic characteristics of different groups under study and to test if owning dairy cows has an impact on indicators of food security. A cross-sectional study was designed to assess the food diversity and food security status at the HH level. HHs were divided into three groups: HHs having dairy cattle and selling milk (Group I), HHs having dairy cattle but not selling milk (Group II) and HHs having no dairy cattle at all (Group III). Altogether 152 HHs consisting of 1,147 individuals were surveyed in Northwest region of Cameroon between March and June 2018. Three sets of questionnaires, namely a 7-day food diary, the standard household food insecurity access scale (HFIAS) questionnaire and a general questionnaire on HH characteristics were used to assess the diversity and frequency of food intake, food insecurity status and demographic and socio-economic HH condition respectively. Based on the acquired information, two measures of food diversity: food consumption score (FCS) and probability-weighted household dietary diversity score (HHDDS) and an indicator for food security: HFIAS were calculated, and related to HH characteristics. Both FCS and HHDDS revealed that group I had the greatest food diversity followed by group III, and group II. Likewise, group I was the most food secure according to HFIAS, but group III was less food secure than group II. Both production diversity score (PDS) and number of income sources showed a significant positive correlation with FCS and HHDDS, while a negative correlation with HFIAS. According to ordinary least square (OLS) regression, an HH head with secondary or higher-level of education had a significant negative contribution to all the indicators. Diversification of income sources through training on agriculture-related skills, encouragement for dairy farming along with development of dairy infrastructure and diversification of farm seem to be crucial to improve the food security status of agriculture-based HHs in Bamenda. This study was carried out within the BMBF-funded UrbanFood^{Plus} project.

Keywords: Food security, food diversity, dairy cattle, Northwest Cameroon, indicators

5. Conclusions

5.1 Summary

This study presents the effect of having dairy cattle on food security between three groups by calculating and comparing different food security and food diversity indices. The results from this study concluded that HHs having dairy cattle and selling milk (group I) are significantly more food secure in comparison to HHs having dairy cattle and not selling milk (group II) and HHs having no dairy cattle at all (group III). Thus, it could be perceived that encouraging the people of the study area to own cattle and sell milk, provided the availability of good dairy infrastructure, will make those populations more food secure.

The regular diets of majority of HHs are based on cereal, oil and vegetables. This clearly indicates that the diet is dominated by carbohydrate and fat and seriously lacks the supply of protein, vitamin and other micronutrients. A general awareness about the holistic approach of food security seems to be immensely important in this region and governments needs to ensure the availability and accessibility to a broader basket of food, including micronutrient rich food items.

Similarly, the HHs owning dairy cattle and selling milk have more diverse farm production and have lower share of consumption expenditure of food on income in comparison to rest of the groups. Furthermore, it can be observed that increasing the number of sources of income, the number of trainings in agricultural domain and the education level can greatly increase the HH food security status. HHs owning dairy cattle and selling milk showed greater and positive impact on the indicators of food diversity in comparison to HHs having dairy cattle but not selling milk or not having dairy cattle at all.

5.2 Further research

This study was based on cross-section data of small sample size which is not enough to represent the big picture of this topic on such a socially and economically diverse area like Northwest Cameroon. Additionally, this study only considered a few determinants of dairy cattle which might have caused bias in the results as there are some ethnic groups like the Fulani, who keep a large number of herds with local breeds for meat purpose rather than for milking. Thus, carrying out future research by incorporating these limitations could derive a better understanding of the effect of dairy on food security of the farmers in the study area

The HFIAS gives a general idea about the status of food security based on respondents' perception but it does not explain anything related to the cause of such situation. A qualitative study with dairy and non-dairy farmers might elucidate the hinderances against HH food security in terms of its four pillars viz. food availability, access to food, utilization and stability.

The ongoing political crisis and war have severely threatened the fourth dimension of food security i.e. 'stability' in Anglophone region. At times, the market became mis-functional and the options left with the famers for food were storage and own farm produce. In addition to that, some farms seemed to have been diversified beyond the optimum level, thereby reducing the production and increasing the opportunity costs. Furthermore, a higher proportion of HHs were seen to have severely insecure expenses and some HH had this ratio even greater than 1. This expense is possible either by selling of assets or through the social support system (borrowing of food or money from relatives or neighbors). The latter case is very important as such system guarantees food security even if other systems fail. However, this study has not shed light in the areas of storage infrastructure, production function analysis and social support system. Exploration of these avenues can help to develop some promising strategies to improve the situation of food security, particularly at times of natural calamities or war.