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INITIAL FINDINGS OF RURAL HOUSEHOLD FOOD SECURITY IN SELECTED DISTRICTS OF THE NORTHERN PROVINCE

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A study carried in 1995, among 197 randomly selected rural households from five selected districts of the Northern Province indicate a high incidence of and variability in household food security. Households in two districts of Nebo and Botlokwa are totally food insecure, while that of Seshego remain vulnerable and those in Venda and Gyani districts seem food secure. Based on calculations of the minimum daily calorie requirements of adults equivalents (2205 cal/day) for the sample, 58%, 17% and 25% are classified as food insecure, vulnerable and secured, respectively. Respondents perceive drought and lack of income as the causal factors of food shortages. Dependence on community /social networks, own food production, employment seeking and asset accumulation are the short and long run coping strategies adopted by the households. Intensifying staple food production, would help expanding food access to the poor and vulnerable groups and enhancing participatory agricultural and rural development through strengthened support services are recommended as possible options and strategies.

1. INTRODUCTION: THE PROBLEM SETTING

Amartya Sen(1981) in his famous book "*Poverty and Famine: An Essay on Entitlement and Deprivation*" established the important concept of entitlement to the Food Security equation: Supply and Access. He noted that: "*Starvation is the characteristic of some people not having enough food to eat. It is not the characteristic of there not being enough food to eat*"

In an economist's framework food supply is a necessary condition for food security and access to it is the sufficient condition. "Food Security exists when and where a population is sure of access to safe and nutritious food. On the national level, a country must have a stable supply of food that is available to all households and individuals. There must be a guarantee of physical and economic access to adequate food for all household members at all times, without undue risk of losing such access." (Grukan, 1995). Although the above definition may appear very simple, complexity arise when measuring, analysing and monitoring the causes, relationships and consequences of food insecurity.

Over the past three decades global food production has grown faster than population, resulting in 18% more per capita food production than 30 years ago. In terms of food availability about 2700 calories per person per day are available compared to 2300 calories three decades ago. Although these figures reflect a general improvement in food world food availability, FAO (1996) estimates indicate that more than 800 million people in developing countries face chronic under nutrition and 200 million under the age of five suffer from acute or chronic protein and energy deficiencies. If these problems are not combatted, the number of undernourished people may still be as high as 730 million and over 300 million of them will be in Sub Saharan Africa by year 2010. The same FAO projections classify 88 countries of the world as Low Income Food Deficit Countries (LIFDC), and of these 42 are in Sub Saharan Africa.

South Africa being as a food surplus producing country is not classified as an LIFDC. It is generally accepted that South Africa produces sufficient food for the total population yet a large proportion of the total population face acute problems of malnutrition, hunger and under

nutrition.

The duality of the South African economy in general and its agriculture in particular portray its pervasive urban and rural poverty and the resultant household/ individual food insecurity. Studies have shown that almost 50% of the South African population live below the poverty line. Poverty in the rural and urban areas among coloureds and blacks is predominant. Simikens (1991) estimated that 33% urban blacks, 54% homeland urban blacks, 58% rural coloureds, 72 % of rural blacks in "white" areas and 84 % of homeland blacks live under the poverty line (Van Zyl, 1994). Furthermore, the White Paper on Agriculture (1995) revealed the stark contrast between national food security and household food security where approximately 2.3 million South Africans including children under 12 years of age and pregnant and lactating mothers are regarded as malnourished.

The question is not whether there is household food insecurity(HFS) or not, but to determine its extent and distribution among different households in different socio-economic, demographic or geographical areas. Consequently the following specific questions should be addressed by national, regional and household Food Security Research projects:

- a) Why does food insecurity exist in a country with an abundant supply of food?
- b) Is the food problem equally severe between regions and households?
- c) Who are the food insecure?
- d) what can be done to improve food security in South Africa or in a region?
- e) what policy options are available and are feasible?

An understanding of the depth of the problem of HFS is a critical area of research that will generate empirical information for designing appropriate policy instruments. The interrelationship between poverty and food insecurity is well documented in the food security research literature in the other SADC countries. However, empirical research in food security is very limited in South Africa and non-existent in the Northern

Province. Every member country of the FAO (South Africa included) is expected to present a position paper on Food Security at the forthcoming World Food Summit of 13-17 November, 1996 in Rome, Italy. In South Africa, where very little knowledge on smallholder agriculture and food security is available, to prepare a comprehensive document on Food Security for the Summit becomes a daunting task and with it comes a challenge for researchers.

A study to investigate the incidences and patterns of rural household food insecurity was launched in 1995 in selected districts of the Northern Province. This paper highlights the initial and preliminary findings of the study to stimulate further discussion on the subject, guide the on-going research and contribute to the body of knowledge in HFS which would be relevant to other rural areas of South Africa.

1.1 Provincial profile

The Northern Province is the poorest province in South Africa with a GDP per capita of R1266 (DBSA, 1993). The Province has a population of about 5.12 million (growing at 3.9% per year), with a total area of 119 606 sq km (14% arable and 54.2% grazing land). It has the lowest degree of urbanization (12.1%) and is hence predominantly a rural region where agriculture plays an important role.

This mostly semi-arid Province, is characterized by problems of drought, animal disease, lack of water for human and livestock, depleted underground water for human and livestock. Recurring drought has adversely reduced both crop and livestock production in the region (Northern Province, White Paper on Agriculture, 1995).

Most rural households are subjected to seasonal food shortages. Employment opportunities in the rural areas are very limited or non-existent. These features make the Province particularly vulnerable to food insecurity.

2. CONCEPTUAL FRAMEWORK

Several authors (White Paper on Agriculture, 1995, Staatz et al., 1990, Eicher and Staatz, 1986) have defined Food Security as the ability of all households in a nation to acquire a calorie-adequate diet at all times. Food Security has two interrelated components: Food Availability and Food Access. Food availability may be ensured through production, storage or trade. Access to food is achieved through production, purchases in the market from income earned or food transfers. It is clear that food security for the broad population is not always directly related to a country's ability to produce food. Singer (1996) provided the following six factors for the declining food security situation in Africa: marginalization of Africa in economic and human development indicators; the impact of war and conflict; deterioration terms of trade and debt burdens in developing countries; globalization of markets leading to the shift from food to cash crop production; and the resulting dependency on imported food and Africa's increasing population (Sartorius von Bach, 1996).

While food security research may focus on a national or regional level, household level research perspective places major emphasis on analysing household data and the performance of institutions in assuring household access to food. Analysis of micro level data provides a

basis to assess macro economic policies on household food security.

Household food security may be conceptualized in terms of a hierarchy of sub components. The first level of food access depends on **households' own production, the availability of income to purchase food and food transfer**. Secondary components of own production include net crop and livestock flows. Secondary components of income generation include sales of farm product and labour services. Finally secondary components of food transfers include inter-household and institutional transfers that provide a safety net for at risk households (Rukuni and Bernstein, 1989). Household strategies for assuring food security are conditioned by households' resource and preferences. External factors such as agro-climatic conditions, technology institutional performance and government policies influence these strategies.

2.1 Research hypotheses

There is high variability in food security between rural households in the Northern Province. Socio-economic factors are responsible for the inter-household variability in food security and rural households cope with inter year-variability in food insecurity by adopting different strategies.

2.2 Research objectives

The general objective of this household food security research is to contribute to an improved understanding of strategies, policies and actions of the food-insecure rural households of the region and identify the opportunities for higher real incomes and food security.

The research project has the following specific objectives:

- a) diagnose the historical and current food security situation largely through collecting and analysing household data from representative rural areas of the Province,
- b) determine the extent and distribution of HFS among different households in different socio-economic, demographic or geographical areas
- c) identify major technological, institutional and policy constraints on improving farming systems in the rural areas of the Provincial;
- d) assess the potential impact of technological and policy interventions to increase household food security,
- e) suggest measures to improve the food security situation in the province.

3. METHODOLOGY: DATA COLLECTION AND ANALYSIS

Household level survey was carried during November-December, 1995 period to collect data from five agricultural districts (former homelands) of the province: Nebo, Seshego, Botlokwa, Gyani and Venda. The sample consists a total of 197 randomly selected households. The districts were selected based on their farming types, i.e. small scale and/or subsistence,

representativeness and their potentials in agricultural production. Structured questionnaires were used to get cross sectional data on: household characteristics demography, resource availability and use, food production, availability, consumption, income and expenditure on food, marketing, access to institutional support (credit, extension and research), household coping strategies and perceptions on food insecurity. Secondary data from previous studies are used to fill gaps.

Analytical Techniques: Simple descriptive statistics are presented for the household characteristics on most of the above variables. Calculations of the values of household food purchases, farm and none farm income and value of available liquid assets for the purchase of food as used by households are used as proxies to measure the level of food security. Joel et. al. (1985) identify the poverty approach and the monetary poverty line as possible techniques to define basic consumption needs in a specific society.

The first defines individuals as poor if they fall below a poverty line set according to well defined standards. SALDRU (1993) in its study of the Northern province estimated R750/month/HH as the poverty line. The latter considers the value of the basic basket of goods and services and defines anyone consuming (or earning income) less than a certain amount as being below the poverty line. The third approach which is used in this study following Phillips et. al, (1992) in defining a simplified food security equation as:

$$FPDhh \leq ILAhh$$

where

FPDhh = Value of food production deficit of a household (defined as the value of the food purchase requirements or the

value of the difference between the quantities of household food consumption and household food production in 1995;

ILAhh = family income (farm income, remittance, other non-farm income) plus value of liquid assets available to purchase food. If FPDhh \leq ILA, then the household is food secure, implying that the HH's financial requirement to purchase its additional (assuming own production for consumption) or all its food requirements is less or equal to its income (ability to access it).

Conversely, if the ILAhh is greater than FPDhh, then the HH has adequate income to secure its food requirements. The average FPDhh and ILAhh values per HH is calculated for each district.

4. RESULTS

The study revealed significant variation of food security, perceptions and access to markets and credit use among the sample households in the five districts as indicated in the Tables.

The figures (Table 1) used as proxies to indicate level of food security in the different districts reflect the significant variation between the study areas. Nebo and Botlokwa experience a high degree of food insecurity as their available income does not even cover half of their food deficit requirements. On the contrary Venda and Giyani households appear to produce more than they purchase, hence the difference between the values of purchased consumption and home produced food is negative and also they have adequate income to purchase food when the need arises. Households in

Table 1: Food Security Indicators in Selected Districts of the Northern Province, 1995

Value (Rands)	Nebo	Botlokwa	Gyani	Seshego	Venda
FPDhh	1614	1375	-1797	1354	-4768
ILAhh	760	517	1942	1338	3271

Source: Computed from the survey data, 1995

Table 2: Status of food security by household type

Value label	Small families (n=105)	Larger Families (n=92)	Overall (N=197)
Food insecure(1)	64	51	58
Vulnerable(2)	27	22	25
Food secure(3)	9	27	17
Total	100% (105)	100% (92)	100% (197)

Source: Survey Data, 1995

Table 3: Status of Household Food Security by districts in 1995

District	Insecure %HH	Vulnerable % HH	Secure % HH
Nebo	62	30	8
Seshego	62	22	16
Botlokwa	53	18	29
Giyani	45	33	22
Venda	31	13	56

Table 4: Average Maize and Groundnuts as Reported by Respondents 1994-95

District	Maize in Kg	Groundnuts in Kg	% of Hhs with no maize
Nebo	282	2	11
Botlokwa	27	2	5
Giyani	862	120	1
Seshego	473	4	7
Venda	1010	1265	2

Table 5: Households' Perception on Food Shortages, Credit Use, Market and Farm Land Access by District, 1995

	Nebo	Seshego	Botlokwa	Giyani	Venda
Experience Food Shortages yes (HH)	77	59	71	67	62
For see Food Shortages (yes %HH) HH)	87	79	53	67	81
Credit Users (% HH)	31	6	22	25	36
Market Access(% HH)	11	10	0	89	100
Access to Lnad: Farm land avialbale per HH in Hectares	2.31	0.8	1.2	5.7	4.1

Source: Survey Data, 1995.

Seshego are vulnerable to food insecurity since their available incomes hardly cover their requirements

Attempts to calculate the value of subsistence food production and purchased food at individual level/per adult equivalent show that 58% of the people in the sample are food insecure while 17% are vulnerable and 25% are food secure. Those classified as insecure allocate for purchasing and/or consume own production valued less than R342 per year per adult equivalent to meet the minimum daily calory requirement (2205) and the vulnerable group allocates between R342 and R400 and secured households are those with more than R400. Although these figures show a very rough indication of HFS, it has been very difficult to get data on quantities of food consumed, purchased, sold and income.

Tables 2 and 3 reveal the status of HFS by family type (small families are those HHs with less than 5 persons and large families are those with greater than 5 persons in the household) and by districts, respectively. The production data for the major staple, maize and the cash crop, groundnuts as reported by the respondents are given in Table 4. Almost 90% of the HHs produce maize except in Nebo where 11 of the Hhs do not produce any maize at all.

4.1 Households' perception on food security

Table 5 depicts that more than two-thirds of the HHs responded have had an experience or incidence of food shortages. Respondents attribute the causes of food shortages to drought (50%), insufficient income (34%) and to other factors. 47% of the respondents also stated that the summer months when stocks from previous harvests are depleted to be the most severe time of food shortages followed by the winter months (25%). Of those hhs producing food, 24% claimed that their stocks do not last more than six months, 19% between 6 and 12 months and only 29% have food in their stores lasting for more than a year. Other responses on credit use, market and access to farm land reflect the differences between HHs in the districts (Table 5).

4.2 Households' coping strategies

Household strategies adopted to minimize or alleviate the effects of food insecurity depend on their income and liquid assets available to purchase food. The strategies could be either short or long term nature. The short term strategies include: adjustment of households to social network (HHs borrow money or ask for food from relatives); income diversification to purchase food (market produce from farm plots, sell crafts or spaza shops); taking food credit from stores and adopt new methods /techniques of farming to increase food production. Long run coping strategies include: seeking employment, accumulation of assets, securing institutional support and improving skills through education. The results of this study confirm that 40% of the hhs with very limited income opted to the adjustment of HH to social network strategy in the short run and employment seeking as their long run measure to cope with food insecurity. Almost 20% of the poor hhs consider improving own food production as a viable strategy. Asset accumulation as a long run measure is only considered as expected by those with above average income levels and other hhs use a combination of the measures indicated above.

5. IMPLICATIONS, CHALLENGES AND RECOMMENDATIONS

The initial findings clearly indicate that rural HHs are subjected to both transitory and chronic food insecurity attributed to poor agricultural production, drought and lack of employment opportunities in the rural areas; resulting supply deficiency and purchasing power deficiency. The HFS variability between the districts confirmed that Nebo and Botlokwa are food insecure, Seshego as vulnerable and Venda and Giyani relatively food secured. Disaggregating the level on the basis of individual HH members 58%, 17% and 25% of the sample are classified as food insecure, vulnerable and secure, respectively.

Given these initial findings it is apparent to formulate and implement strategies and programs to:

- a) enhance domestic food production/supply;
- b) improve food access to the poor and vulnerable groups and
- c) accelerate agricultural and rural development programs.

An obvious strategy is to stimulate local food production especially staple crops (drought tolerant, i.e. maize and sorghum in the province, particularly for households who do not have the means to purchase food). Improving and developing efficient water management systems, developing farming systems and technologies adapted to sustainable production for the province, strengthening adaptive agricultural research and extension are possible options. National and Provincial Agricultural Policy makers have to explore.

Further research to identify vulnerable and food insecure groups in the rural areas is crucial to design a targeted direct food security intervention (food subsidies) programs to improve food access to the poor and vulnerable groups. Accelerating agricultural and rural development calls for provision of appropriate support services to improve the productivity existing farming systems, promoting schemes targeted at increasing on-farm and off-farm employment, infrastructure for improved services and marketing, improving the land tenure and security of farmers (particularly the poor and women farmers). Finally it is critical that effective participation of farmers in the agricultural and rural development process is maintained. The ultimate positive effect of these measures will undoubtedly improve the coping strategies to deal with the risk of food insecurity. Subsequent comprehensive HFS studies will deal with detailed analysis of the factors responsible for HFS and their interrelationships and to eventually develop a model to measure and monitor the process.

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