

Interdisciplinary Research on Food Security in African "Households": Exploratory Directives¹

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ABSTRACT Poverty, undernutrition and malnutrition are significant problems in South Africa. About half of the population, many of whom are subject to chronic food insecurity, subsist below the poverty line. Empirical research on food security and knowledge about the specific underlying causes of food insecurity are limited. The aim of this article is to describe the specifics of the socio-economic factors influencing food security. A better understanding shall be gained about the characteristics of households struggling to attain food security. Special attention is given to gender relations and to the functioning of social networks. This is the first sub-study in a larger research project (the THUSA project) in which the impact of urbanization on the general health situation of Africans in the North West Province (South Africa) is being studied. With its interdisciplinary approach, this study contributes to research in the field of food security, and uses qualitative and quantitative methods. The findings can provide a basis for information on household food security, which is essential for assessing nutrition policies and for the appropriate targeting and implementation of nutrition programmes. This article describes the approach of the study, the methods used and presents preliminary concepts.

INTRODUCTION

This study forms part of the broader set of data gathered in the THUSA Project (THUSA is the acronym for 'Transition and Health during Urbanization in South Africa) of the Nutrition Research Group of Potchefstroom University, South Africa. In this project, covering several years of research, the impact of urbanization on the general health situation of Africans in the North West Province is being studied in a broad and quantitative way. The study on food security is the first sub-study of a qualitative nature

within the broader THUSA project. One of the main objectives of this study was to follow an interdisciplinary approach, including the disciplines of nutrition, physiology, rural sociology and anthropology. Qualitative and quantitative data that derive from multiple sources and from different disciplines are being used. With this approach, the study meets the demand for multidisciplinary research in the field of food security (Frankenberger, 1992; Steyn *et al.*; 1998).

The main aim of this article is to describe the emerging concepts relevant to the study of food security. A better understanding shall be gained of the characteristics and composition of "households"² - however fluid the latter may be - struggling to attain food security. Coping strategies regarding food security and the functioning of social networks are evaluated and described. Special attention is devoted to gender relations and to the position of the woman in the household with regard to how this may affect the food situation of the households. Emphasis is also laid on the subjective perceptions of the people being studied concerning their food situation and their general well-being.

Taking all of the above-mentioned factors influencing food security into consideration, the situation of food security in African households in rural and urban areas in South Africa will be described. The findings should provide a basis for the assessment and appropriate targeting of future nutrition programmes.

The article also outlines the research design. As the project is still running and the process of data gathering is not yet finished, only a limited part of the material can be presented here, and only preliminary interpretations can be referred

to. The final validity of the concepts and interpretations that are being used here still has to be determined during the research process.

FOOD SECURITY, POVERTY AND LIVELIHOOD - THE SITUATION IN AFRICA HOUSEHOLDS

Poverty, undernutrition and malnutrition are all significant problems in South Africa. Food security exists at a generalized national level, while at the household and individual levels there is often a striking incidence of food insecurity and malnutrition (Naidoo *et al.*, 1993; Van Zyl and Kirsten, 1992; Van Rooyen *et al.*, 1996). About half of the South African population subsist below the poverty line, many of whom are subject to chronic food insecurity (Bernstein 1994; Barberton 1995; Haddad and Zeller, 1997). Especially pre-school and primary school children in rural areas are affected. At least 20-25 per cent of pre-school and 20 per cent of primary school children are stunted² and suffer from chronic undernutrition (Vorster *et al.*, 1997: 31-32; Steyn, 1996: 152). Many households subsist on limited or very unpredictable incomes or mainly or even solely on the pension of an elderly person living in the same house (Breslin *et al.*, 1997; Haddad and Zeller, 1997).

Apart from these known facts, there is a need to analyze the nature of food insecurity further. Empirical research on food security is limited in South Africa (Land and Agriculture Policy Centre, 1994; Mekuria and Moletsane, 1996), although internationally the general literature on food security and coping strategies regarding food security is growing immensely. In South Africa there is a lack especially of knowledge about the specific underlying causes of inadequate nutrition (Steyn *et al.*, 1998), as well as about the specific characteristics of households struggling to attain food security (Coutsoudis *et al.*, 1994; Kuzwayo, 1994).

The necessity of revealing the marked differentiation in resource access and decision-making in the household sphere and also between socially connected households has already been indicated as of utmost importance in the international literature on the topic (Adams *et al.*, 1998; Maxwell and Smith, 1992).

The position of the woman in the household is assumed to be most important in relation to the food situation of the household (FAO, 1996; Fourth World Conference on Women, 1995; Women's Outreach Foundation, 1997). Several studies have documented that in female-headed households both food security and the nutritional status of the individual household members are better than in male-headed households (Kennedy and Peters, 1992; Kunze and Pilgram, 1993; Kuzwayo, 1994; Maxwell, 1996; Popkin and Doan, 1990). In this study, the term "female-headed household" will be closely investigated and clarified, as it comprises a wide variety of households that face different opportunities and constraints (Breslin *et al.*, 1997:282).

The general socio-economic situation of African households and their situation of food security and livelihood have to be seen in the context of the history of this country and can be indirectly inferred from a vast number of sources. The struggle for resources between settlers from Europe and those of mostly African descent had a direct and severely limiting effect on the latter's access to land, their right to labour or choice of labour, and also their right to movement and residence in large parts of the country (Plaatje, 1916; Omer-Cooper, 1989; Davenport, 1988). Discriminatory political practices did not only create limitations for those of mainly African descent, but also disrupted existing and functioning social systems of support by creating vast systems of migrant labour and the statutory removal of people. In some ways these disruptive forces were aggravated by industrial and urban growth in South Africa (Posel, 1997).

There can be no doubt that the above situation with its dire effects on the general well-being of Africans had to impact on their level of food security and the way this was and still is experienced and acted on in daily life. This has been indicated by authors working in the fields of networking between families (Murray, 1981; Ross, 1993; Spiegel, 1987; Van der Waal, 1996), life in hostels (Ramphele, 1993; Jones, 1993), and "levels of domination" within lower class families (Kotzé, 1986). In some of these works, not only the disruptive effects of powerlessness are described, but also the innovative social mechanisms of survival, of which social and

individual actions for improved food security are essential elements.

The specific place of food security as an element of daily survival within the different spheres, however, has still to be studied. A better understanding must be gained of the social system in which people live together, and of its use as a mechanism for ensuring greater food security for those involved and also for wider networks of relatives, friends and other dependants.

RESEARCH DESIGN

Methods Employed

Various methods of data gathering are used in the study on food security, in order to enhance both the breadth and the depth of the data, and also to enable the researcher to draw on the different methods of research. Following this interdisciplinary approach, methods for verification and triangulation are also employed. Data gathering includes the following:

Structured interviews with open-ended questions. The decision to choose a structured instead of an unstructured questionnaire results from the fact that the researcher is not able to talk with the interviewees without the help of a local fieldworker. The aim of formulating the questions beforehand and translating them into the native language, is to ensure that the meaning of the questions is clearly understood between the researcher, the assisting fieldworker and the interviewee. All interviews are conducted in the native language of the population.

Interviewees. The interviewees in the study on food security are mostly women living in rural and urban areas in the North West Province. However, men from the areas also participated in the THUSA study.

In-depth-interviews. Additional in-depth qualitative data was gathered during fieldtrips separately from the larger study group. Other activities included collecting life histories and interviewing key informants. These will be described in more detail under the section "*Research activities apart from the larger study group*".

Observation. A fieldbook was kept during all fieldtrips and visits. It was used to record

observations within the larger research group and at the interviewees' homes. Photographs were also taken.

Adapted focus groups. The structured interview was first used in a pilot study in March 1998 within the research activities of the larger research group. The pilot study comprised more than 40 conducted interviews as well as information from adapted focus groups. Based on these findings, the interview was modified.

Socio-demographic questionnaire. A quantitative socio-demographic questionnaire, that had been used earlier in the broader project, was modified by the researcher so as to be of use also for the research on food security. Questions on the following issues were included to obtain more information on the general well-being of those people covered in the research: access to drinking water, to sanitation, to electricity, to cooking facilities and to storage facilities.

Gathering of Data

The first phase of data collection, which took place from June to October 1998, was carried out within the research activities of the larger THUSA Project.

Gaining access to the communities and recruiting of people. Tribal authorities and community leaders were approached and permission was sought to undertake the research in the various residential areas. The sites where the research was undertaken were randomly selected. The research group was allowed to work either in the community halls, tribal halls or in the clinics. The tribal authorities, community leaders or the staff of the clinics informed the residents about the project. In some places a large number of people were already waiting when we arrived. In other places people had obviously not been informed. In these cases, we drove around in the community to inform the residents about the study. In this way it was no problem to gather enough people who wanted to participate. In some cases, due to limited time, not all the people who were interested could be included in the study. A maximum of 52 people participated on one day.

Selection of participants. Due to the nature of the broader study, the recruitment took place by self-selection. For the purpose of the study,

only those volunteers who were apparently healthy could be included. People who suffered from acute or chronic illnesses could not take part in the study. For compensation, each participant received R 20 and a lunch packet. For some people, this probably was a motivation to participate in the study and this could mean that the selection was biased. But as is confirmed by the socio-economic data as well as by comments of participants themselves, the reason why many came was because they wanted to have their health checked.

Research activities of the larger THUSA study group. Participants were first informed about the aim of the study. They had to sign a consent form to indicate that they had been informed about the process. Then they went through the different stations, including anthropometric measurements, blood tests and urine samples. Several questionnaires were also applied. These comprised a food frequency questionnaire, socio-demographic information, a physical activity scale and a psychological attitude scale. In addition to giving financial compensation, the research group provided some of the results immediately after the testing: blood pressure, blood sugar, iron status, and clinical symptoms. Every participant was informed about his/her health status and given appropriate dietary advice. If participants had abnormal blood values or other indications, they were advised to go to the doctor or clinic for further checks and/or treatment.

Research activities on food security within the larger study group. As far as possible, we separated our activities from the larger research group and visited people at home. We wanted to see our interviewees in their natural surroundings and also make observations. This was not always practical, though. The research group stayed in some residential areas for only one day, which then limited the possibility of visiting people. Due to these circumstances, interviews were also carried out within the larger study group. However, we could clearly observe that the interviewees were more relaxed when we visited them at home.

Besides these confining or relaxed circumstances, responses probably also depended on the specific personality, on how someone felt in

this specific situation, and also on how open or reserved someone was. Considering these limiting circumstances, the interviews within the larger study group went quite well. The number of people we interviewed on food security was 2-4 per interviewer-team per day. The interviews lasted 1.5-2.5 hours on average. During this research period, two anthropology students in teamwork with African fieldworkers from the various residential units where the research was undertaken assisted with the interviews.

Research activities apart from the larger THUSA study group. In a second phase, more in-depth qualitative data was gained during fieldtrips apart from the larger study group. We visited people we had already interviewed and with whom we had had a good relationship in the first interview (*purposefully selecting informants*). During these visits, we collected life histories, by using an interview guide, and by asking specifically about the food situation during the different phases and situations in life. Furthermore, we could clear up issues that had remained uncertain during the first interview. We also interviewed key informants, such as health workers, asking about specific issues concerning food and food security, social support, the general situation in this area and other issues. As our fieldworkers are members of the residential areas we worked in and sometimes experience or observe the same problems as our interviewees, they also served as key informants and gave us additional insight.

Data Analysis

Structured interviews with open-ended questions. The answers are coded, to establish possible analytical concepts and categories. The evolving categories are again coded and entered into a database. This method enables the researcher to identify frequencies and to correlate the different issues and concepts with one another.

Correlating of data from the different disciplines. The qualitative approach in this study may/can lead to a better understanding of the quantitative data gathered in the broader THUSA study, while part of the quantitative data from the broader study will be correlated with the findings on food security. The data on food

security can, for example, be correlated with the quantitative socio-demographic data, and furthermore with the nutritional status and the general health status that are being investigated in the larger study group. The advantage of this type of approach is that it enables one to make use of various sources of information in order to enhance both the breadth and the depth of the data.

In-depth interviews. The life histories will be presented as case studies to describe and illustrate the concepts developed in the study and the significance of the material gathered. Specific information gained from the structured interviews will be integrated into the case studies. These are, for example, answers to questions on the interviewees' perceptions about their food situation and about their general situation and well-being. The case studies will further enhance the depth of this study.

Other information sources. Interviews with key informants, as well as fieldnotes and observations, will also be used for interpretation.

Verification

To ensure *internal validity*, the following strategies are employed: triangulation of data, interviewing of key informants, member checking, and peer examination³. Describing all steps taken during the research process provides *external validity*.

EMERGING CONCEPTS

As has been referred to earlier, the concepts presented in this section are not defined at this stage of the research, but rather described, as the specific methodological relevance of these concepts is part of the development of this research project.

What is Food Security?

Since the first World Food Conference in 1974, food security has been defined and described in many ways. Maxwell & Frankenberg (1992) reviewed the large number of concepts and definitions of food security. The most recent definition established by the Food and Agricultural Organization of the United Nations comes from the 1996 World Food Summit: "*Food*

security is, when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active lifestyle" (FAO, 1997).

It is widely recognized that food security is a very complex issue (Steyn, 1998). For a reasonable quality of life, the concept of food security cannot be separated from other important facilities and aspects, such as access to drinking water, sanitation, energy sources for cooking, cooking facilities and storage facilities.

The concept of food security has undergone three main shifts since it was established: "*from the global and national to the household and individual, from a food first perspective to a livelihood perspective, and from objective indicators to subjective perceptions"* (Maxwell, 1996: 155).

The current research is consistent with these shifts, as it explores food security on the household and individual level, including livelihood, coping strategies and also subjective perceptions regarding food security.

Indicators of food security that are being investigated:

- the sources of food a household makes use of
 - distance to sources of food and means of transport
 - access to food, types of food available, affordable and consumed: foods mostly consumed (staple diet, diversity of food) and why; foods that would be preferred and why they are preferred
 - frequency of meals, especially for children (although not necessarily an indicator of food security)
 - experience of hunger; times and frequency of food shortage
 - ways to get food during times of shortage (coping strategies); social networks
 - person responsible for getting food, cooking, looking after children's food (caregiver), position in the household and its relevance for food security
 - perceptions and worries of the interviewees about their food situation and their general situation of well-being
- Socio-demographic and socio-economic*

indicators that are being investigated and used for correlation:

- sources of income; total household income (including all contributions to the household); portion of budget spent on food
- level of formal education of household members
- household size, household composition
- sanitation
- access to drinking water
- housing
- access to electricity
- cooking facilities, storage facilities
- types of energy used for cooking
- possession of livestock

Intra-household distribution. Not only the economic situation, but also, or more importantly, the distribution of resources in the household determines whether members of the household are food secure (individual food security). The nature of the source of income and the control of income may be more important than total household income in influencing household-level and individual food security. This intra-household distribution of resources is often masked (Young, 1992). Therefore, the following concepts, all of which stand in relation to food security, and with one another, are examined regarding their influence on the distribution of resources within the household, and therefore their influence on household and individual food security:

The Concept of Household and Household Composition

The concept and composition of households have to be carefully examined, as there are a wide variety of household categories and high fluidity between households and residential units. The migrant labour system in South Africa has caused a major change in family and kinship systems, which had traditionally provided a measure of support (Bazilli, 1991; Byarugaba, 1991; Coovadia, 1993; Moosa, 1984; Naidoo *et al.*, 1993). The underlying socio-economic and historical factors for this development have been referred to earlier. This situation of fluidity makes it very difficult to define a household. There are many different ways in which households can be defined and described

(McNetting *et al.*, 1984; Maxwell and Smith, 1992; Spiegel *et al.*, 1996).

As Evans (1992:19) puts it: "*There is no single answer to the question of how to define a household or the relationship within it. The decision should depend on whether the household is viewed primarily as a kinship unit, a residential unit or an economic unit, and which definition will provide the most useful information for the purpose at hand.*"

At this stage, no attempt has been made to define a household, although the concept of household being used here is built around *economic concerns, food security and social networks*. For purposes of research, several household categories have been established. One criterion to determine the categories of households is the *flow of resources into and within households*. Another criterion is the characteristics of the person playing the role of *head of the household*. The goal is to determine the position of women in the household and how this affects the use of available resources and the food situation of a household. The general term "female-headed household" is closely examined during the research process and clarified.

Household categories. The households are provisionally divided into the following categories:

"male-headed":

- man and woman living together, with or without own or foster children, elders are also living in the house
- man and woman living together, with or without own or foster children
- single men, living alone, working or getting a pension, maybe remitting money to relatives

"female-headed":

- single women with own or foster children (*de jure* female-headed)
- single women, with or without own or foster children, co-operating with pensioner/s or other relatives who earn money
- women with or without own or foster children, with a husband/boyfriend who remits money from a distance (often *de facto* female-headed)
- single women, living alone, working or getting a pension, maybe remitting money

to relatives (*de jure* female-headed)

While some of the above-listed household categories can more or less clearly be defined as male/female (*de facto* or *de jure*)-headed, it still has to be determined in each single household, whether the head of household is actually male or female, and who actually makes decisions regarding resources. For example, if the elders are also living in the house, the mother of the woman or the man could be the head of household, depending on her age or whether she is the owner of the house. It also has to be determined in an obviously male-headed household, whether the man makes the decisions regarding resources alone or if there are joint/consensus decisions between him and his spouse. These issues are addressed by a number of questions on "head of household" and "decision-making" regarding resources.

Gender Relations and Decision-making

The important role the gender relations play in the general well-being of household members, especially women and children, has been described in a number of anthropological studies (Van der Waal, 1996; Spiegel *et al.*, 1996; Liebenberg, 1997). Although female-headed households, in general, are worse off with regard to resource endowment and access to income, land and property, they still seem to take better care of themselves and their children with the little they have. Female-headed households form a major proportion of all households in South Africa. Koen (1994: 16) gives the following national figures: 43 per cent of African children are born to single mothers, and half of African women over twenty are single – they are either widows, or separated women, or have never married. According to a document presented at the Fourth World Conference on Women (1995), at least 35 per cent of South African households are headed by women alone.

The ongoing process of data analysis entails both an exploration of women's ability to make decisions that reflect on food security, and an evaluation as to how their position affects the food situation of the members of the household. This will be done by correlating the position of the woman with several indicators for food security, for example with the diversity of food, the

nutritional status, and with the general food situation of the household. Furthermore, socio-demographic and economic factors like household income, portion of the budget spent on food, as well as education and occupation of the woman, will be used for correlation.

Also, the subjective perspective of women is being evaluated: what are women's perceptions of their situation? Would they make different choices, if they were in a better position to decide on issues that reflect on food security?

Coping Strategies

The ability of a household to cope with times of food shortage is a very important indicator of the level of food security of the household. Coping strategies can give an indication of the socio-economic situation of the household, but more importantly, they give an indication of the functioning of social networks. These networks are often overlooked when only evaluating the socio-economic status of people.

The establishing and the dissolution (temporarily or permanently) of households are sometimes the only means of coping and are described as a "last resort strategy" in the different stages of coping (Adams *et al.*, 1998): households are established depending on where resources are, and dissolved again when the resources that sustain them fail. Also, moving of people, especially children, between households, is a very common coping strategy. These social mechanisms for survival have been very clearly described in the work of Ross (1993) and of Van der Waal (1996).

The evaluation of the coping strategies should highlight the following main issues: what means of coping does a household/members of the household have when food is limited or when there is no food? Where/to whom can households go for help besides their relatives? What will households do first of all, if there's no food? What are short-term, what are long-term strategies of coping?

Furthermore, findings on the functioning of social networks (contributions to the household in form of money or food; looking after children of relatives; caring for elders, and others) and the reason why people live together and on

what basis they live together, will add to the picture on coping strategies and the role such networks play in households, of people trying to improve their food security.

Cultural Issues

Cultural habits may also influence eating habits and the distribution of food among household members. A number of questions in this study concentrate specifically on this issue, for example; foods that should or should not be eaten by certain people or at certain times; distinguishing between the different age groups and different stages in life (children, unmarried/married/pregnant women, men, old people, sick people). It has to be determined to what extent cultural preferences could possibly affect the food situation and food security of household members.

CONCLUSIONS

Food security is a very complex social issue. The disruptive effect which past events had and still may have on family life is reflected, among other things, in the relatively low level of food security in many African households.

This study pays specific attention to the underlying social factors regarding food security and to the issue of gender relations. The structure of the broader THUSA study enabled the researcher to have access to many residential areas of the North West Province of South Africa and to look at both the rural and the urban set-up. The qualitative approach in this study could lead to a better understanding of the quantitative data of the broader study, while the quantitative data that are derived from the broader THUSA study will be used for correlation and interpretation of the data on food security. The interdisciplinary approach and the use of both qualitative and quantitative data from different disciplines contribute to multidisciplinary research in the field of food security.

The current research is consistent with the shift in the definition of the concept of food security that has taken place since it was first established. It explores food security at the household and the individual level, including livelihood, coping strategies and subjective percep-

tions regarding food security. This has resulted in the development of analytical tools such as household composition and the position of women. The validity of these tools and preliminary concepts is still being determined in the process of research.

The conclusions that will emerge could lead to further socio-economic research and more nuanced and sensitive investigations into food security in South Africa. This study can provide a basis of information on household food security as an everyday experience, which is essential for assessing macro-economic policies on food security and for the appropriate targeting and implementation of nutrition programmes.

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NOTES

1. This article is based on a paper presented at the Conference of the Association for Anthropology in Southern Africa, University of Zimbabwe, Harare, January 20-23, 1999.
2. Stunting means low height-for-age, which is a result of chronic, long-term dietary inadequacy, reflecting poor living conditions (Vorster *et al.* 1997:6).
3. To improve the reliability of the data, the following methods were employed:
 - *Triangulation.* Data is collected through multiple sources: qualitative and quantitative methods, using structured interviews, in-depth interviews, observation and other qualitative research tools. Quantitative data derived from the broader project will be used for correlation.
 - *Member checking.* Dialogue with the interviewee regarding the interpretations of the interviewee's reality.
 - *Peer examination.* A number of people have continually been approached for advice throughout the process. Among them are academics from different disciplines, doctoral students engaged in various research fields, staff of the African Languages Department, and members of the African community themselves. They have provided an audit trail of the key decisions made during the research process and in so doing, have validated the decisions.
 - *Supervision.* Two of the assisting fieldworkers

were anthropology students in their third year with a background in this kind of research. They were trained before the data gathering phase. The local fieldworkers were also trained before conducting interviews, and were assisted by their interviewing partner, as we always worked in a team of two. The interviews were discussed and compared after each day of fieldwork, to gain an indication of the congruence or variance of the answers. This helped to identify problems, which occurred during the fieldwork, and to clarify them.

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