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**RELATIONSHIPS BETWEEN WOMEN'S REPRODUCTIVE
HEALTH AND HOUSEHOLD FOOD SECURITY
IN RURAL AFRICA¹**

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Introduction:

Food security and health comprise two vital aspects of human welfare in society. Particularly for women in Africa, reproduction and food production have been seen as their two fundamental responsibilities, if not obligations, to human society and, indeed, households. Traditionally, African women have spent their entire lifetimes ensuring that their families are fed and also, literally, in a reproductive or child caring state. This is particularly true given that the reproductive life span is between ages 11 and 50 and life expectancy (primarily because of HIV/AIDS, war, and famine) is now below 50 years. Thus, reproductive health issues are very central concerns to African women throughout their entire lives.

According to the Food and Agricultural Organization (FAO), food security refers to the situation whereby *all people* have access to safe and nutritious food at *all times* such that they can maintain healthy and active lives (FAO, 1974). This definition explains why there has been considerable attention paid to the linkages between the state of women, their food production, and food security. Women are the primary food growers and processors in Africa, meaning that they are the ones held responsible for the distribution of food and nutrition within households.

While food security can be discussed at national and regional levels, most emphasis has been placed on the household and the individual. Shama (1992) defines food security as the ability of a household to maintain physical and economic access to adequate food for all its members, without undue risk of losing such access. This definition embodies the two main dimensions of food security – physical access (supply or food production) and economic access (demand or food consumption). Supply-side arguments focus on factors that influence food availability such as agro-climatic conditions or natural resource endowments; food production, storage, and

distribution technologies; food prices; nutrition (calorie and energy intake); market opportunities; and the like (Olayemi 1996). Household incomes and economic assets, demographic profile (age and sex composition), socio-cultural factors, and food consumption habits all influence the ability of households to access available food (demand).

Likewise, concerns about reproductive health have focused attention on women. In 1994, the International Conference for Population and Development (ICPD), in its programme of action, called for the broadening of the definition of reproductive health to encompass the complete physical, mental, and social well-being of women as it relates to their reproductive systems. The ICPD call regarded that the definition of reproductive health should go beyond an emphasis on the provision of family planning services to also include, at a minimum, the provision of: prenatal, postnatal, and delivery care; health care for infants; treatment for reproductive tract infections, and sexual transmitted diseases; safe abortion services wherever legal, as well as treatment for complications deriving from unsafe abortions; services for the prevention and treatment of infertility; information, education, and counseling (IEC) services on human sexuality, reproductive health, cutting (FGC); and, where services for the treatment of breast and reproductive system cancers are not offered, a system for referrals for this care (Family Care International 1999). Basically, women should be free from illness, disease, disability, violence, and other harmful practices related to sexuality (ICPD Programme of Action 7.2, 7.6). The implications are that *safe motherhood* whereby all women are able to go through pregnancy and childbirth in a safe and healthy manner is crucial.

Although an overwhelming amount of research has been given to food security issues and to reproductive health, not as much attention has been paid to the relationship between the two. Indeed, there has been some attempt to illuminate how women's reproductive health status influences household food security (WHO 1994), but not enough has been done in this direction, or to explicate the relationships between the various aspects of food security and reproductive health. Yet, given how crucial the dual roles that women hold of ensuring household food security and

childbearing are, it is important that we comprehend the relationships between the two concepts. Our understanding the strength and significance of relationships between food security and reproductive health needs to be more complete. This paper outlines a framework that will, hopefully, forward research on the relationship between women's reproductive health and food security in households.

Shortcomings of the Reproductive Health and Food Security Literatures:

From as far back as Malthus to the present, food security has been an implicit driving force in the development of many population policies and programs. However, beyond a few studies on how health conditions food security (WHO 1994), the two concepts have hardly been linked as equal components of a larger system (e.g., wellbeing or quality of life) in any systematic manner. Inevitably, this is partly attributable to the key players' (e.g., donors) earlier exclusive focus on one issue or the other, as well as to researchers' preoccupation with their disciplinary specialization. For instance, while agricultural economists and nutritionists (with backing from the Food and Agricultural Organization) have focused on food security, population and health specialists (often with backing from the United Nations Population Fund and the World Health Organization) have been preoccupied with health and reproductive health issues. The result is that, even in the realm of the extent to which health affects food security, we know little about the magnitude and strength of various health impacts on food security.

Not surprisingly, until the middle of this decade, the bulk of the reproductive health literature focused on issues related to fertility and family planning. In the last few years, as the more holistic interpretation of the ICPD program of action has become increasingly incorporated into research and programs, there has been an expanding interest in other aspects of reproductive health. For the most part, the role of food as an issue in the population discourse has been addressed from the Malthusian perspective at the macro level, with the viewpoint that rapid population growth constrains the availability of food (and resources, in general). At the individual level there has also been some discussion about how nutrition impacts age at

menarche, as well as about how it influences maternal and fetal mortality and morbidity (Arroyo, 1994; Riley et al. 1993; FAO, 1992; World Bank, 1989).

In general, most studies that look at food security have focused on women and the gendered nature of work. Not only are women noted to be the major providers of agricultural labor (for planting, weeding, watering, cultivating, and harvesting) in most of rural Africa, but they are also seen to play crucial roles in the processing and distribution of food (Sicoli 1980). Women are recognized to be caregivers, responsible for the nutrition of the entire household. Relative to men, they are noted to spend a greater proportion of their income for household food consumption (Guyer 1980; Engel 1988). Unfortunately, much of women's contribution is informal and, therefore, goes unaccounted for. Because much attention has focused on how to improve food security (i.e., on food security as a dependent variable), its relationship to the status of women has been paramount in the literature. Attention has been paid to women's neglect in policies, programs, and services that are designed to improve food security (Lado 1992; Turshen 1983). It is frequently noted that women have less access to resources such as extension services and credit that will facilitate their productivity. Consequently, a number of researchers have argued that the best way to improve food security is to ensure that female food production is secure.

Because the central role women have in food security has been acknowledged, another vein of research has focused on documenting the negative consequences of the gender imbalance, or women's disadvantage, in access to land, income, and productive inputs (new technologies and seeds, credit, extension services, etc.). The literature has been able to document the benefits that accrue from improving women's situation vis-à-vis these factors, leading to calls for laws and policies that address these imbalances as a way to improving food security. Unfortunately, the focus among researchers in the food security area has hardly gone beyond calling for improvements in women's status. The food security literature is virtually silent on the improvement of women's wellbeing as end in its self. A crude interpretation of this is that we are interested in women's status or wellbeing insofar as it facilitates societal access to food. This major limitation of the prior research is rather ironic, given the strong

linkages between the two concepts.

Conceptual Framework:

It remains common sense that food security is a critical factor associated with the human existence. At the same time, the health status of a population has direct consequence for food security by limiting (or raising) the productive potential of the unhealthy (or healthy) members of a given society, and also by determining the extent of labor availability, which is constrained not only by the number of healthy people but also by the time they have available (that includes time not being spent taking care of their unhealthy counterparts). It is important to note that care for the unhealthy is also a responsibility that African society places on women.

On the other hand, the health status of a population is itself dependent on a host of factors including environmental and food security. Food security/insecurity affects health status through its impact on nutritional status and resistance to infections. Not only is nutrition seen as the basis of good health and the determinant of the outcome of most diseases, but also, malnutrition increases susceptibility to infectious diseases and influences the course and outcome of illness (Turshen, 1983).

Both food security (or having food) and reproductive health are, obviously, integral components of the quality of life for women in Africa. Each of these is positively related to the wellbeing of the larger African society, given the central role of women in food security and reproduction alluded to earlier. Rather than focus on one or the other, we argue that the global interest in the wellbeing of society should predicate interest in both. A focus on wellbeing or quality of life would preclude neither food security nor reproductive health being studied as a dependent variable. There are interdependent linkages between these two concepts such that improving either or both of them should improve the overall wellbeing of women and their families. Much research shows that people see wellbeing as a function not just of income, or food security for that matter (since a primary driving force of the unending quest for income is for consumption purposes, and food is the most basic consumption item), but also of

transmitted infections, fertility regulation and infertility treatments, promotion of responsible parenthood, and discouragement of harmful practices such as spousal abuse and female genital cutting. Many of these go beyond the traditional emphasis of population programs, which focused on the provision of maternal and child health services. Each of these dimensions of reproductive health affects the wellbeing of women. Consequently, an examination of the linkages between reproductive health and food security should focus on how women's wellbeing influences and is influenced by the various dimensions of food security.

While it is important to examine the dimensions of each of these concepts, we should understand that each is crucial to the functioning of the whole. Notwithstanding how favorable food production is, food security will hardly be achieved if efficient distribution and storage mechanisms are non-existent, or where cultural taboos that prohibit the consumption of some essential foods by certain members of the household prevail, or especially where norms grossly bias household food allocation, either by gender or age. Just as we can look at the specific components of food security and examine the linkages to each other and to women's health, we can also do the same with women's health.

Research on how food production, for instance, is related to women's reproductive health could assess the linkage between women's share of agricultural activity, and infant morbidity and wellbeing. The hours put into labor on the farm may compromise women's availability to take care of their infants. Likewise, we may examine how childcare responsibilities, in turn, affect women's ability to adequately take care of their farm responsibilities. In addition, other aspects of women's reproductive health, such as constant childbearing, affect their labor supply and productivity.

Another aspect of food security that could be linked to women's reproductive health is allocation of food within households. Traditional norms governing allocation of food within the household are often biased against women, and pregnant women may be prohibited from consuming certain foods. Both of these may adversely affect

each of these concepts it will be virtually impossible to attempt to outline all the plausible relationships among food security and reproductive health (and for that matter women's status) here. However, we will endeavor to list key aspects or indicators of each of these measures, and then illustrate with a number of examples how hypotheses governing the relationships among them may be evaluated in the field.

Dimensions of Food Security and Reproductive Health

Food security and reproductive health both have several dimensions. For each concept, any one of its dimensions can be linked to several of the dimensions of the other. These linkages provide the framework for looking at the relationship between the two concepts. Our goal here is to outline some of these dimensions and to give examples of how the relationships among them can be studied or analyzed. The major dimensions of food security include food production, food distribution and storage, food preparation and consumption, and the nutritional/health status of household members. Each of these dimensions impacts overall household food security. While each of the dimensions may itself depend on a host of external factors, there is an internal relationship in the sense that the various dimensions do also influence each other. For instance, food production may depend on ecological factors such as climatic conditions, while food preparation, consumption, and nutritional status may depend of socio-cultural norms that govern intra-household allocation of food. However, the impact of these dimensions on overall household food security may be attenuated or exacerbated by the health status of household members. The health status of household members influences their contribution to the production process, and also their ability to absorb micro-nutrients from their food intake. Furthermore, the health status of household members may be a function of their nutritional status, which depends on overall food availability, distribution patterns, and intra-household allocation of food. This paints a somewhat complex web of inter-relationships.

Reproductive health dimensions, as noted earlier, include issues relating to: pregnancy and childbirth—both of mothers and infants, sexuality and sexually

transmitted infections, fertility regulation and infertility treatments, promotion of responsible parenthood, and discouragement of harmful practices such as spousal abuse and female genital cutting. Many of these go beyond the traditional emphasis of population programs, which focused on the provision of maternal and child health services. Each of these dimensions of reproductive health affects the wellbeing of women. Consequently, an examination of the linkages between reproductive health and food security should focus on how women's wellbeing influences and is influenced by the various dimensions of food security.

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women's health status and, in the case of pregnant women, pregnancy outcomes. Conversely, poor health status can influence women's ability to absorb micro-nutrients from their food in-take and, thus, their nutritional status.

Beyond looking at the direct relationships between food security and reproductive health, we could also look at the ways in which both outcomes may be jointly determined by other factors. In particular, attention should be paid to macro processes that influence both outcomes and those that influence one through the other. Among the macro factors that may influence food security and women's health are rural-urban migration, wars and political instability, household demographic profile, general health and sanitary conditions, gender division of labor or, more generally, women's status, etc.

For instance, increasing rural-urban migration has been implicated as a major factor in declining household food production in the rural areas. Because of the selective nature of migration, by age and gender, rural households are often robbed of their most productive labor, as children, women, and frail old men are left behind to do all the work. Unlike the more traditional migrations in which men, for instance, leave for the gold mines assured of regular incomes to make remittances home to supplement rural food production, recent migrants to the cities are often faced with poor economic circumstances largely due to high unemployment in the cities. Consequently, they are unable to support themselves in the cities, let alone send remittances home. Driven by poverty, many, especially young women, end up in prostitution, which has attendant health and reproductive health consequences. In addition, increasing rural-urban migration, while diminishing rural food productivity, also increases demand for food in the urban areas leading to ever-increasing dependence on food importation, which undermines domestic productivity and food security.

Wars and political instability disrupt food production and distribution and are, therefore, major threats to food security. In addition, general health and health services are equally disrupted. Personal security becomes almost non-existent, and women and children suffer most as they are often abducted and used as human

shields. Women are also frequently raped and violated, and this can have serious implications vis-à-vis their reproductive health. The sex and gender composition of households also has serious implications on food security and reproductive health. It affects household dependency ratio, which increases the workload of the economically active population, and especially women, who are generally responsible for ensuring household food production, nutrition, childcare, and health

Priority Research Issues:

A. HIV/AIDS and food security:

HIV/AIDS represents a key reproductive health challenge facing Africa today, and it constitutes a major threat to household food security. In the face of the very serious and rapid spread of HIV/AIDS on the continent, a focus on the relationship between HIV/AIDS and food security deserves priority attention. Questions to guide research in this area include the following:

- i. How is the increasing incidence of HIV-infection and AIDS-related deaths among the economically active population affecting food security?
- ii. What are the implications of the spread of HIV/AIDS on the ability for households to have or maintain sufficient agricultural labor?
- iii. To what extent does the debilitating effect of sickness and death (and the attendant costs of hospital fees and funeral costs) deplete available household resources, and, consequently, their ability to purchase food?
- iv. What are the effects of time and energy spent on care for the sick, and the attendant increasing burden on the healthy and productive members of the household on the availability and ability of healthy household members to pursue household livelihood concerns?

Conversely, we must address the implications of food insecurity, brought about by the decimation of population be it from war, drought, HIV/AIDS or other diseases, for women's reproductive health. In particular, research must address questions such as "how does food insecurity affect women's relationship with their spouses and

families?" We should explore the extent to which food insecurity:

- i. makes women more dependent on men;
- ii. raises the incidence of forced and youthful marriages, by forcing families to give their daughters away at younger ages;
- iii. drives women into prostitution as well as into early and multiple sexual relationships; and
- iv. leads to unequal treatment of women within households, in a manner that threatens their nutritional and physical health (e.g., domestic violence and gender-biased allocation of food within the household).

B. Rural and Urban Impacts:

The need to understand the linkages between food security and reproductive health in the rural context is clear. Rural areas are synonymous with agricultural production and women's exclusive economic investment in agriculture. Even though women are still responsible for food security in urban households, the rationale for not excluding urban settings is not as clear. Given the declining levels of fertility in the developing world, and the continued rapid rate of rural-to-urban migration, urban growth is becoming a key issue to be dealt with in the developing world, including Africa.

Data from the United Nations indicate that 96 per cent of population growth in the developing world over the next 25 years will be accounted for by urban growth. Cities are growing at rates that are unprecedented in human history, sometimes at rates well over seven per cent per annum. Cities like Addis Ababa, Nairobi, Lagos, and Kinshasa are all expected to absorb at least 5 million *new* residents in the next 15 years. For Nairobi, a city that is currently pegged at a population of about 2.5 million, this means the population will triple in the next 15 years. The population of Durban has doubled in the last 5 years. Not surprisingly, much of this urban growth is occurring in a context of difficult economic times for African countries. Thus, an issue of carrying capacity (that is, how well the cities, with their already-strained infrastructures, can accommodate this growth) obtains.

The outcome of the migration and urbanization trends is that most new residents of these cities will be relegated to slums and informal settlements, peripheral and

inadequate residences at the fringes of cities. Often, the characteristics of these are no water, no electricity, and no sanitation facilities. These conditions are, arguably, much more dire than they are in rural areas where space, vegetation, and food may not be as scarce. Needless to say, there is already evidence that the reproductive health status of slum dwellers is worse than that of their rural counterparts on a number of fronts. As urbanization increases, the disadvantage of these disenfranchised citizens will be exacerbated. Over 60 percent of Nairobi already resides in informal settlements, some of which are extremely large. The Kibera slum, allegedly with half a million residents, is reputed to be the largest on the continent.

Given the migration of people of economically active age from the rural areas the implications for food security should be easy to comprehend. With increasing economic hardship among slum populations in Africa, the consequences for women's reproductive health, which have already been documented, need to be linked to food security. It is crucial that we understand the implications of the urbanization phenomenon for the disenfranchised residents. Some pertinent questions that need to be considered include:

- i. What is the status of food security in urban slum households?
- ii. What is the implication of insecure food conditions in urban slum households for the high levels of risky sexual behavior, which includes prostitution (of adults and children alike), multiple and extra-marital sexual partnerships, protection-less sex, etc.?
- iii. To what extent does household food insecurity impact intra-familial relationships and conflicts? Are the chances of domestic violence higher when food insecurity prevails?
- iv. How is food security linked to the phenomenon of street children (which is becoming increasingly more female in character) that is bruising the face of African cities?
- v. In the face of declining levels of remittances from urban migrants (to their rural origins), how is rural food security compromised?
- vi. To what extent is return migration (from urban to rural areas) related to

spread of HIV/AIDS and other sexually transmitted diseases, and consequently to food security?

These are only some of the questions that need to be addressed in looking at the relationship between migration, urbanization, food security and reproductive health issues.

C. Adolescent Food Security and Reproductive Health:

The importance of studying adolescent issues in Africa can not be understated. Because of Africa's historically high fertility, the age-structure of society is extremely young. About half of Africa's population is aged 15 years or younger. Needless to say, the future of Africa is tied to the future of its adolescents. It is known that the reproductive health concerns of adolescents are generally overlooked. Often the reproductive health system does not make provision for, or cater to, adolescents. Even where accommodation has been made for them, there is considerable discrimination and patronization, limiting the benefits that can accrue to adolescents. The consequence is that adolescents have worse sexual or reproductive health conditions than do adults.

At the same time, adolescent girls are already burdened with the obligation of ensuring food security for their families. In many areas, particularly in the rural setting, the adolescent female is at risk of early marriage and consequently childbearing. With marriage comes the responsibility of maintaining household food security. Ironically, physically, psychologically, and experientially, adolescents are considerably less prepared for these roles than are their adult counterparts. Unfortunately, they are also more relatively disadvantaged vis-à-vis their male partners, than are adult females. Thus, even the consequence of inability to maintain food security (a not unthinkable occurrence in these increasingly difficult times) is more negatively consequential for them and their children. Even when adolescent girls are not married off at young ages, responsibility for food preparation is increasingly bestowed upon them in their parental homes.

All of the issues that have been raised, above, with respect to women also pertain to adolescent girls. Indeed, the implications are more severe for them because of their increased vulnerability relative to adult women. A specific issue that requires attention as far as adolescent girls are concerned regards the relationship between food security, school dropout (not necessarily from pregnancy), and adolescent reproductive health. Often, when a family is faced with difficult livelihood situation such as job loss (not unheard of in the difficult economic times obtaining in African cities), food security within that household becomes compromised. Typically, the first expenditure to be cut is girls' schooling, which has serious adverse implications for their reproductive health, and their general wellbeing. These issues deserve urgent attention. Research is needed to explicate the extent to which these linkages exist so as to guide policy formulation in this area.

Concluding Comments:

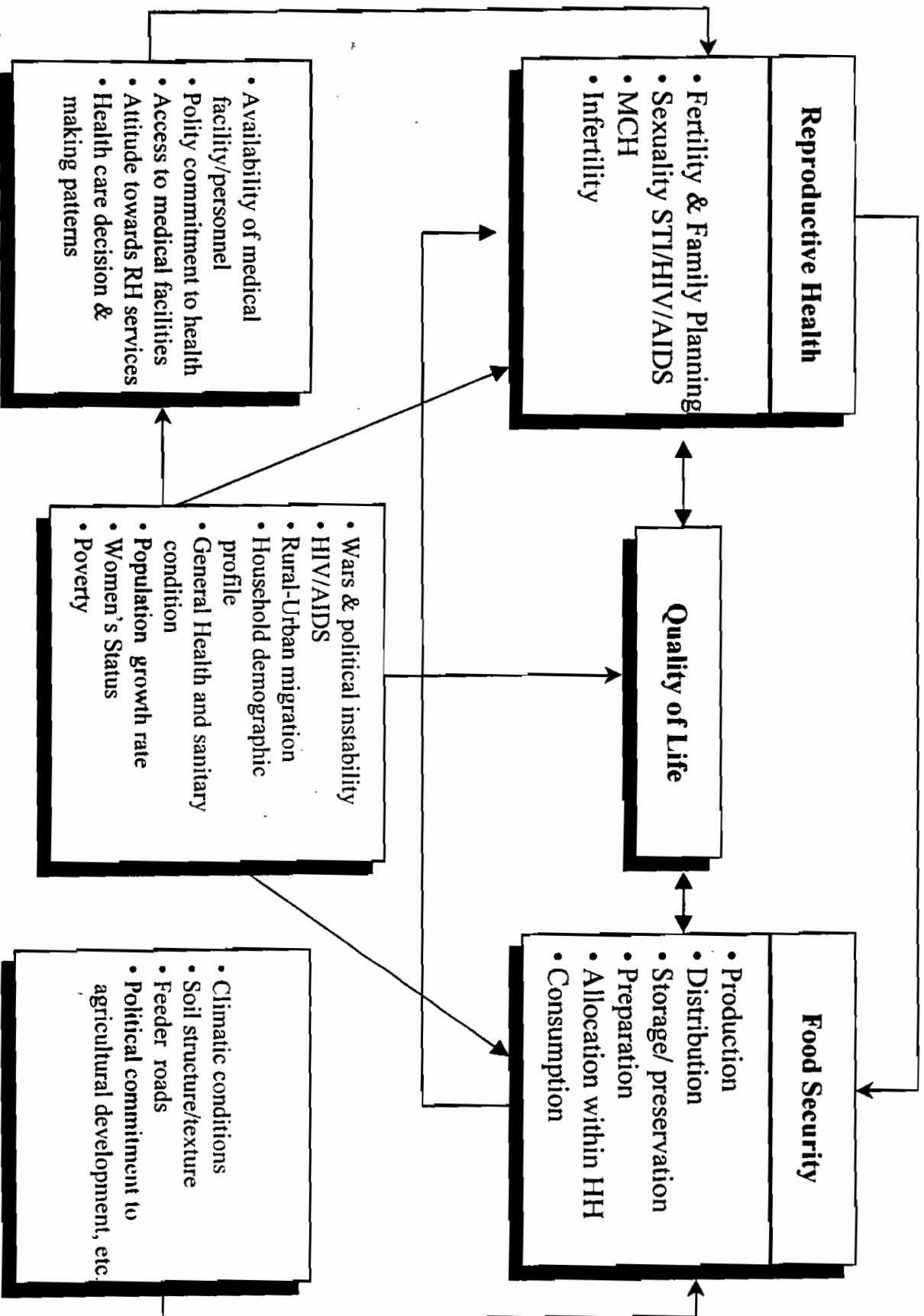
The importance of examining food security and reproductive health as components of the larger issue of quality of life or wellbeing has been stressed in this presentation. To date, the approach used to examine food security and reproductive health has, for the most part, ignored the linkages between the two. The literature on the relationships between food security and reproductive health is extremely sparse to say the least. Even where efforts have been made to look at the two issues jointly, the emphasis has been primarily on examining how health conditions women's productivity. This approach precludes the opportunity to understand how food security impacts women's health and, thus, their wellbeing. As we approach the 21st Century, arguments for focusing on women's wellbeing, rather than just their productive contribution do not require explanation.

We urge that research in this area examine not just the impact of reproductive health on food security, but also the reverse influence of food in/security on health. We have identified priority areas that require special attention in fully understanding the linkages between food security and reproductive health. These priority areas include the environment of HIV/AIDS, urban as well as rural contexts, and, because of their

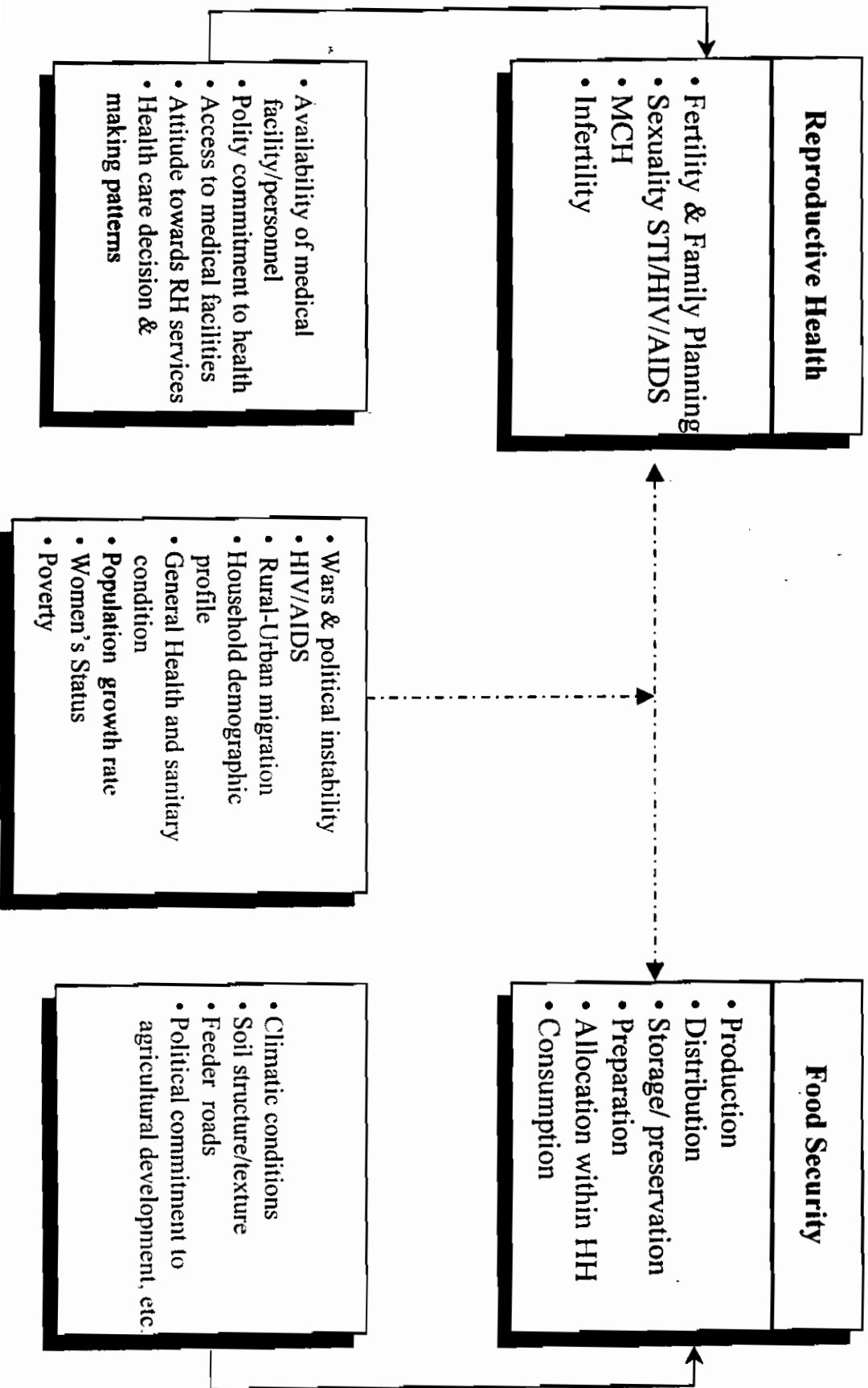
unique situation, adolescents.

These priority research issues can not be addressed in a single research project. On the one hand, we envisage something akin to a small-grants program that commissions *individual* researchers across the continent to carry out studies that investigate linkages between specific dimensions of reproductive health and food security, as alluded to in this paper. For instance, a researcher in Zambia may be interested in looking at the relationship between food allocation and consumption patterns, adolescent health, and school dropout, while another in Tanzania focuses on AIDS-related mortality and food production. Although this route enhances capacity building on the continent, it may not be adequate for understanding the relative importance of the different dimensions of the linkages between food security and reproductive health. That is, individuals may focus on specific aspects of food security and link those to reproductive health outcomes. It will be more difficult to explain within any given context the relative impacts of the different dimensions of food security on reproductive health. In this regard, larger, more holistic approaches may be called for. Centers of research excellence on the continent are well placed to carry out this type of research endeavor.

Fig 1: CONCEPTUAL FRAMEWORK



TRADITIONAL APPROACH



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