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**FRAMEWORK FOR DEVELOPING AND IMPLEMENTING COMPREHENSIVE
FOOD SECURITY POLICIES AND PROGRAMME:**

***RESOLVING FOOD SECURITY IN AFRICA
A STRATEGIC FRAMEWORK FOR BASIC FOOD AND NUTRITIONAL
SECURITY***

Presented at the

**THIRD PRESIDENTIAL FORUM ON THE MANAGEMENT
OF SCIENCE AND TECHNOLOGY
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***Kampala, Uganda
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Acronyms

AEC	African Economic Community
APPER	Africa Priority Programme for Economic Recovery
BCFS	Broadened Concept of Food Security
BCFSA	Broadened Concept of Food Security as specified for Africa
CFA	Communauté Financière Africaine
COMESA	Common Market for Eastern and Southern Africa
DFSP	Development and Food Security Programme
ECCAS	Economic Community for Central African States
ECOWAS	Economic Community for West African States
EU	European Union
FAL	Final Act of Lagos
FAO	Food and Agriculture Organization
FSA	Food Security Advisor
FSC	Food Security Commission
FSS	Food Security Secretariat
GOFSP	Goal Oriented Food Security Programming
GOPP	Goal Oriented Project Planning
IGOs	Intergovernmental Organizations
IMF	International Monetary Fund
JEFAD	Joint ECA/FAO Agriculture Division
LPA	Lagos Plan of Action
MSI	Management Systems International
NFSC	National Food Security Commission
NFSS	National Food Security Secretariat
OAU	Organization of African Unity
PTA	Preferential Trade Areas
UAM	United Africa Development Models
UMA	Union Maghreb Arab
UNECA	United Nations Economic Commission for Africa
UNDP	United Nations Development Programme
USA	United States of America
USAID	United States Agency for International Development
RFSC	Regional Food Security Commission
RFSS	Regional Food Security Secretariat
SADC	Southern Africa Development Community
SAP	Structural Adjustment Programme
SFSC	Subregional Food Security Commission
SFSS	Subregional Food Security Secretariat
SIMSS	Strategic Information Management System and Services
SPMI	Strategic Planning and Management of the Interventions
TQM	Total Quality Management
WB	World Bank

INTRODUCTION

During the last thirty years or so, African countries have been experiencing a critical food security situation for a variety of reasons including climatic changes and natural disasters. Resolving food security problems has been, hence, recognised as the priority of the priorities in present-day Africa as they now constitute a major roadblock that needs to be completely cleared, in order to make way for other priorities essential for sustainable economic growth and social development of Africa.

Indeed, a review of the socio-economic conditions in Africa shows a continuous decline in the capacity of an increasing number of both rural and urban population to access to food and other basic needs including potable water, health services, education and shelter. Over the last decades, household food security situation has reached a threatening emergency level. In a number of countries, not only more people go to bed hungry every day but a great number of their population are brought into a state of insecurity and instability due to the breakdown in the social fabrics and the expansion of war, ethnic conflicts, political turmoil, organized crime, diseases and natural disasters which all have an impact on the productive capacity of the population.

The crisis in which Africa finds itself calls for an overwhelming sense of urgency to create lasting conditions for every man and woman in Africa to develop their productive, self-help and self-reliant capacity and to have sustained physical and economic access (at least) to the minimum requirements in food and other essential needs. In selecting as theme the Strategic Framework for Food and Nutritional Security in Africa, 1995-2005, the Third Presidential Forum on the Management of Science and Technology for Development in Africa to be held in Kampala, Uganda 24-25 July, 1995, has clearly appreciated the magnitude of the food security and development crisis in Africa.

This choice constitutes above all a clear demonstration of its commitment to developing and maintaining through strategic interventions an enabling environment at household, national, regional and international levels for resolving sustainably food security in Africa combined with sustainable and self-reliant development.

Indeed, if future trends in food security and development were to be influenced notably through science and technology to achieve sustainable and self-reliant food security at household, national, subregional and regional levels, actions and interventions in support of food security and development should be strategically planned and managed within a logical framework and using powerful tools of analysis and dissemination of information so as to ensure an effective and sustained participation and involvement of both public and private sectors and all other parties concerned.

The choice of the Presidential Forum is timely as the required structural transformation of the African economies for sustainable food security and within the framework of the African Economic Community (AEC) has a better chance now than under previous efforts as we already have more than a decade of experiences with Structural Adjustment Programmes (SAPs) and democracies from which to learn and on which to build upon. Also, the 1994 devaluation of

the CFA Franc, the recent conclusion on the GATT agreements and the changes in the Southern African sub region are all positive factors for African governments and people to adhere to the principle of and achieve self-reliant and self-sustained development in Africa.

This paper¹ on Resolving Food Security in Africa aims at coming up with a Strategic Framework for Basic Food and Nutritional Security. Emphasis is, however, put on the guidelines and directives to tackle sustainably food security and development issues within a strategic framework and on building the critical capacities (human, institutional and organizational) that are required at individual household, national, sub regional and regional levels to resolve food security issues within that framework. Focus is, then, put on using the technique of Strategic Planning and Management of Interventions (SPMI) that will help ensure that the interventions are made within a strategic and dynamic framework.

Chapter 2 reviews the food security situation in Africa over the period, 1965-1995 and discusses its outlook over the period 1995-2005 and the potential and role of science and technology in improving food security situation. The Strategic Framework for Basic Food and Nutritional Security in Africa is discussed in Chapter 3. The Conclusions are contained in Chapter 4.

¹ This paper draws heavily on Strategic Planning and Management of the Interventions to Achieve Sustainable and Increased self-reliance in Food Security in Africa. Part I Manual on Goal Oriented Food Security Programming Rev. 1/94. September 1994 (ECA, 1994).

FOOD SECURITY SITUATION AND ITS OUTLOOK

The problem of food security as well as development in Africa has been extensively studied. The constraints to development and achieving self-reliant food security are well known and in some circumstances solutions to alleviate and eliminate constraints have been tested and applied successfully. In many instances, research work continues on relevant problems to development including food security.

However, over the last three decades or more research findings were applied on a piecemeal basis and in a discrete and inconsistent manner as the environment was not enabling notably at the level of the users to take maximum advantage of the potentials of science and technology. Actually, in many African countries, the interventions of both governments, individually and collectively, and the international community led to incapacitating the private and public sectors in pursuing sustainable development and self-reliance in food security.

Food Security Situation, 1965-1995

Over the last three decades or so, food production failed to keep pace with population growth and the average annual growth of population for Sub-Saharan Africa (SSA) was estimated at 2.8 per cent (Table 1) while the growth rates of cereals, roots and tubers and pulses were estimated at 2.0; 2.8² and 2.2 per cent respectively (Table 2).

This slow growth in food production combined with the increased deficit in net trade of food and agricultural commodities (Table 4) have resulted in a negative growth in the per capita food consumption in SSA (Table 3). Indeed, the exports of food and agricultural commodities were growing at 3.4 per cent per annum while imports were growing at about 7.2 percent. Hence, SSA became a net importer in food and agricultural commodities by 1992.

The food security situation has tremendously deteriorated in Africa in general and in SSA in particular over the last three decades. Also, in many African countries the contribution of the food and agricultural sectors to food security has weakened seriously in face of a chaotic situation in other sectors of the economy.

Food Security Outlook, 1995-2005

If the present trend is allowed to continue, African population are likely to enter the 21st century with more despair than hope as the great majority of them will go to bed every day

² The statistics used are extracted from the SOFA as prepared by FAO in collaboration with USDA. They covered the period 1961-1993 and the estimations for 1994 and the projections are based on 33 years of statistics using a parabola formula.

hungry. Indeed, under the trend scenario (Table 3) the per capita consumption in 1995; 2000, and 2005 will represent respectively about 64; 47 and 26 per cent of the estimated minimum daily requirement of 2200 Kcal.

It has been observed that the average per capita food consumption has never reached the threshold level of 2200 Kcal per day over the period 1961-1993. Actually, it is in 1970 that the maximum was attained (2174 Kcal) while the minimum was recorded in 1984 with 1982 Kcal. It is noted, also, that the per capita consumption of cereals, a major staple food in SSA, has grown at -.14 per cent per annum against -.06 per cent for total per capita food consumption.

The food security situation in Africa, in particular, will be worse than shown in Table 3, if African leaders remain outward looking in a potential hostile world environment to the continent. For instance, in the next ten years to come the negative impacts of SAPs on self-reliant development and those of GATT will be felt more in Africa and the inward looking behaviour in the so-called development partners of Africa will be reinforced under the pressure of right wing groups in Belgium, England, France, Germany, Italy, Japan or USA, hence, negatively impacting the international environment and making it more unfavourable to Africa.

In addition, pressure from some of the so-called development partners to adopt reforms as pre-condition to "development aid" will continue to develop social, ethnic and political chaos in many African countries to the extent that it will become difficult to even keep some countries in one piece and in peace.

The only way out for Africa is to rely more on oneself (Africa as a continent) and to develop respectable partnership between itself and the rest of the world and within the framework of the African Economic Community. There is more reason to believe that African leaders and population using for their benefit the global information technology, that is eye opener, will be committed to reverse the present trends in food security and development. The Presidential Forum has clearly demonstrated its determination towards that commitment, hence, the rationale for focusing its third summit on a Strategic Framework of Interventions in support of sustainable and self-reliant development in general and food security in particular.

In the remaining of this Chapter, the importance of science and technology variables in the complex food security equations in reversing the present trends in food security will be highlighted. In particular, the potentials and role of science and technology in making African population an asset to resolving food security problems and influencing trade patterns for achieving increased collective self-reliance in food security are briefly mentioned.

Potential and Role of Science and Technology in Resolving Food Security Problems Sustainably

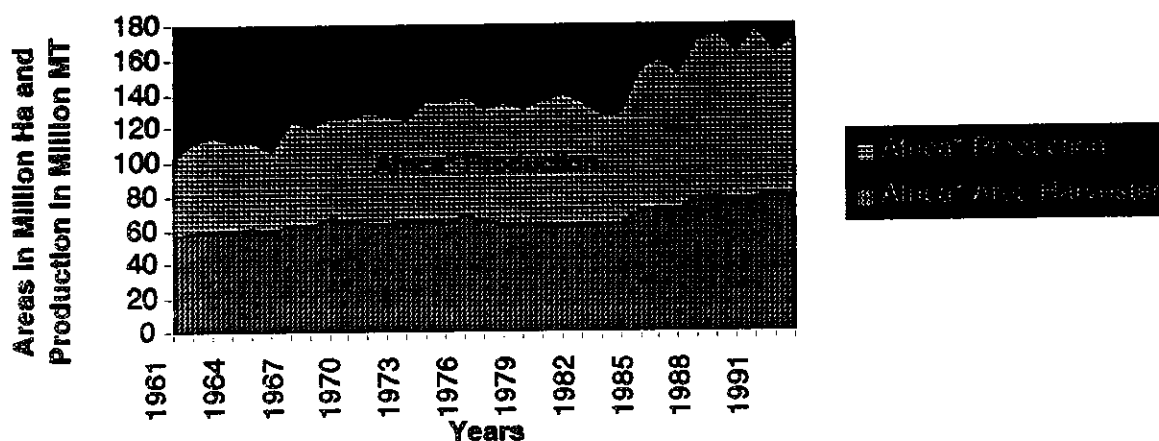
To make optimum use of the current stock of research results and to direct future research for optimal contribution to development, there is a need to develop and maintain an enabling

environment at individual household, national and international levels and within the framework of the major economic groupings and the African Economic Community. Indeed, for science and technology to play its rightful role in achieving sustainable (economic and environmental sense) food security at household, national, subregional and regional levels, it is essential that a partnership be developed between African farmers and research scientists in science and technology.

It has been proven including in the farmers' environment that the efficiency of the production and marketing systems can be improved substantially to increase self-reliance in food security, if the results of science and technology are used efficiently. Indeed, considerable reduction of losses and wastage was achieved through the use of yield enhancing technology, land quality and productivity maintenance technology, biotechnology, and/or technologies for processing, transforming and storing agricultural and food products.

However, looking for instance, at past trends (Fig. 1), one can conclude that Africa was not able to take maximum advantage of the potentials of science and technology in the food and agricultural sectors. Indeed, while areas under cereals continue to increase steadily in every subregion, the production continue to swing due to sharp variations in yields. Such variations in yields and production are due mainly to the inappropriate application of science and technology in the food and agricultural sector and the sectors in support of the rural economy.

Fig 1 Areas and Production of Cereals for Africa, 1961-1993



Population should have constituted an asset for achieving sustainable food security in Africa. However, over the last three decades or so, rapid and unbalanced urbanisation had negatively influenced the food security situation across the continent through the reduction of rural labour force and the increase in unemployment and food demand in the urban areas.

Science and technology could have and can still play a major role in achieving a balanced growth and distribution of the population between the rural and urban areas by making the former as attractive as the latter notably through the structural transformation of the rural areas and rural electrification using, for instance, solar energy. All the same, science and technology can help improve the food security situation in urban areas through the improvement of marketing and production systems (transportation, storage, processing, packaging, market information), and, thereby, influencing the habit of consumption of the urban dwellers in favour of locally produced food and beverages with particular emphasis on non-conventional food resources.

International trade is seen notably by non-African food security policy analysts as the major component in achieving food security in Africa that is through export of African agricultural raw products and import from developed country of food products using the proceeds of export. However, looking at the position of Africa in food and agricultural trade (Table 4), one can conclude that the strategy based on the use of the proceeds of export notably of agricultural products (raw form) to import food products (processed form) is no longer a viable solution in resolving food security problems in Africa. Indeed, foreign exchange earnings are rapidly decreasing while the cost of acquiring food products is increasing.

Science and technology could help tremendously to change that strategy (shifting from an outward to inward looking strategy within the framework of AEC) by contributing to the development of intra-regional trade in input and outputs. Science and technology could be used, for instance, to increase the level of processing of agricultural products and to promote a relative specialisation in the production of potentially tradable commodities within the African region to help achieve collective self-reliance in food security and within the framework of the AEC.

It is the common overall policy of most of the African countries in the food and agricultural sector to achieve self-sufficiency in food and food security through increased food production. The increased food production is possible only if modern methods and techniques are utilized through the application of science and technology. Science and technology will aim at maximization of productivity through the introduction of improved methods of farming and livestock production, improved seed varieties and better methods of food and crop processing, presentation and storage. Science and Technology enhances the development of agricultural mechanization, irrigation technologies and soil conservation.

STRATEGIC FRAMEWORK FOR BASIC FOOD AND NUTRITIONAL SECURITY

Strategic Objectives

In Africa, the proportion of food-insecure and food-vulnerable population has reached an alarming level over the last decades or so. Also, an increasing number of African population would still be preoccupied with the problem of access to the minimum daily food intake for the next decade or so. Hence, any responsible government would gear its interventions and goals towards meeting on a sustainable basis and based on an increased measures of self-reliance the food security needs of its population. It is, then, essential that the economies of African countries, individually and collectively, operate under food security and poverty alleviation conditions during the 1990s and beyond.

African economies would operate under food security and poverty alleviation conditions when and only when the governments, individually or collectively, become mindful of the need to improve the plight of the food insecure groups and, hence, intervene directly or indirectly to help graduate, in a given period, a certain percentage of the vulnerable population from one state of food insecurity to another or simply from a position of food vulnerability to non food vulnerability.

These interventions should be properly planned and implemented to limit the lapsing of the already graduate population into food insecurity as wise interventions would firstly aim at consolidating the position of the non-food vulnerable population. Secondly, the interventions would help the moderate food insecure groups to become more self-reliant in food security. Finally, through a poverty alleviation programme, the interventions could be directed to assist high and chronic food vulnerable groups to improve their access to the minimum requirements in food. It is noted that these objectives should be pursued within a system framework.

The interventions of governments, individually and collectively, therefore, should be geared towards minimizing constantly food insecurity risks at national and household levels by inducing the economy to move from the present or projected production-consumption or supply-demand equilibrium points to higher ones that will ensure sustainably the graduation of the targeted population from food insecurity to food security and to consolidate the food security position of the graduate.

These interventions should be strategically planned and managed within a Strategic Framework to increase their impacts on resolving food security. The approach in this paper has been, however, to focus on building critical capacities for African policy analysts and decision makers to develop and maintain the **strategic framework of interventions**, constantly update the specific objectives and take into account the particularities of the countries or subregion involved.

Strategic Planning and Management of the Interventions

UNECA has launched a research work on SPMI following an investigation conducted in the Subregions of the Economic Community for West African States (ECOWAS) and the Economic Community for Central African States (ECCAS) that has shown clearly serious shortcomings in planning and managing the interventions in support of sustainable development and food security (ECA, 1994) (Table 5). These shortcomings are so acute that it has not been possible, for instance, to make optimum use of the available and vast human and natural resources in the continent. Also, the results so far achieved in research, science and technology could not be used optimally to help lay solid foundations for sustainable development and increased self-reliance in household food security to take roots.

It is imperative that these shortcomings be adequately addressed, if we are to have measurable impact of current research, notably in science and technology and development efforts on resolving sustainably food security and increasing the chance of African population to enter the 21st century with more hope than despair. To this end, economic and policy research work should first concentrate on developing and promoting across the continent the techniques of Strategic Planning and Management of Interventions.

According to Crosby (1991), for strategic management to be effectively used the manager must develop a strategic mentality or outlook. He further added that to use planning and management tools strategically involves essentially a way of thinking, a mental framework or approach, as well as a set of analytical tools.

Promoting SPMI, therefore, constitutes a daunting challenge as the African continent lacks the culture and tradition for good management. In addition, there is a myriad of institutions dealing with one or more equations in the food security system of equations whose interventions are not properly coordinated and integrated even at national level. Furthermore, there is a limited analytical capacity to undertake comprehensively the required food security programming and food security policy analysis for learned decision making by all parties involved and in support of sustainable development.

Table 5 **Need for Strategically Planning and Managing the Interventions in Support of Sustainable and Increased Self-reliance in Development and Food Security in Africa**

Elements of the Framework	Main Problem Areas	Possible Ways of Enhancing Capacity to Address the Problems
Conceptual Framework	Broadened Concept of Food Security for World Food Security adopted in 1983 is not quite adequate for present conditions of Africa.	Re-specification for Africa of the Broadened Concept of Food Security to take into account particularly self-reliance at household, national, subregional and regional levels.
Institutional Framework	<ul style="list-style-type: none"> - myriad of rules, regulations and procedures impinging on food security and development. - fragmentation of authority and diffusion of power among an increasing number of ministerial departments. - constraining role of the Ministry in charge of Finances notably in countries under SAPs. 	<ul style="list-style-type: none"> - Food Security Secretariat (FSS) could be set up as an inter-departmental body located at the Office of the President and Headquarters of IGOs and AEC. - FSS could coordinate and integrate governmental interventions at national, subregional and international levels. - FSS, assisted by Food Security Advisors (FSA) at national, subregional and regional levels could develop alternative Development and Food Security Programme (DFSP) through the use of the United Africa Development Models (UAM) and Strategic Information Management System Services (SIMSS). - FSA could be in charge of developing and maintaining UAM, Goal Oriented Food Security Programming (GOFSP) and SIMSS at national, sub-regional and regional levels.

Elements of the Framework	Main Problem Areas	Possible Ways of Enhancing Capacity to Address the Problems
Organizational Framework	<ul style="list-style-type: none"> - absence of common vision and understanding on food security and development issues leading to uncoordinated and often contradictory interventions by a myriad of institutions. - interest groups not actively involved in decision making process. - limited coordination and inefficient and irregular consultation mechanisms. - production and trade structures weaken and oriented towards the needs of colonial masters. - weak bargaining power in international fora of African governments taken individually and collectively. - weak position of African policy analysts and decision makers to negotiate with World Bank and IMF and other development agencies located in the North. - limited organizational capacity to respond to policy changes and decisions in developed countries that affect Africa. 	<ul style="list-style-type: none"> - Food Security Commission (FSC) could be set up at national, subregional and regional levels assisted by FSS at each level. - FSC could include representatives of all concerned parties and use GOFSP to ensure efficiency in conducting its business. - FSC could develop a filter and a trade-off analysis system to consider alternative DFSP developed by FSS. - FSC could retain and make public two to three DFSP that have high potentials for resolving sustainably the food security situation in Africa.
Logical and Analytical Framework for Food Security Policy Analysis and Programming	<ul style="list-style-type: none"> - weak knowledge base of food security situation and characteristics of food insecurity. - weak analytical capacity resulting in: <ul style="list-style-type: none"> - misallocation of scarce resources; - limiting the potential contribution of the private sector; - hampering the self-help and self-reliant capacity of African farmers, traders and consumers, or - lack of consistency leading to the pursuit of contradicting policies and prescriptions as provided by different or even same groups of policy analysts on same issues and at short intervals. 	<ul style="list-style-type: none"> - GOFSP could help develop jointly a common vision and understanding of the interventions required at national and sub regional levels. - SIMSS could be developed and maintained by FSA for developing and marketing strategic information and services related to food security and development. A Wide Area Network could be developed to link FSS/FSC/FSA at national, sub-regional and regional levels. - UAM could be developed and maintained by FSA for development and food security policy analysis and programming and the generation of alternative DFSP.

Source: ECA, 1994 (revised version)

Conceptual Framework: Broadened Concept of Food Security as Specified for Africa

Under the Broadened Concept of Food Security as Specified for Africa (BCFSA), it is stated that the goal is "to ensure that all people have physical, economic and sustained access to the food they need based on increased measures of self-reliance at individual household and national levels and within the framework of the major subregional economic groupings and the African Economic Community" (ECA, 1994).

This concept has the advantage of providing a dynamic and coherent framework in which forward and backward linkages between agriculture, the backbone to the economy and the engine of growth and development in most African countries, and the rest of the economy could be captured, analyzed and influenced at national, subregional and regional levels. In this re-specified version of the Broadened Concept of Food Security³ (BCFS), the notion of increased self-reliance at household, national, subregional and regional levels and that of sustainability are included and giving greater importance. The rationale for re-specifying BCFS for Africa is highlighted below.

Global Changes in the World: The Need for Increased Self-reliance

Under the BCFS, it is well established that African countries should get supplies where it is cheaper notably through import of cheap food outside of the continent and donation. It is, however, observed that changes taking place in the world are likely to further affect international trade and cooperation so as to make the access to food more difficult for the great majority of African households.

For instance, food aid in favour of Africa and under its various forms used to be very effective in periods of production failure (drought, outbreak of diseases, locust invasion, floods, man-made calamities etc.). However, with the current changes in developed countries where the population are being mobilized by some political leaders (right wing groups) around the motto of increased inward looking behaviours, it will become more and more difficult to continue food aid on its present scale and conditions especially in favour of Africa.

Also, the breakdown in Communist Soviet Union has increased the pressure on foreign assistance demand from the same developed countries. This has resulted in a shift in the allocation of development assistance from Africa to other parts of the world. This is likely to continue in the future despite the hope raised in some African countries following the 1995 Presidential election in France.

³ Under BCFS, it is stated that the goal is to "ensure that all people at all times have both physical and economic access to the basic food they need" (FAO, 1989).

Furthermore, the newly concluded negotiations under GATT would lead to the control (reduction or elimination) of in-built food production and export subsidies that have resulted in dumping to African countries notably by the European Union (EU). It would, therefore, become difficult, if not impossible, for a continent like Africa to continue to have access to "cheap" food imports through dumping, as ground will be laid for the vérité des prix to be enforced. Also, under GATT Africa will experience an erosion of its preferential access to the market of EU.

Likewise, the progress being made in biotechnology in developed countries is likely to enable these countries to take from the developing world like Africa its comparative advantage in the production of major cash and export crops. Hence, food security should be planned and managed to reduce the dependency of the continent on export crops, food aid and "cheap" food imports.

Indeed, emphasis needs to be put in the equation for physical access to food on the optimal and sustainable use of productive resources within a nation, sub region and the continent to produce the food that is required and in demand rather than to depend on food imports and food handouts. Also, the economic access to food should be based more on developing the self-reliant and self-help capacity of household rather than on some sort of social programme under a classical poverty alleviation scheme.⁴

Sustainable Food Security: The Need for Effective Cooperation and Greater Integration of the Economies

In pursuing food security objectives, African governments, individually, are conscious that they can be sustained, even within national boundaries, only through effective cooperation and the integration of their economies at sub regional and regional levels. Indeed, the success of a given government to ensure food security at both national and household levels depends on what food policy is being pursued in the neighbouring countries or simply the attitude of neighbouring governments towards its efforts.

All the same, the success of a government to constantly improve the economic access to the food that a household requires depends very much on the strengths of economic cooperation and trade relations with the neighbouring countries to create economy of scale. Indeed, these countries constitute a potential source of supply of and demand for inputs, as well as, output for each other. To this end, cooperation, which should be mutually profitable, can not be sustained if considered on a reciprocal basis that is sector against sector and country by country. It has,

⁴ It is appreciated in this paper that poverty is at the root of household food insecurity notably in the urban areas of many African countries. However, the efforts and interventions of governments should be directed towards ensuring the right of the great majority of the population to have access to food through their own efforts rather than entertaining their access through food handouts.

therefore, to be promoted in a system-wise and sub regional (all commodities and all countries) framework.

In general, African governments should endeavour to translate into concrete actions and programmes their commitment to collective self-reliant development as spelled out in the Lagos Plan of Action and the Final Act of Lagos (FAL) (OAU, 1980). Collective self-reliance in food security will be, actually, facilitated with the effective functioning of the African Economic Community and its sub regional branches including the Economic Community for West African States, the Economic Community for Central African States, the Common Market for Eastern and Southern Africa/Preferential Trade Areas for Eastern and Southern Africa (COMESA/PTA), the Southern African Development Community (SADC) and the Arab Maghreb Union (UMA). These branches of AEC could be assisted notably by some of the existing but restructured sectoral Intergovernmental Organizations (IGOs) to increase the chance for laying solid foundations for sustainable and self-reliant development and increased collective self-reliance in food security.

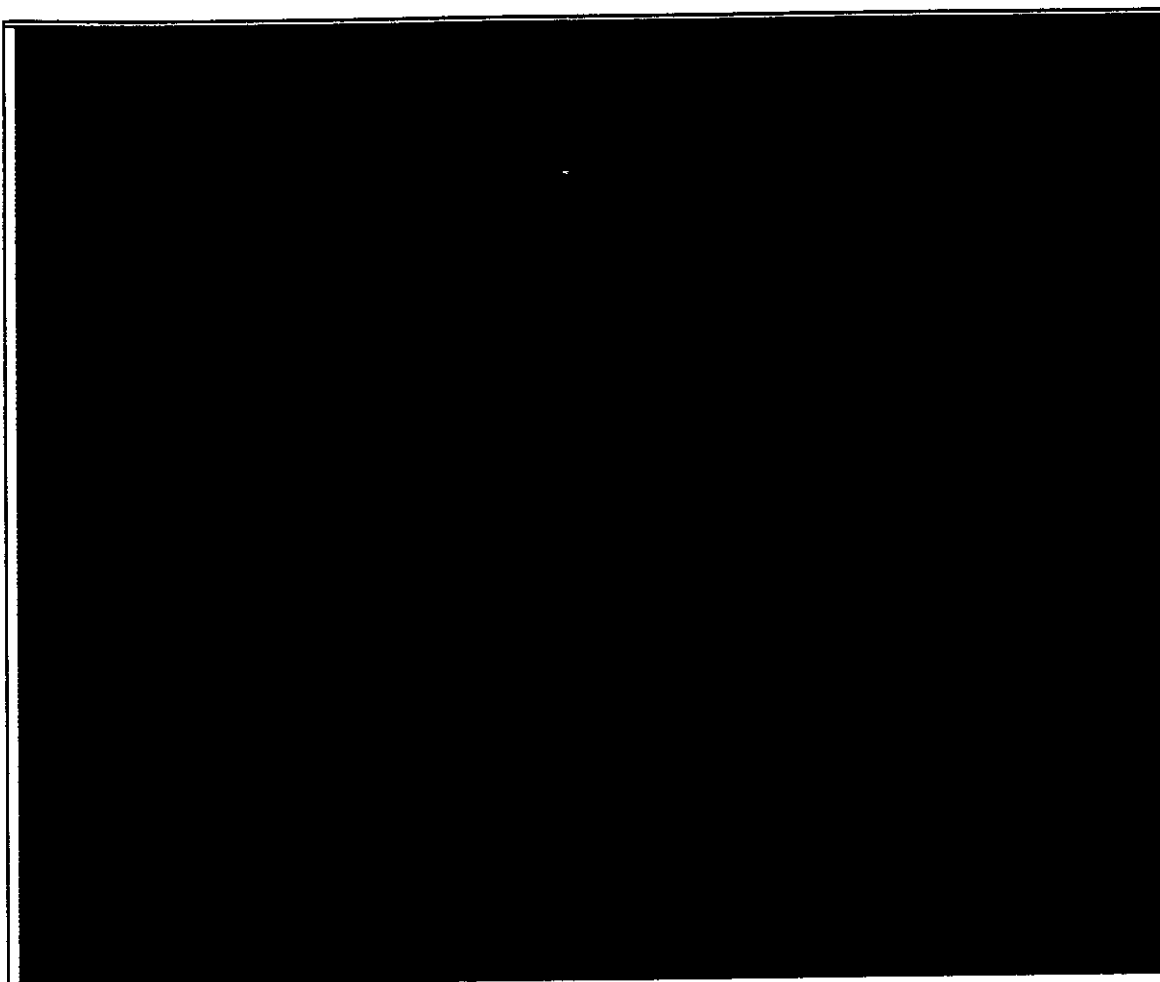
The pursuit of the goal of self-reliance should not lead, at least in the long run, to inefficient allocation of resources at national and sub regional levels. For instance, the society should become better off rather than worse off because of the application of the principle of self-reliance. Also, every participating member country should be made better off rather than worse off because of the furthering of sub regional and regional cooperation. Furthermore, the resource bases should be exploited optimally bearing in mind the needs and concerns of future generations.

Pursuing Food Security Objective: A Continuous Undertaking

Under BCFSA, the goal of food security is pursued in a dynamic framework. Indeed, it is fully recognized in planning and managing the interventions that food security at individual household level is subject to continuous changes as it can never be achieved adequately for every individual household or individual in the household or, if it is achieved, it can not be sustained for each individual and at all times⁵ as implied under BCFS.

Hence, it is postulated that African population would be always stratified into two broad categories with those who have both economic and physical access to the food they need and those who have no sustained access to adequate quantity of food to cover their basic needs (Fig 2). These categories could be referred to as vulnerable and non-vulnerable food groups.

⁵ However, it is recognized in this paper as valid goal and as ably stated by HE Mangwende (1990) that it is our duty to work ceaselessly towards ensuring for all people the right of access, at all times, to sufficient food in order to live an active and healthy life.



The population in the vulnerable group would be those whose food consumption is below the minimum nutritional requirements or food intake (threshold level) which could be site specific (urban and rural) and could be, depending on the availability of data, function of variables such as age, sex, weight, health state and the status of the individual concerned (pregnant women, child, elderly, nature of the work or educational level). The food vulnerable population could be further stratified according to their state of food insecurity (high and moderate food insecure groups) for easy targeting of the interventions.

Institutional and Organizational Frameworks

Currently, there is a myriad of administrative, legislative and regulatory rules and procedures notably in countries going through the Structural Adjustment Programmes (SAPs) that lead to the shaping of an institutional fortification (around the Ministry of Finances) within which social groups and government officials must contend. Obviously, the constraining role

of the financial institutions carved under SAPs is binding the making of food security policy and is frustrating the efforts of governments and the society to pursue sustainable food security objectives across the continent.

Even in countries or in periods prior to the institution of SAPs where or when this fortification was not developed, the increasing fragmentation of political authority and the diffusion of power among numerous ministerial departments operating independently in matters affecting food security as they see fit without cooperating with the Ministry of Agriculture, the lead department, have constrained the capacity of individual household and the State to achieve increased self-reliance in food security.

Indeed, the resulting interplay between these ministerial departments and the historical contingent role of international- societal and state centred variables impact on the process of food security policy making and programming as it constrains the ability of farmers, traders and consumers to contribute efficiently to the achievement of the goals of food security. Moreover under SAPs, the Ministry in charge of planning and coordination of the interventions was suppressed.

Even when the Ministry of Planning has existed, it has often failed to ensure effectively its role of coordination and integration of the activities of the different ministries to achieve maximum impact of the interventions on food security. It is then clear that there is a need for a new and flexible institutional framework and mechanisms that will help analyze and establish in a system approach the linkages and interdependencies between the various sectors for helping in planning and managing strategically the interventions of various ministries concerned with food security to yield the maximum outcome from the use of scarce resources and from public interventions. In addition to the institutional framework, there is a need for an organizational framework to ensure effective participation and contribution of all parties concerned in a responsible and accountable manner.

Food Security Secretariat

The establishment of a Food Security Secretariat and the use of the Goal Oriented Food Security Programming are suggested as means for enhancing the institutional capacity at national, sub regional and regional levels. FSS will be an interdepartmental body grouping the number 1 or 2 in position of each of the concerned ministerial departments assisted by senior Food Security Advisors. It should be located preferably in the Office of the President and will be responsible for drafting food security programmes and ensuring the implementation of food security legislation.

FSS will help expand the government's expertise in food security policy and programming and its capacity to independently gather and process related information. It will, in particular, help develop trade-off between food security and development through influencing production and trade structures.

FSS could be established at national (NFSS), sub regional (SFSS within ECOWAS, ECCAS, COMESA/PTA, UMA and SADC) and regional (RFSS within AEC) levels. It will use the techniques of GOFSP to help increase its efficiency and organizational capacity.

Food Security Commission

The analysis of the impacts of institutions on food security policy and programmes can not be separated from that of the underlying configurations of political powers and interest groups. The Food Security Commission will provide the organizational framework that spans across sections of government and private agencies so that power and interest groups (producers, consumers, traders, environmentalist, opposition etc.) could be brought around the same table for a common objective, to share values and develop a common vision on how to address development and food security issues.

FSC is to provide independent analysis and criticism of public food security and development policies and programmes. It should be given the means to have scientists notably in the social science who would serve as a bridge between the world of scholars, where new knowledge is formulated, and that of policy making, where it is applied. Above all, FSC should be an independent body and a flexible and credible domestic and sub regional bargaining structure for developing comprehensive food security programme combined with sustainable development or Development and Food Security Programmes (DFSP).

Indeed, FSC should provide a strong institutional base and framework for creating conditions for increased self-reliance in food security and a forum where:

- competing interests are more clearly exposed and opportunities given to group to exercise influence on each of the possible options;
- trade-off between competing options such as export and import; sustainable development and food security and food security and environment management and protection are developed, and
- policy options are filtered through analysis of alternative DFSP generated through the use of a set of analytical tools or United Africa Development Models.

FSC could be established at national (NFSC), sub regional (SFSC within ECOWAS, ECCAS, COMESA/PTA, UMA and SADC) and regional (RFSC within AEC) levels. It will use the techniques of GOFSP to help increase its efficiency and organizational capacity.

All the above mentioned organs should be composed of members committed to the achievement of the goals and objectives of sustainable development and increased self-reliance in food security. The membership of these organs should be selected on a cross-functional basis. The members should be guided by the wise advice of Cooley (1989), President of Management

Systems International (MSI) that "We should not be reluctant to change during design- we should in fact expect to change, refining our design until we have high confidence in its validity. It is much better if we make our mistakes on paper."

Logical and Analytical Frameworks for Sustainable Development and Food Security Policy Analysis and Programming

The food security issues are complex, even in countries where minimal organizational or institutional frameworks exist, as there have been little done either in the form of received theory or a set of agreed policies to reduce sustainably food insecurity at household levels in the African context while pursuing sustained growth combined with sustainable development. Indeed, while consensus exists that food insecurity at household level is a fact and that something must be done to control it, there is no consensus notably among policy analysts including those in the developed countries on what strategy to follow to achieve the noble goal of improved food security at household level.

Actually, the theoretical and political determinants of food insecurity are different in both developed and developing countries and are seen differently by political leaders and decision makers from the South and the North. Foreign food security policy analysts, for instance, had a limited vision about food security in the African context as food insecurity which can, indeed, be acute in countries like the United States of America (USA) is more on the side of difficult economic access of the poor segment of the population than on the side of physical access.

In the food surplus countries, prescriptions for the problems of food security or insecurity are made on the demand side through distribution (food stamps, for instance) and on the supply side through the preservation of the economic power of producers. It is recalled that producers in some developed countries are often paid not to produce (set-aside land programme) so that the level of surplus of food could be controlled.

Also, foreign food security policy analysts might emphasize the control of the growth of population as a sure means of reducing food insecurity in Africa. They may invariably advocate to get the supply of food where it is cheaper to acquire while ignoring that most cheap food in international markets is the result of public interventions through subsidies (at production and trade levels) and protection against outside competition and the calamities whether of natural (drought, flood, etc.) or economic origins. It is noted that African farmers in countries under SAPs are being prevented to be protected against any calamity or unfair competition or to receive subsidies including at production level. These analysts often ignore that the opportunities to earn foreign exchanges notably through the export of primary commodities are being reduced from year to year.

Food security policy analysts in the South notably Africa should, on the contrary, advocate that food security at household level could be sustained only within the framework of increased self-reliance in both physical and economic access to food at household, national, sub

regional and regional levels and that the share of food import from outside of the continent should be minimal if not nil. This advocacy becomes especially important as there is no guarantee that cheap food would continue to be available to developing countries from developed countries. This is because the newly completed negotiated agreements under the Uruguay Round of GATT will lead necessarily to an increase in food prices at market levels and in a decrease of subsidies at both production and trade (export) levels. Furthermore, agriculture in Africa constitutes the major source of employment in both rural and urban sectors and the backbone to the economy as compared to other developed countries .

From above and owing to the limited capacity in food security policy analysis and programming, African decision makers are often confused when placed in front of a battery of possible areas of interventions and inconsistent prescriptions often based on guess estimates. They become even desperate when the prescriptions to be administered have side effects that are obviously bad for the population at large.

Actually, as long as the political leadership in Africa remains more outward looking, that is depending on the former colonial masters for development assistance and direction for interventions, the resulting environment will never be conducive to sustainable development and resolving food security in this rich continent. To help change rationally⁶ the behaviour of the Africa decision makers and within the framework of the African Economic Community, there is a need to develop and use rigorously analytical tools that can help simulate the economic welfare effects of policy changes and the overall impacts and prospects of policy reforms notably in food markets; to develop solid knowledge and understanding of the factors impinging on food security and sustainable development in the African context and, thereafter, to strengthen at national, sub regional and regional levels the analytical capacities of policy analysts, decision makers and other concerned for learned decision making and interventions.

To this end, and, in particular, to enhance the analytical capacity of the FSA, UNECA has embarked on the development of Goal Oriented Food Security Programming, a set of analytical tools known as the United Africa Development Models and Strategic Information and Management Systems and Services. GOFSP, UAM and SIMSS constitute the key instruments in SPMI which is conceived as an iterative process so that all concerned will be involved in cycles of strategic planning as they manage policy implementation (Crosby, 1991). The three instruments are briefly presented below.

⁶ Obviously, trade-offs will and must occur on a range of issues for economic, social and budgetary reasons and for orderly interventions and there is need for undertaking cost-benefit analysis of the policy instruments in order to take, in particular, full account in a transparent manner of the regional or sub-regional differences that bear heavily on the pattern of political support for the subregional and regional comprehensive food security programme.

Logical Framework: Goal Oriented Food Security Programming

GOFSP is a logical framework that will actually permit a continuous stocktaking of the economy. Its use will enable in a productive manner FSC to identify the strengths and weaknesses of the economy and to suggest ways and means of taking advantage of its potentials through alleviating the constraints and eliminating the obstacles.

The use of GOFSP will help, in particular, to bring together and through the FSC a wide range of concerned people to organize and analyze alive the suggested interventions and the role of both private and public sectors in development and attaining food security objectives and put a value judgment on the actual interventions of governments. It will facilitate effective cooperation between all parties during the planning and implementation stages of the policies, measures and projects and, thereby, make their implementation more smoother and productive.

GOFSP is an instrument that would help ensure at national, sub regional and regional levels efficient planning and management of the interventions and an improved communication between and among public officials and interest groups including food vulnerable groups. The efficient use of GOFSP would help ensure an informed consensus over the fundamental aspects, objectives and options of food security and sustainable development and, therefore, facilitate the implementation, evaluation and monitoring of the related policies, measures, programmes and projects.

Above all, the use of GOFSP would help all members of FSC, FSS and FSA to acquire strategic mentality or outlook. According to Cooley (1989), the Logical Framework Approach, assumes that a development project is an instrument of change, that it was selected from among alternative instruments as the most potentially cost-effective approach to achieving a desired beneficial result. He considers the Logical Framework as a way to organize information and activities so that a number of different point of views can be brought to bear simultaneously, completing rather than opposing each other.

Analytical Framework

United Africa Development Models

UAM is conceived as an economy-wide model. It is constituted of a set of analytical tools that will help policy analysts to provide authoritative advises for learned decision making through mainly impact assessment of policy instruments, measures and development packages. UAM will, in particular, help to clarify and quantitatively assess the options spelled out during the programming exercise of GOFSP and to undertake the opportunity cost analysis (trade-offs) for adequately guiding decision makers in their choice of food security and sustainable development strategies, policies, measures and projects. It will help to make the interventions notably of governments more responsive to the needs of customers (business, consumers and farmers' communities) and to take into account their point of views and aspirations.

UAM will be a valuable tool for achieving an optimal pattern of development, trade and public expenditures that is consistent with the defined food security goals and targets for the period. Although, it is meant to be a valuable tool for strategic management, it can not be a substitute to good management and it is argued that those who will use it would, undoubtedly, be better off than those who will not use comparable tools.

Strategic Information Management System and Services

SIMSS is to help ensure notably through FSC greater transparency in the interventions and public policy choice making by making data and information available in a standard and simple forms for easy use by and communication between all parties concerned.

SIMSS will constitute a central nervous system through which information can flow and where people who are part of the process could interact with one another and share information, experiences and comment on issues through the use of on-line data base, bulletin board and conferences at national, sub regional and continental levels to ensure the effective implementation of DFSP.

The task of developing SPMI is, actually, facilitated by new development made in Total Quality Management (TQM), information management systems, communication, computer technology and software, which had opened the road for new and improved tools for strategic planning and management that could be used at a very low cost, easily and efficiently even by the non-specialists in modelling and information technology. With networking it will be much more easier to enter into dialogue for business purposes through the Headquarters of ECCAS, ECOWAS, COMESA/PTA, SADC and UMA and to maintain the data base at sub regional levels at minimal cost to all.

CONCLUSION

If the present trends in food security situation are let to continue, the great majority of African population will definitely enter into the 21st century with more despair than hope. Conscious of the danger that this might constitute for the continent, the Presidential Forum on the Management of Science and Technology for Development decided to focus its Third Summit on a Strategic Framework for Food and Nutrition Security to help lay solid foundations for resolving and restoring sustainably food security at household, national, subregional and regional levels.

This paper has highlighted the magnitude and seriousness of the food security crisis in which Africa finds itself and projected that under the trends scenario most African population by 2005 would hardly have physical access to about one quarter of the minimum daily requirement. The present trend cannot and should not be allowed to continue into the 21st century.

The interventions of African governments should, therefore, be geared towards meeting sustainably and based on an increased measures of self-reliance the food security needs of its population. These interventions need to be planned and managed within a strategic framework as envisioned by the Presidential Forum.

The necessary steps to develop and maintain the strategic framework of intervention were spelled out in the paper. Emphasis was put in building the capacity of policy analysts at national, subregional and regional levels for developing the Strategic Framework rather than making available a ready made one.

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Table 1 Sub-Saharan Africa Population, 1965-1995 and Projections for 1995 and 2005 in Million

	1965	1970	1975	1980	1985	1990	1995	2000	2005
Rural	204301	227102	252974	284254	3E+05	385500	401632	449033	500566
Urban	33225	44600	3E+06	77162	1E+05	131072	164804	203271	246455
Agricultural	194241	217319	241740	272026	3E+05	343060	384120	429076	477830
Total	237526	271702	3E+06	361416	4E+05	489572	566436	652304	747021

Source: Based on SOFA (FAO, 1994)

Table 2 Food Production for Sub-Saharan Africa, 1965-1995 and Projections for 2000 and 2005 in Million MT

	1965	1970	1975	1980	1985	1990	1995	2000	2005
Cereals	33036	37248	42332	42281	53470	54336	61550	68215	75601
Roots and tube	53657	68086	72756	70916	83473	103966	110946	125435	141817
Pulses	3383	4059	4297	4106	4317	5443	5898.9	6468	7092

Source: Based on SOFA (FAO, 1994)

Table 3 Per Caput Food Consumption for Sub-Saharan Africa, 1965-1995 and Projections for 2000 and 2005 in Kcal

	1965	1970	1975	1980	1985	1990	1995	2000	2005
Total	2115	2174	2079	2082	2043	2046	1416.9	1036.1	577.94
Cereals	960	948	908	932	932	920	674.63	539.68	378.64

Source: Based on SOFA (FAO, 1994)

Table 4 Agricultural Trade for Sub-Saharan Africa, 1965-1995 and Projections for 2000 and 2005 in Million US\$

	1965	1970	1975	1980	1985	1990	1995	2000	2005
Exports	3012	3902	6394	10205	8431	8943	8144.4	6940.5	5150
Imports	969	1246	3076	7115	6007	6767	13198	20083	30560
Net Trade	2043	2656	3318	3090	2424	2176	-5053.8	-13143	-25410

Source: Based on SOFA (FAO, 1994)

NB: 1995 is estimated