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Policy Brief on Food Security and Sustainable Development

Sustainable Food Production and Food Security in the Sahelian Countries: Some key Issues and Policy Challenges.

Contents

I: Introduction

Sustainable development is that which "meets the needs of the present without compromising the ability of future generations to meet their own needs"(Brundtland, 1987). Among the crucial needs of people in the Sahelian countries and, indeed, the world over, which must be met in a sustainable manner, is the need to be food secure. In fact, food security[a] is considered a fundamental human right (Brundtland, 1987).

Like most African countries, the countries of the Sahel depend essentially on their natural resource base for domestic food and agricultural production and supply to meet their food security needs. The incomes and revenues needed to acquire economic access to food whether domestically produced or imported, are also mainly generated through growth in the agricultural and related sectors. The performance of these sectors crucially also depend on the natural resource base. Thus, the extent to which the natural resources are well managed or mismanaged affects individual, household, national and sub-regional food security. Given the fragile agro-ecological systems of the Sudano-sahelian belt, meeting the food security needs of the populations in the Sahelian countries is a daunting task. This task is made even more difficult in countries characterized by high population growth rates and environmental degradation given that food insecurity, rapid population growth and environmental degradation are intricately linked in this and the other subregions in Africa (Cleaver, 1994).

This policy brief examines some key issues and challenges involved and the policy responses needed to reduce food insecurity while ensuring the sustainability of the natural resource base in the nine countries of the Sahel[b]. These countries cover a surface area of about 5 million sq km (FAO, 1997) and had a total population of about 49.9 million in 1998 (ECA, 1998)

II: Food Security Situation in the Sahelian Countries

Food insecurity (i.e lack of food security) has two dimensions: chronic and transitory food insecurity. Chronic food insecurity is due to inadequate economic access which is closely associated with poverty and unequal distribution of income and results in continuous inadequate diet. Transitory food insecurity on the other hand, is caused by instability in food production, food prices, or inadequate levels of household incomes. We present in this section, information on food and agricultural production trends, agricultural imports and exports, food aid, and employment and incomes with a view to assessing the extent to which the countries of the Sahelian countries are food secure or insecure.

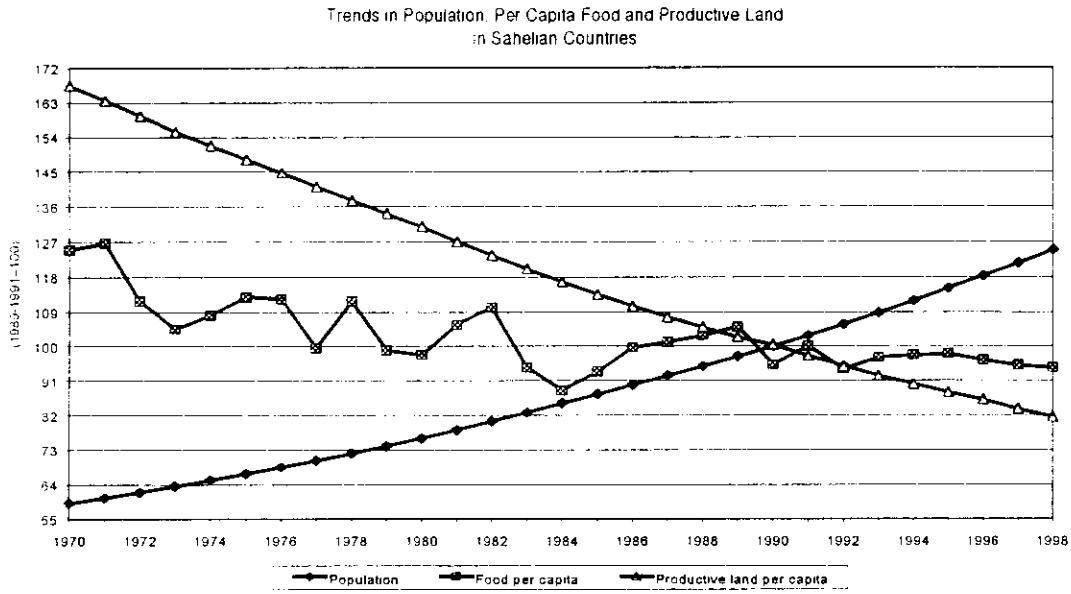
a) Food and Agricultural Production

Tables 1 and 2 in Annex 1 present some information on the performance of the agricultural sector of the nine countries of the Sahel over the last three decades. The production of cereals, the major staple food crop of the subregion, experienced negative average growth rates between 1970 and 1980 in Burkina Faso (-0.2), Chad (-1.6), Gambia (-3.1), Mali (-0.2) and Mauritania (-6.1). It, however, recovered remarkably with production in countries such as Chad and Niger experiencing average growth rates per annum as high as 7.2 and 6.7 between 1990 and 1997. The average annual growth rate of meat production was also high in most countries but the production of roots and tuber crops declined.

Given the high population growth rates (Table 3) which outpaced the growth of food and agricultural production, the per

[a] Food security is said to exist when all people at all times have access to adequate, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life (The World Food Summit, 1996)

[b] These countries comprise Burkina Faso, Cape Verde, Chad, Gambia, Guinea Bissau, Mali, Mauritania, Niger and Senegal (FAO: Framework for Cooperation in Food Security in West Africa, December 1997, p17)



capita agricultural production indices in 1998 were well below their 1970 levels in all the countries except Burkina Faso and Cape Verde (Table 2). Per capita food production experienced considerable fluctuations and declines. In 1998, per capita food production was below its 1970 level in all countries except in Cape Verde.

Fig 1 above brings together the trends in population growth, per capita food production and per capita productive land. The y-axis shows the values of these variables over the period 1970 to 1998 coverted to indices (1989-91=100). The conclusion to be drawn from the trends shown by the respective graphs is clearly that population growth in the countries of the Sahel subregion outpaced the growth of food production and productive land during the last two to three decades.

b) Food Imports and Agricultural Exports

The countries of the subregion have attempted to fill the gaps between domestic food production and food demand by relying heavily on food imports. Imports of cereals by seven of the countries (i.e excluding Gambia and Niger) rose from 570 mt in 1970 to 5,346 mt in 1980 before declining to 92 mt in 1997 (FAOSTAT, 1999).

The growth of agricultural exports which earn the much needed foreign exchange for importing food on commercial terms was mixed. The export of shelled groundnuts fell from 261,302 mt in 1970 to 54,201 mt in 1980 and 41,121 mt in 1997. Cotton lint exports on the other hand, rose from 69,261 mt in 1970 to 121,349 mt in 1980 and 237,600 mt in 1997 while exports of vegetables and fruits increased from 35,713 mt in 1970 to 99,334 mt in 1980 but fell to 90,502 mt in 1997 (FAOSTAT, 1999) .

c) Food Aid

Food aid has also been a means of increasing food supply and availability in the subregion. Total cereals food aid to countries of the subregion amounted to 1.06 million mt in 1980. This fell to 0.498 million mt in 1990 and 0.16 million mt in 1995. It however rose again to 0.24 million mt in 1996 but fell again to 0.195 million mt in 1997 (ECA, 1998).

d) Unemployment and Poverty

Data on employment and incomes in the countries of the Sahel are scanty. However, there is evidence to suggest that employment and incomes have fallen during the last two decades. Small producers (farmers, pastoralists, fishermen, artisans, etc,) have experienced a reduction in their production and incomes due to the slow growth of production mainly as a

result of the reduction or abolution of subsidies to the agricultural sector as called for in the structural adjustment programmes (SAPs). implemented by most countries of the subregion. Similarly, the reduction of staff in the public sector as a consequence of the implementation of SAPs, has contributed to an increase in the number of the unemployed and low-income workers particularly in urban centres causing a reduction and even loss of incomes for large numbers of the populations (FAO, 1997). This has increased the incidence of poverty in the countries. It is estimated that two-thirds of the rural population and one-third of the urban population in the subregion live in a state of absolute poverty (FAO, 1997). There is a high level of poverty among small producers since 65% of their revenue is earned from agriculture.

Considering the above factors, the issue is **how food secure are the countries of the Sahel?**

In 1996, the daily per capita supply of calories in Burkina Faso, Chad, Mali and Niger was 2,137, 1,972, 2,027 and 2,116 calories respectively. The other countries had energy **supply** ranging from 2300 to 2,700 calories (FAO 1996) Thus although the average per capita calorie **intake** has increased over time in some sahelian countries, its level remains below the minimum intake of about 2,280 calories recommended by the World Health organization (WHO) for a normal healthy and active life (FAO, 1996a).

According to estimates for 1988-1993 from a comprehensive index of household food security prepared by FAO, all six countries[c] in the Sahel for which data are available were classified as having low food security The proportion of the total population that is estimated as being food insecure ranges from 19% in the Gambia to 28% in Niger, 32% in Burkina Faso and 35% in Mali (FAO, 1997).

III: Key issues in food security in the Sahelian countries

Three decades of agricultural development experience in the Sahel has shown that the following key issues have been important in shaping the food security landscape in the Sahelian countries:

a) Desertification and Environmental degradation

The Sudano-Sahalian belt in which the Sahelian countries are found is under desertic conditions and characterized by poor soils, extremely variable rainfall and is prone to drought. Three main agro-ecological zones can be distinguished in this belt: an arid zone, a semi-arid zone and a sub-humid zone (ILCA, 1987; Jahnk, 1982; ICRISAT, 1981). These agro-climates have conditioned to a large extent, the crop, livestock and forestry production systems as well as their productivity and vulnerability to pests and diseases in the countries.

The arid zone receives 0 to 500 mm of precipitation annually. The zone with an annual precipitation less than 250 mm covers northern and central Mauritania, Mali, Niger and northern and central Chad. The semi-arid zone which covers all of Gambia and Cape Verde, the greater part of Senegal and Burkina Faso and a large part of Southern Mauritania, Mali and southern Chad receives 500 to 1000 mm of rainfall per annum and has a dry season that lasts seven to nine months. The sub-humid zone receives 1000 to 1500 mm of rainfall annually and covers Guinea Bissau, southern Mali, Burkina Faso and Chad. The sudano-sahelian belt faces a serious problem of land degradation which is exacerbated by climatic changes associated with increased aridity, desertification and rapidly growing population.

[c] These countries are Burkina Faso, Gambia, Mali, Mauritania, Niger and Senegal

b) Water as a Constraint to Food Production in the Sahel

Despite the existence of several rivers and a lake[d] in the subregion, water for agricultural development has remained a key issue and a critical constraint to food production and the alleviation of hunger and poverty. In fact, the Sahelian countries are among the eleven countries in Africa classified as "water deficit". The subregion. Is characterized by low and extremely unstable and risky rainfall regimes. Irrigation is little developed. Irrigated land as a percentage of cropland in 1984-1986 was as low as 0.4% in Burkina Faso, 0.3% in Chad, 0.6% in the Gambia, and 0.9% in Niger (ECA, 1998). The area of cropland irrigated has also declined in most countries over the years. In Mauritania for example, it declined from 16.1% in 1984-86 to 10.3% in 1994-96 (ECA, 1998).

Increased food production to satisfy the food demand of the future would essentially have to come from agricultural intensification and not from expansion of cultivable land. The cropland per capita in 1996 ranged from 0.1 in Cape Verde to 0.53 hectares in Niger. Between 1985 and 1996 cropland per capita increased very marginally in Mauritania and Mali, remained constant in Niger and declined in the remaining 5 countries. Given the climatic limitations of the subregion and the problem of land scarcity, such intensification will have to be irigation-based. Rapid population growth, urbanization, industrialization and the drive for food security are putting pressures on water resources thus escalating and intensifying the demand and competition particularly for shared water resources. The competition is becoming more intense, increasing the potential for conflicts at local, national and regional levels (UNEP, 1997).

c) Drought

Frequent and recurring droughts have excerbated the problem of water in the Sahel. Since 1972, the subregion has been hit by a few very severe and several localized droughts. The most serious and most notable were those that occurred from 1968 to 73 and from 1983 to 84 and had far reaching consequences for food security and the environment. During the drought years of 1973 and 1983, the number of cattle for example, fell by 2.3 million and 3.3 million respectively. Groundnuts production fell by 10,981 mt and 36,825 mt in 1974 and 1984 respectively from their 1973 and 1983 levels (FAOSTAT, 1999). As a result of these droughts and population growth, the area under farmlands and forests has been shrinking. Forest cover declined annually by 0.7% in Burkina Faso, 0.82% in the Gambia, 0.8 % in Mali, 0.4% in Niger, and 0.7% in Senegal between 1981 and 1990 compared to 0.3 % in Africa as a whole (ECA/Shelter Afrique, 1996). High population growth, recurring droughts, loss of forest cover, desertification and aridity have all had adverse impacts on the productivity of the land. As shown in fig.1, the productive land per capita has been on the decline since 1970.

d) Rapid Population Growth

Another key issue of concern in the Sahelian countries is rapid population growth and its implications for food demand and supply as well as its impacts on the environment. As shown in table 3, the Sahelian population estimated at 53.67 million in 1998, experienced marked annual rates of growth of between 2.2% and 3.76% from 1990 to 1995. With the exception of Cape Verde, the total fertility rate in all other countries was between 5 and 7.5. Urban populations have grown at rates of between 5% and 6% per annum. In 1996, the level of urbanization for example in Cape Verde, Mauritania and Senegal was as high as 56.1%, 52.6%, 44.3% respectively. In the absence of data specific to the sahelian countries, the food energy requirements in sub-saharan Africa in 2050 will more than tripple current requirements (FAO, 1996a).

On the other hand, the annual rates of growth of the labour force and the

[d] The rivers include the Niger, Volta, Senegal and Gambia; the lake is Lake Chad

economically active population in agriculture between 1990 and 1995 were less than the annual population growth rate in all the countries. Thus, although the rate of population growth is estimated to decline in 7 of the 9 Sahelian countries between 1995 and 2000, the slowly growing agricultural labour force faces real challenges in increasing food production to meet the food needs of the population especially given the constraints posed by erratic climate and the fragile environment of the subregion. As concerns environmental sustainability, considering the high incidence of poverty in the subregion and the conventional paradigm that the poor will degrade the environment in order to survive, the impact of rapid population growth on the already fragile environment of the subregion cannot be in doubt.

e) Macro-economic and other Policies

Structural adjustment programmes pursued by many countries of the subregion require policy measures such as exchange rates adjustments, removal of subsidies on agricultural inputs and consumer goods, etc have led to a continuous lowering of the real prices paid to agricultural producers and worsened the terms of trade for the agricultural sector. This coupled with the use of little improved technologies has adversely affected the competitiveness of agricultural food commodities and exports of the subregion, hence the reliance by some of the coastal countries on imports and re-exports of foodstuffs due to inadequate domestic production.

f) Subregional trade in food and agricultural commodities

Trade in food commodities allows food consumption to exceed food production in countries where output is constrained; stabilizes domestic supplies, prices and consumption; and improves access to food via its effect on incomes and employment (FAO, 1996b). Trade in foodstuffs takes three different forms: regional trade in products which are basically cereals, cattle, meat, and some market garden produce and various fruits, re-export of imported foodstuffs such as rice and wheat from the world market by coastal countries to neigbouring Sahelian countries and some exports of food products particularly fruits and vegetables (FAO1997).

This notwithstanding, trade among food deficit and food surplus countries in the subregion has been constrained by the non-transparent nature of markets and protectionist food marketing policies of the countries (FAO,1997).

Intra-subregional trade flows and especially the cross-border trade between the countries are difficult to assess as most of this trade is invisible. However, border markets provide the driving force in the circulation of goods and persons between complementary agro-ecological or economic zones. Yet, they remain without exception, under-equiped, and adversely affected by state control of commercial activities, levies on commercial channels, tax and custom structures, quota systems, instability, non-convertibility and lack of confidence in some of the currencies of the subregion, etc. Thus, like other subregions of Africa, intra-regional trade is much less developed and estimated to account for only 10% of global trade.

g) Lack of coordination and harmonization among subregional organizations and institutions

An increasing issue of concern is the multiplicity of intergovernmental, non-governmental and subregional organizations and institutions operating in the subregion.[e] These include economic

[e] Some of these organizations and institutions include the Permanent Inter-State Committee on Drought Control in the Sahel (CILSS), the Economic Community of West African States (ECOWAS), West African Rice Development Association (WARDA), Niger Basin Authority (NBA), Integrated Development Authority of

integration organizations, agricultural research and financial institutions, lake and river basin development bodies, and livestock, fishery, and many other development orgnizations. All these intervene in the area of food security.Of greater concern, however, is their failure to co-ordinate their agricultural, livestock and other food security policies, programmes and activities. As a result, although they may have made undeniable gains, their real impact on the lives of the people of the subregion remains very debatable (FAO, 1997).

h) Transhuman livestock production and policies

Livestock production is a very important agricultural activity in Sahelian countries. Itinerant, nomadic, or transhuman production systems dominate the livestock production systems in the arid and semi-arid zones of the subregion. Pastoralism for example, accounts for 90% of animal production in Niger and more than half that in Mali and Senegal (FAO, 1997). As opposed to sedentary production systems transhuman livestock rearing involves seasonal movements of livestock in search of pastures and water. While this system has the advantage of enabling pastoralists to obtain water and good pastures wherever these can be found, movements of livestock within and across national borders has its problems. Livestock lose weight, contact or spread diseases, destroy crops and farmlands and degrade the environment. In fact, this has often been a source of frequent conflicts between farmers and pastoralists.

Pasture lands are publicly owned and communally exploited. Although the livestock sector has the potential for self-reliant development, government interventions in many countries of the subregion have tended to hamper the spirit of self-reliance, self-help and independent capability of the livestock community by making the latter over reliant on government services which had been mostly free. Given this and the scanty and poor quality of pastures, lack of water due to drought and other climatic factors as well as inadequate infrastructure and animal health services, transhuman production systems are characterized by low productivity and poor quality of meat and dairy products. The major concern is thus how to promote more sedentary and/or more productive nomadic livestock production systems.

i) Low agricultural productivity and production growth

The major concerns raised above have all translated into low food and agricultural productivity and production growth in the subregion. The data presented in tables 1 and 2 confirm this. Thus, improving the productivity and output of Sahelian agriculture to meet the food requirements of the population represents a major challenge for the countries of the subregion as they enter the next millennium.

IV: Meeting The Challenges Of Sustainable Food Production And Security In The Sahelian Countries

The overall challenge thus is to get Sahelian agriculture to grow at a rate much higher than population growth. Only then can the sector increase production to meet the food needs of the rapidly growing population, provide employment opportunities for this population, raw materials to feed the agro-based industries and generate a surplus to earn the much needed foreign exchange. Addressing this challenge requires essentially adopting policy responses that ensure the sustainability of the environment, manage population growth and address the other key issues identified in the preceding section.

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the LIPTAKO-GOURMA region, Economic Community for Cattle and Meat (CEBV), Club du Sahel, financial institutions such as ADB and BCEAO, Mano River Union, Lake Chad Basin, Several Regional fishery institutions, ECA/SRDC, the Conference of Ministers of Agriculture from West and Central Africa, ICRISAT, CIRDES, etc.

a) Improving the Crop and livestock production Systems

As shown in fig 1, the area of productive land has been on the decline. Cultivated area is likely to only marginally increase in the sahelian countries except under massive irrigation. Given this situation, yield increases will have to be the source of most of the food production increases in the future. However, the achievement of these yield increases will depend on continued research and successful dissemination of environmentally benign and economically profitable technologies and techniques to crop and livestock farmers both in the mixed cropping and combined crop-livestock systems.

In the case of crops, ICRISAT, WARDA, IITA[1] in collaboration with the national agricultural research systems (NARS) should intensify research their efforts to develop fast-growing, drought resistant and high yielding varieties of groundnuts, cotton, sorghum, millet, rice, maize, cassava, potatoes, beans, fruits and vegetables. ILRI should do the same for livestock. National extension systems must provide adequate support to farmers and pastoralists including not only the technical knowledge, but also phytosanitary products, fertilizers, credit, transport, and marketing extension as they venture to adopt improved technologies particularly given the high risk, climatically fragile environments of the sahel. Mixed farming systems should be encouraged to take advantage of the complementarity between crop and livestock production such as the utilization of crop residue after harvesting for feeding livestock and the use of animal waste for improving soil fertility.

Concerning the livestock sector, the countries of the subregion should adopt policies which provide an enabling environment of self-reliance for both transhumant and sedentary livestock producers. Such policies should aim at making the livestock industry less sensitive to production risks and less dependent on government assistance, foreign aid and investment; and more responsive to incentive policies and technological innovations.

In this connection, systems of land tenure should guarantee secure collective or individual ownership rights and controlled user rights for open access grazing lands. As with forestry, the creation of reserve grazing areas could ensure the protection and conservation of the environment and assist producers with fodder during periods of localized drought. Careful planning and maintenance of cattle trekking routes to markets based on a levy of charges, the supply of water, when necessary and feasible and at a cost and the provision of relevant infrastructure, will go a long way in improving transhuman livestock production systems or getting nomadic pastoralists to move to sedentary livestock production systems.

As concerns fishery, policy makers have given relatively little attention to the small-scale fishery sector despite its contribution to nutrition, incomes and employment. Public policy should empower small-scale fishermen by setting up credit schemes that provide the necessary capital for acquiring and using more advanced technologies and methods for catching, preservation, processing and marketing of fish.

The development of peri-urban agriculture involving the intensive production of high-value crops such as vegetable, fruits, onion, etc, can play a critical role in satisfying the food security needs of the subregion. This stems from the fact that market gardening is becoming an increasingly important source of income and therefore an essential guarantee for food and nutrition security for a considerable number of people of the subregion

[1] ICRISAT: International Center for Research in the Semi-Arid Tropics. WARDA: West African Rice Development Association; IITA: International Institute of Tropical Agriculture; ILRI: International Livestock Research Institute;

(b) Increasing water availability through Irrigation

Increased irrigation and improved water management is fundamental to producing enough food to alleviate poverty and enhance food security in Sahelian countries. The many rivers and lake basins provide a good foundation for water development based on a river-basin development approach and small scale irrigation. A variety of small-scale affordable techniques using low-lift pumps, water harvesting and improved water management have been known to increase production substantially. Experience in Burkina Faso has shown that rain harvested from one hectare for supplementary irrigation of another can triple or even quadruple production (FAO, 1996c). Key policy issues in this regard are, therefore, the promotion of investment, technologies and capacity building for irrigation and sustainable water management.

c) Regional Early Warning and Information System

A long-term strategy for containing the effects of drought on food security is to strengthen national and subregional early warning and information systems These systems enable the countries of the subregion to predict crop failures and hence take necessary measures to mitigate their impact on food security. Systems for the collection, synthesis, analysis, intepretation, storage and utilization of agro-meteorological information including the crop and livestock surveys and forecasts need to be improved and strengthened. FAO has been assisting countries in this regard including the establishment of food insecurity vulnerability and information and mapping systems (FIVIMS).

d) Focus on Transboundary (shared) Issues

The countries of the subregion share common critical food Security problems which involve transboundary issues. Among these are dwindling and poor quality pastures, watershed degradation, land/soil degradation particularly in grazing land, river and lake basin resource deterioration, and agro-biodiversity erosion. These involve "critical resource areas" where food insecurity and environmental unsustainability are very severe and common. Concentration of efforts in these areas is therefore very important. Given that these resources are shared, regional or inter-country collaboration is essential and logical. The need particularly to jointly manage shared water resources has already been underlined. In this connection, the need for increased investment and cooperation among the riparian states in managing the fresh water resources in an efficient and sustainable manner (UNEP/UNDPCSD, 1996).

e) Improving the Policy environment and promoting regional trade

The recent devaluation of the CFA franc used by neighbouring francophone countries has led to the development of trade in some imported products between the CFA franc zone and the world market. It has also impacted positively on the development of and trade in livestock and livestock products between the Sahelian countries and its coastal neighbours.

However, countries need to improve the policy environment and promote subregional trade in food and agricultural commodities and non tradeable goods and services by adopting and harmonizing macroeconomic policies which make the terms of trade favourable to agricultural producers and remove most of the bottlenecks to marketing and trade discussed above.

f) Regional Cooperation among Countries and Stakeholders

Building cooperation among stakeholders enables them to present a united front in developing comprehensive "win-win" opportunities for both food security and environmental sustainability. Cooperation

among stakeholders is particularly important in the utilization of transboundary resources such as shared river and lake basins, and in transboundary watershed management, soil conservation and research. Such cooperation also allows resources to be channelled and utilized more cost-effectively and avoids duplication and potential political conflicts. In this connection, the exchange and sharing of information on what each is doing and on experiences, results achieved, constraints faced, programme directions, partnerships, etc. is vital. This could be through periodic meetings, seminars, workshops, etc.

Given the vital importance of water in reversing the negative synergy between food security, poverty and the environment and the potential for major destabilization actions and conflicts in the use of this resource, it is imperative that effective water-sharing agreements are reached with regards to many of the shared rivers and river basins. Such agreements need to be worked out through cooperation and collaboration among the concerned countries. In this respect, countries need to develop of mechanisms for equitable and cooperative water assessment, development and utilization. ECA should use its convening power to bring together concerned partners and stakeholders to discuss and develop the modalities and mechanisms for such cooperation and collaboration.

g) Inter-country Cooperation in the Development of Livestock Resources

In the Sahel as elsewhere, nomadic populations, livestock, livestock diseases and drought do not need any visas to cross national boundaries (ECA, 1991)[1] Considering that the interdependence between the sahel and the rest of the west African subregion is through the livestock sector (ECA, 1991), the potentials for integrating the livestock economies through production and trade are high. No country individually seems to have the means to rationally exploit and protect its livestock and range resources without threatening the very fabric of subregional cooperation. Countries of the subregion should therefore harmonize their livestock development policies and integrate livestock development programmes so as to create the enabling environment for joint investment ventures across national boundaries.

h) Managing Population Growth

Efforts to increase food production and sustain the environment must be simultaneously accompanied by efforts to also address the issue of the rapidly growing population. Even though the rate of population growth in the subregion is expected to decline between 1995 and 2000, governments in collaboration with relevant organizations should continue to promote policies and programmes for integrating nutrition, sanitation and health with family planning.

Given the important role which women play in food security and reproduction, policies and programmes should provide improved access to education at all levels for girls and women as a vehicle for reducing the demand for large families, preparing them for paid employment and other economic opportunities so as to improve their socio-economic status and quality of life. In fact, the integratiion of population variables into development planning should be a cornerstone of the countries' development planning process.

V: Summary and conclusion

This policy brief has examined some key issues and challenges in addressing the problem food insecurity while ensuring the sustainability of the natural resource base in the nine countries of the Sahelian subregion. Based on three decades of agricultural development experience in the subregion, desertification, drought, inadequate irrigation for food and agricultural production and rapid population growth represent some of the major issues that have been important in shaping the food security landscape in Sahelian countries.

To meet the challenges of sustainable food production and food security in the subregion, the paper calls for policies to improve and sustain soil fertility, increase water availability through the development and management of sustainable irrigation schemes and improve crop and livestock production systems through research and technology development which should be demand rather than supply driven. The paper also called on member states to collaborate in the development, efficient management and use of shared critical resources such as pastures and river and lake basins. The paper also recommended that efforts to increase food production must be accompanied by policies and programmes for improving nutrition, sanitation and health, family planning and education for women so as to address the problems of high population growth and improve the quality of life of women who play such an important role in food security and reproduction.

Considering that the food security problem is not just a bio-physical problem, the paper underscored the critical role of marketing and trade in enhancing food security and called on the countries to put in place, macro-economic policies which efficiently link farmers to both national and subregional agricultural commodity markets as well as markets for non-tradeable goods and services.

The paper also called for collaboration among the multitude of stakeholders involved in the promotion of food security and sustainable development in the region. In this regard, the paper suggested that the ECA should use its convening power to bring together these stakeholders and partners to develop and and sustain this collaboration and cooperation.

ANNEX 1

Table 1: Food Production and Change

Countries	Cereals Average annual growth rate*			Roots and Tubers Average annual growth rate*			Meat Average annual growth		
	1970-1980	1980-1990	1990-1997	1970-1980	1980-1990	1990-1997	1970 - 1980	1980 - 1990	1990-1997
Burkina Faso	-0.2	3.8	4.1	2.4	-6.9	0.2	-l.0	6.5	3.2
Cape Verde	24.8	3.0	-1.9	5.6	5.8	-14.7	3.3	11.4	4.5
Chad	-1.6	0.5	7.2	3.6	4.7	-1.9	1.4	1.0	2.2
Gambia	-3.1	2.6	2.1	-2.6	0.0	0.0	0.7	0.5	2.6
Guinea-Bissau	5.4	6.0	2.1	2.3	3.0	-1.7	3.8	2.2	1.8
Mali	-0.2	6.5	2.7	-9.8	-0.7	2.2	0.8	3.0	2.8
Mauritania	-6.1	8.2	2.4	-0.8	0.4	-1.1	2.6	2.1	-1.1
Niger	4.5	-1.8	6.0	-0.6	3.4	0.7	2.7	0.1	2.4
Senegal	2.4	3.8	-3.1	-13.6	7.5	-7.5	0.1	5.7	5.5

Source: ECA; Africa: Demographic, Environmental and Agricultural Indicators, Addis Ababa, 1998

*Growth rates calculated from production in metric tons

Table 2: Food and Agricultural Production Indices (1989-1991=100)

Countries	Per Capita Agricultural production Index					Per Capita Food Production Index				
	970	980	990	995	998	970	980	990	995	998
Burkina Faso	8.4	3.7	4.6	01.3	03.7	7.5	7.5	2.4	04.2	5.5
Cape Verde	4.7	4.9	02.5	04.6	8.2	4.1	4.8	02.5	04.9	8.4
Chad	24.6	08.8	2.2	02.1	8.3	30.8	16.	1.3	04.6	6.3
Gambia	24.6	01.8	3.9	4.4	0.6	28.0	02.	4.1	3.4	1.1
Guinea-Bissau	03.6	2.4	03.2	02.0	5.9	04.5	1.7	03.1	02.1	6.0
Mali	01.1	9.3	7.4	00.7	8.9	12.1	03.	7.7	8.5	1.0
Mauritania	33.9	11.7	00.7	7.9	2.4	33.9	17.	00.7	7.9	2.4
Niger	54.6	43.6	9.4	3.4	2.7	53.9	43.	9.4	3.5	2.8
Senegal	07.2	7.7	5.2	02.9	0.7	08.8	8.0	5.3	03.3	9.1

Source: ECA; Africa: Demographic, Environmental and Agricultural Indicators, Addis Ababa, 1998

Table 3: Population Growth and Urbanization

Countries	Total Population (1000) 1998	Average Annual Population Growth Rate (%)		Total Fertility Rate (per woman) 1990-1995	(Average annual change rate of Urban Population (%) 1990-1995
		1990-1995	1995-2000		
Burkina Faso	11,305	2.86	2.08	7.10	6.02
Cape Verde	408	2.52	2.48	3.88	6.62
Chad	7,270	2.64	2.75	5.89	3.73
Gambia	1,229	3.76	2.26	5.60	6.20
Guniea-Bissau	1,161	2.06	1.98	5.79	3.69
Mali	10,694	3.17	3.03	7.10	5.57
Mauritania	2,529	2.54	2.52	5.40	5.83
Niger	10,078	3.37	3.32	7.40	5.82
Senegal	9,003	2.52	2.66	6.46	4.10

Source: ECA; Africa: Demographic, Environmental and Agricultural Indicators, December 1998.

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