
FOOD INSECURITY IN SIERRA LEONE

Overcoming the Challenges in Post-Conflict Reconstruction

Bashiru Mohamed Koroma

INTRODUCTION

Sierra Leone has an area of about 73,326 km² and a population estimated in mid-2000 at 5.29 million.^{1/} The economy is dominated by agriculture and mining. In the 1990s about 47 per cent of gross domestic product (GDP) was generated by agriculture, while mining contributed 13.7 per cent, making a total of approximately 61 per cent for both sectors.^{2/} Official statistics however, are notoriously poor, and may not accurately portray the realities relating to development.

Agriculture has remained traditional and subsistence in character, incapable of satisfying the food requirements of the nation by a wide margin, and of improving the living standards of the broad mass of people (some 60 per cent to 70 per cent of the population) who are employed in this sector. In the eastern and southeastern parts of the country where export crops of coffee and cocoa are grown, income levels and productivity were much higher than average prior to civil conflict, which started in March 1991.^{3/} It is in the food-crop subsector that poverty is pervasive, and without any policy change aimed at ending food insecurity the country will not break away from its present disproportionate state of poverty and deprivation.

In September 1990, when the second UN Conference on the least developed countries (LDCs) was convened in Paris, the state of Sierra Leone was at peace. But the peace was foreshadowed by economic and sociopolitical debacles that bore all the hallmarks of degeneracy and public disenchantment for the inextricable lack of social and economic opportunities in the better parts of the 1980s and 1990s. Per capita GDP, which was US\$363 in 1980, had declined to US\$190 by 1990. This culminated in an appalling decline in food production and productivity between 1982 and 1990, and national food production fell below the average for Africa after 1984.^{4/}

A combination of factors was responsible for the difficulties that plagued the society and the economy in 1990. These factors can be categorized under three headings: poor governance; inappropriate social and economic policies; and weak international prices for the country's main exports. Faced with the attendant local circumstances brought about by several years of decline, the Government of Sierra Leone in 1989-90 embarked on a Structural Adjustment Programme (SAP), aimed at correcting the imbalances and distortions in the economy.^{5/} After being in place for ten years however, no realistic assessment of the SAP is possible because of the abnormal circumstances created by the civil conflict

from 1991-2001.

Nonetheless, Sierra Leone is well-endowed with human and natural resources, which provide the impetus and urgency for development in the agricultural sector in the post-conflict period as a way to ameliorating food insecurity and poverty. However, massive unemployment, underemployment, and chronic food insecurity constitute a vicious cycle for the predominantly rural population mired in poverty and destitution. Since 1999, Sierra Leone is consistently ranked at the bottom of the United Nations Development Programme (UNDP) Human Development Index (HDI), in spite of its rich endowment of resources. Characterized by low life expectancy (37 years), high illiteracy (67 per cent), low per capita annual income (US\$160), and poor health and nutritional standards, the country is caught up in complex and intractable problems of human insecurity.⁶⁷ During the conflict period in the 1990s, the low levels of development coupled with low technology use stifled the country's agricultural development process. Yet sizeable agricultural potential exists for the improvement of crop production, agro-based industries, fisheries, and the opportunities for alternative livelihood creation, particularly among the weakest socioeconomic groups. This article seeks to address the current issues inextricably affecting national, regional, and household food security, taking into account the emerging trends in post-conflict agricultural production and food security. The article also elaborates on the regulatory framework that could be integrated into policy formulation to facilitate a new beginning in community-led action to end food insecurity in the ongoing action-programmes under the recently established Ministry of Agriculture and Food Security (MA and FS) in the post-conflict, democratically-elected Government of Sierra Leone.

POLICY CONSTRAINTS: ECONOMIC AND SOCIOPOLITICAL ANALYSIS

Before the eruption of civil war in 1991, Sierra Leone had become notorious for its very low development indicators: dilapidated physical and socioeconomic infrastructure, a per capita GDP of under US\$300 and concomitant mass poverty, LDC status (acquired in 1984), protracted power failures, nonpayment of salaries to civil servants, and a very low level of human security. The country then emerged depressingly at the lower end of the UNDP's HDI.⁶⁸

By conventional analysis, the country had long suffered from poor governance in all its forms: democratic governance, economic governance, and administrative governance. It was governed by a single-party regime from 1973 to 1985 headed by the late Siaka P. Stevens, and from 1986 to 1992 by the former Head of the Army, Brigadier Joseph Saidu Momoh whose regime was swept away by a military takeover on 29 April 1992.⁶⁹ This almost two decades of communist-like governance contributed immensely to the total collapse of the country's economy. The civil service and government avoided accountability and/or derided it, and traditional and local authorities were bullied into subservience or voluntarily closed ranks with the ruling party. In the latter part of the 1990s, schools and hospitals in regions seriously ravaged by the rebels were running far below internationally acceptable standards. The media was government-dominated and the army's ranks had long been filled with elements loyal to the warring factions. Civil society had long been

co-opted into single-party governance, characterized by cronyism, tribalism, regionalism, and clientelism, which gave enormous power to the "excluded intellectual elites" to carve out a survival pattern of existence through extreme corruption and despotism.

In short, Sierra Leone was existing on a very fragile foundation with an economy in a shambles and a virtually nonexistent sociocultural fabric. From a "failed state", the country degenerated into a virtually "collapsed state". In medical parlance, it was on intravenous drip, slumbering in a long coma, and then all of the sudden, the drip was taken off by the horrific brutality which took place during the civil war. This war set in motion the systematic destruction of the society, and the economic opportunities presented by a total breakdown in law and order sustained the violence at the levels that have plagued Sierra Leone since 1991.

PRESENT CHALLENGES COMPLEMENTARY TO THE COMMISSION ON HUMAN SECURITY (CHS) VISIONS

People's access to food among the most vulnerable groups in developing countries is affected by a number of factors. The immediate problem is a lack of entitlement to food and access to an adequate food supply.^{8/} The *World Development Report 1990*^{9/} estimated that 2.8 billion of the world's population lived in a chronic state of poverty and daily insecurity, a number that has changed little since 1990. The problem reported by the World Bank is characteristic of Sierra Leone where over 80 per cent of the 5.2 million people do not have access to nutritious food in the post-conflict period. Other reports by the Food and Agricultural Organization of the United Nations (FAO)^{10/} and United Nations Department of Economic and Social Affairs (UN/DESA)^{11/} also indicate about 800 million people in the developing world and 24 million in developed and transitional economies do not have enough food to eat. These people suffer daily hunger, malnutrition, and food insecurity even though most national food supplies are adequate.

In addition to the lack of entitlement to food and access to an adequate food supply, land degradation in some areas has severely impaired land productivity. The World Health Organization (WHO)^{12/} reports that in 1977, 57 million people failed to produce enough food to sustain themselves as a result of land degradation. The same reports shows that by 1984, this number had increased to 135 million. Natural disasters such as droughts can also have terrible multiple impacts on poor households. For instance, droughts in the Horn of Africa in the 1970s, 1980s, and 1990s triggered famine and civil war in a region that was already food-insecure. The famine in Ethiopia in the 1980s highlighted the importance of a political commitment to respond to food insecurity and the need for early warning monitoring systems on malnutrition and food availability.^{13/}

As part of the constraints analysis to formulate strategies to overcome the problems and obstacles affecting food security in Sierra Leone, the intractable challenges that are complementary to the Commission on Human Security (CHS) report constitute a concrete agenda in the policy framework of the MA and FS, in Sierra Leone. Retrospectively, key elements of strategic planning focus mainly on the following challenges outlined in the recent CHS report.^{14/}

Food Insecurity and Hunger

Food insecurity and hunger undermine a person's dignity and well-being. A country's ability to produce and procure enough food for its people to avoid hunger and malnutrition is critical to their human security. The question in addressing issues of food insecurity and its results is not only how to maintain an adequate national supply of food but also how to place an existing adequate supply of food at the disposal of those who need it most. Given the desperate nutritional status of large numbers of people, what is urgently required is direct and immediate intervention as well as longer term development policies.

War and conflict inevitably lead to reduced food production as well as income losses and limited or no access to food for many people, with the most serious impact on the poorest households. A new dimension of food insecurity in situations of conflict is the use of hunger as a weapon and food insecurity as a constant threat.^{15/} Food supplies are cut off and stocks seized; food aid is hijacked; crops, water supplies, livestock, and agricultural land are destroyed and often households and families are stripped of assets. In some regions where food might otherwise have been available, conflict makes people food-insecure and affects their access to adequate food as well as their ability to attain healthy and productive lives. In Sierra Leone, for instance, violence in November 2000 by the rebel incursion left 341,205 registered internally displaced persons (IDPs) and approximately 330,000 Sierra Leonean refugees in Guinea in acute food insecurity due to the enormous disruption of the normal channels of emergency food delivery to the afflicted areas.^{16/}

Sustaining individual and household food security to ensure people's survival demands a dual focus on practical strategies in the immediate term — for direct transfer of food in a transparent and participatory manner to desperate people to improve their food security — and in the longer term, through capacity-building initiatives that can gradually improve sustained production and access to food. The emphasis should be on creating and maintaining viable avenues of access to food, enhancing entitlements to food and transferring food to people living in critical or pervasive food insecurity. In addition to food production, improved nutrition increases the capacity to earn and produce, and the income earned provides the means to buy food. Therefore, having access to adequate food affects people's ability to participate in all spheres of economic, political, and social life and to move out of chronic poverty.

In an increasingly fragmented world, with ongoing conflict and poverty, it is more important than ever to ensure that food programmes and development assistance are administered in ways that do not fuel further conflict, but instead encourage peace negotiation and an end to fighting and killing. The destruction of trust among people increases poverty and crime, and slows the national economy.

Water Insecurity

Without water, survival, human or otherwise, is impossible. Meeting the needs for clean and safe water for all in Sierra Leone presents difficult choices for the central government. But failure to respond carries a human cost as well as significant economic and political risks. In fact, food security and dried-up taps are among the most immediate and sensitive public service issues for which societies hold the government accountable. The World Commission on Dams,^{17/} describes the situation as putting considerable strains on the relationships: (a) within and between regions in each country; (b) between rural and urban

populations; (c) between upper and lower river interests, affecting people's survival and livelihoods; (d) among agricultural, industrial and domestic users; and (e) between human need and the requirements of a healthy environment.

Yet water scarcity cannot be permitted to lock people, regions, and entire countries in a fierce, competitive struggle. The challenge is not to mobilize in order to compete for water but to cooperate in reconciling competing needs. Water resource management is therefore an important element of food security in efforts to build a socially- and environmentally-just society. Recognizing the global threat posed by water scarcity, Sierra Leone is therefore, in full support of the UN Declaration of the International Year of Freshwater, in Kyoto (Japan) in 2003, and its Millennium Development Goals, which called for a reduction by half in the number of people without sustainable access to safe drinking water by 2005. Every comprehensive action programme to sustain human security in post-conflict reconstruction critically addresses this vital scarce resource, which is integral to human survival.

Population

Although the debate about aging populations has focused primarily on developed countries, the number of older people in developing countries is expected to rise from 8 per cent in 2000 to nearly 20 per cent by 2050.

On the other hand, changing population structures will have major implications for food security. They will affect people's ability to move out of poverty and cope with crises, especially for households with large numbers of young dependents, as in Sub-Saharan Africa. In addition, the HIV/AIDS crisis in developing countries is having a devastating effect on the most productive segment of the population, leading to profound changes in household composition. Years of investment in education and skill training are being lost, and the number of orphans and households headed by women is increasing. Much of the burden falls on women, further diminishing any sense of security and dignity.

When designing food security strategies, these longer term shifts in population structures need to be taken into account. As populations age, more emphasis will be needed to put in place protection and empowerment strategies benefiting older people. This would have major implications for health and education strategies, and for the resources needed to create minimum social safety nets. Keeping the most productive segment of the population healthy will be among the biggest challenges.

Environment

Environmental resources are a critical part of the livelihoods of many people. When these resources are threatened because of environmental changes, people's food security is also threatened. This relationship was captured in the promotion of sustainable development during the Johannesburg World Summit on Sustainable Development (WSSD).^{18/} And at the centre of sustainable development is the delicate balance between human access to natural resources and the cultures of consumption in the environment.

For many of the poor in rural areas, household security is intimately connected to the natural environment. Families rely on forests for fuel and on subsistence agriculture for food. When these resources are degraded, the effect is direct and immediate: poor families are forced to migrate to ever more marginal land; household income falls as non-timber

forest products become depleted; and pollution from burning fossil fuels causes health problems and premature death on a massive scale.

Among the intractable and costly environmental problems in Sierra Leone are land degradation from inappropriate and illicit mining activities, and erosion from deforestation (illegal logging) and shifting cultivation leading to siltation of rivers and creeks. These environmental impacts have grave implications, especially for poor people and their food security, contributing to hunger and famine.

Central governments and other stakeholders that are increasingly aware of the existing relationship of access to natural resources and ecological stability must further strengthen civil society mobilization strategies to promote sustainable development and increase awareness of its importance. Government emphasis focuses on improved environmental management, with enormous commitment to concrete actions at the local level to ensure the participation of affected communities and people in such management. Experience in learning from other African countries through desk research is also underway. Recent exceptional cases studied are those of Burkina Faso and Mozambique, where the governments have sought to give the poor and local communities greater access to, and control over, natural resources.^{19/}

The linkages in partnerships and participation require more commitment to effective regulation, management, and sustainable use of natural resources. Critical to this is the need to explicitly link plans for improved environmental management and sustainable development to disaster prevention and preparedness.

MAJOR ISSUES AFFECTING FOOD SECURITY

The key challenges of food insecurity are structural and essentially long-term in nature. Their roots can be traced to low levels of production and productivity; inadequate infrastructure facilities; acute shortage of skilled manpower; high population growth rate; low status of women; high dependence on the external sectors; high dependence on mining; small domestic market; and the civil conflict throughout the 1990s.

Low Levels of Food Production and Productivity

Low human development coupled with low technology use has stifled the country's agricultural development process. In fact, labour productivity has always been one of the worrying aspects associated with very low levels of food production and productivity — per capita output has been declining since 1982. This decline is due to: (a) reduction in the period the arable land is allowed to lie fallow as a result of population pressure; (b) poor agronomic practices; and (c) inadequate inputs such as improved seed varieties, fertilizers, and other agro-chemicals. The continuous reduction in food output per person had also been accompanied by lower food intake and a deterioration in nutritional standards.

Inadequate Social, Physical, and Institutional Infrastructure

Inadequate social, physical, and institutional infrastructure severely limit access to services throughout the country. The problem is particularly precarious in the rural areas. The scarcity of basic health and educational facilities, as well as feeder roads for ease of

transportation of farm products to markets is another serious constraint to rural agricultural development. Superimposed on the economically debilitating syndromes, these problems culminate in rapid migration from rural to urban areas. The immediate consequence leads to illegal congested settlements of unskilled migrants in mushrooming slums of urban areas, without jobs and other alternative means of improving their livelihoods. At the same time the farming areas, from which they migrate, remain largely beset with labour shortages, reduced production and increasing food insecurity.

Skilled Manpower Shortage

One of the most pervasive and recurrent challenges affecting food security and poverty alleviation in Sierra Leone relates to the acute shortage of skilled manpower for research and extension services. The situation has become even more critical during the past decade as the limited skilled personnel leave for jobs outside the country to escape the consequences of the war. In view of the current inability of the education system to cope with the country's manpower requirements, a strong justification exists for substantial investment in the agricultural education sector as a complimentary component of the action programmes for food security and poverty eradication.

High Population Growth

In spite of Sierra Leone's current predicament, it is almost certain that the rapid increase in population is a cause for concern. The high population growth rate (estimated at 2.6 per cent per annum) will have serious implications for the country, particularly with respect to food supplies, employment, provision of social services, and the productivity-inhibiting burden it will impose on subsistence agriculture.

Low Status of Women

The low status of women is steeped in deep cultural traditions. In traditional Sierra Leonean society, the wife and children are at the mercy of the male household head for practically all decisions pertaining to welfare of the family — women have very little control or influence over decision-making, even on a matter as delicate as the number of children in the family. Certain sociocultural practices provide the leading cause of gender disparity, and Bah^{20/} emphasizes that gender inequity, especially in rural areas is evidenced by: (a) high fertility rate; (b) high infant and child mortality rates; (c) high adult female illiteracy rate (82 per cent as compared with 55 per cent for male); (d) the exclusion of women from receiving certain services and entitlements such as land, extension services, credit, and farm inputs; and (e) the disproportionate workload in agriculture (estimated at 60 per cent to 80 per cent) allocated to women. Therefore, ensuring food security remains a far-reaching consequence if high priority is not accorded to gender inclusion relating to the status and quality of life of women in Sierra Leone.

High Dependence on External Sectors

The economy of Sierra Leone depends significantly on external sectors. In 1994-95, exports of goods and services constituted over 22 per cent of GDP while the corresponding percentage for imports was as high as 27 per cent.^{21/} Given these substantial proportions, the balance of payments has a binding consequence on the development of the agrarian

economy. It should however be noted that there is considerable scope to reduce the level of imports in the short to medium term. This can be done through import substitution in food. Import substitution in rice, cooking oil, and vegetables can be achieved to a considerable degree by efficient management of the production potential in agriculture.

Small Domestic Market

As a member of the Economic Community of West African States (ECOWAS) and the moribund Mano River Union (a customs union comprising Sierra Leone, Liberia, and Guinea), the regional groupings are potentially of considerable advantage to the country in overcoming the inhibitions to sustained economic growth imposed by the small scale of the domestic market.

High Dependence on Mining

While the average cultivable area per year is small and the farming system is traditional with low yielding crop varieties, the active population diverts attention to mining activities. These and other factors have not enabled the farmers (largely small-scale) to produce enough food to meet household consumption capacity, thus leaving over 80 per cent of the population in desperate straits regarding food insecurity.

Before independence, the country was a net exporter of rice to Guinea, Liberia, and The Gambia. But during the mid-1960s, the booming mining industries, especially for diamonds, gold, and iron ore attracted much of the active rural population from the farmlands to the mining areas, causing a sharp decline in the production of rice, the staple food for the people of Sierra Leone. The economic situation deteriorated further in the first half of the 1980s primarily because of falling production from the mining sector. In addition to the fall in mineral production, the deteriorating economic performance in the agricultural sector stemmed from poor fiscal management. Efforts to develop strategies under the SAP were further undermined by the decade-old civil war, which had plunged the country into economic chaos.

Today, the Government of Sierra Leone spends some 60 per cent of its foreign exchange earnings on the import of food, mostly rice. This involves a huge amount, which no sensible government can afford to spend indefinitely on such a commodity, particularly when it can be grown abundantly in the country which has plentiful and suitable land and water resources for agricultural development.

Civil Conflict in the 1990s

The civil conflict imposed a freeze on all agricultural development throughout the 1990s. The cost of the war in terms of lives, property and lost opportunities, has yet to be finally quantified. But even without quantification, it must be said that the economy and society were severely crippled by the civil war, and continue to be so even in the post-conflict period. Agricultural production was often disrupted in rebel-held areas. Massive destruction in the key production areas has been reported and verified.^{22/} Untold numbers of schools, health centres, Njala University College (the country's single most important institution for agricultural research and education), teachers' colleges, residences and dormitories, and community facilities, among others, were razed to the ground.

On the human side, at one time or another, millions of people became either internally displaced within the country or refugees in neighbouring countries, and thousands died in the conflagration. Displaced persons' and refugee camps within Sierra Leone and in neighbouring countries, respectively, have been characterized by poor and overcrowded conditions. Family "break-ups", missing persons, amputees, beggars, and prostitutes are all growing phenomena associated with the war. In November 2000 alone, the rebel incursion in the country left 341,205 registered IDPs confined into congested camps in and around Freetown, and approximately 330,000 Sierra Leonean refugees in Guinea with acute food insecurity due to enormous disruption of the normal channels of emergency food delivery to the affected areas.^{23/} The environment also took a heavy toll as the warmongers wrecked the land in the course of plundering the diamond mines.

CURRENT STATUS OF AGRICULTURE AND FOOD SECURITY

Agriculture forms one of the most productive sectors in the country's economy employing about 65 per cent of the work force.^{24/} The country has an arable land area estimated at 5.4 million ha covering about 75 per cent of the total land area. About 78 per cent of the arable land area is made up of uplands with the rest being lowlands.^{25/} Before the civil war, an estimated 79 per cent of the total population lived in rural areas, most of them depending on farming for their livelihoods. According to a survey conducted in 1999, it was highlighted that the agricultural sector contributed about 38 per cent of the GDP in 1996 which increased to an estimated 44 per cent in 1998 but then dropped sharply in 1999 due to the prevailing effects of the civil war.^{26/}

At the subsectoral level, crop production is the highest contributor to the agricultural sector's GDP. Its share was estimated at 60 per cent in the 1980s but this dropped to a little over 50 per cent in the 1990s. Livestock's share dropped from 10 per cent in the 1980s to 5 per cent in the 1990s while the forestry subsector's share decreased from 10 per cent in the 1980s to about 8 per cent in the 1990s.^{27/}

The majority of farmers cultivate rice and other food crops such as cassava, sweet potato, millet, maize, and sorghum. The general performance of the agricultural sector, however, has been declining due primarily to the effects of the civil war. Displacement of the farming population resulted in complete abandonment of farmlands and farm inputs. Areas cultivated as well as production levels of major food crops declined to very low levels. Livestock was abandoned by the farmers and eaten by armed groups. The situational analysis by the MAF and MR depicts the following consequences of the deteriorating agricultural development and food insecurity in the country:

Acreage under Cultivation

The data in table 1 indicate that the area under rice cultivation declined from 165,195 ha and 110,489 ha, respectively for upland rice and lowland rice in the 1998-1999 cropping season to 120,045 ha and 93,009 ha in 1999-2000. The area under cassava declined from 54,955 ha in 1998-1999 to 46,224 ha in 1999-2000. The area under sweet potato cultivation, however, increased from 6,412 ha in 1998-99 cropping season to 7,547 ha in 1999-2000. These declines in areas under cultivation can be attributed to farmers'

displacement and lack of farm inputs.

TABLE 1. ACREAGE UNDER CULTIVATION FOR MAJOR FOOD CROPS IN THE 1998-99 AND 1999-2000 CROPPING SEASONS

Crops	Area Under Cultivation (ha)	
	1998-99	1999-2000
Upland Rice	165,195	120,045
Lowland Rice	119,489	93,099
Cassava	54,955	46,224
Sweet Potato	6,412	7,547
Groundnut	44,192	35,507
Maize	8,157	7,601
Millet	6,213	4,948
Vegetables	9,013	7,555

Source: Ministry of Agriculture and Food Security (MA and FS), Government of Sierra Leone, *Annual Reports*, 1999 and 2000.

Production of Major Food Crops

Table 2 details the production levels of upland rice, lowland rice, cassava, and sweet potato during the 1998-99 and 1999-2000 cropping seasons. The data indicate that the decrease in production levels of upland rice, lowland rice, and cassava can be attributed to a decline in area under cultivation and poor yields, since major production areas in rebel-held regions and the inability of farmers in safer zones to access adequate resources for agricultural production.

TABLE 2. PRODUCTION OF MAJOR FOOD CROPS IN THE 1998-99 AND 1999-2000 CROPPING SEASONS

Crops	Production Output (metric tons)	
	1998-99	1999-2000
Upland Rice	192,607	107,719
Lowland Rice	179,236	139,516
Cassava	282,238	239,597
Sweet Potato	17,325	19,928
Groundnut	43,299	27,249
Maize	8,736	8,239
Millet	6,773	4,725

Source: Same as table 1.

Livestock Production

Details for livestock production estimated in table 3 for 1990-91 and 1999-2000 show that livestock production has been seriously affected by the civil war. This was also confirmed by the outcome of the 1999-2000 rapid production and needs assessment survey, which

indicated that over 93 per cent of the estimated livestock population have either been killed, eaten, destroyed or forced to flee by the fighting forces, and goats, ducks, and sheep were the most hard hit.^{28/}

TABLE 3. ESTIMATES OF LIVESTOCK POPULATION FOR THE 1990-91 AND 1999-2000 PRODUCTION SEASONS

Type of Livestock	Estimated No. Per Year	
	1990-91	1999-2000
Cattle	340,000	28,800
Sheep	420,000	12,850
Goats	460,000	7,785
Chicken	3,700,000	345,000
Ducks	600,000	18,000
Pigs	400,000	52,000

Sources: MA and FS, Government of Sierra Leone, *Annual Reports*, 1991 and 2000; and *Rapid Production and Needs Assessment Survey, Monitoring and Evaluation (M&E) Report*, 2000.

Food Self-Sufficiency

Table 4 highlights the rice supply situation for the 1998-1999 and 1999-2000 cropping seasons. The data reveal a decline in both domestic production and imports during the 1999-2000 cropping season compared to 1998-1999 with a corresponding increase in national requirements that is reflective of individual/household food insecurity. This eventually led to a decrease in the food self-sufficiency ratio from 38.47 per cent in 1998-1999 to 25.87 per cent in 1999-2000.

TABLE 4. RICE SUPPLY SITUATION IN SIERRA LEONE FOR THE 1998-99 AND 1999-2000 CROPPING SEASONS

Supply Source	1998-99	1999-2000
Domestic Production* (Milled)	195.22	129.78
Import Milled Rice	249.1	93.51
National Requirement	507.52	509.60
Self Sufficiency (per cent)	38.47	25.87
National Deficit	(63.2)**	(286.3)

Source: Same as table 1.

Notes: *in '000 metric tons; and **the figure in parenthesis is a projected estimate, and may be higher than estimated.

Source of Support for Food Production

The various sources of support for rice production are outlined in table 5. The data reveals that MA and FS support declined in 1999-2000 compared to 1998-1999, but NGO support

slightly increased during the same season.

The farmers own stock increased from 1,284 metric tons in 1998-1999 to 2,185 metric tons in 1999-2000. This may be due to the improvement in the security situation in the southern and eastern provinces in the country.

TABLE 5. SOURCES OF SUPPORT FOR RICE PRODUCTION FOR THE 1998-99 AND 1999-2000 CROPPING SEASONS

Source	1998-99 Seed Rice (metric tons)	1999-2000 Seed Rice (metric tons)
MAF and MR	2,567	1,172
NGOs	3,250	3,900
Farmers' own stock	1,284	2,185
FAO	NA	317.8
IDB	NA	160
SMP	NA	1,133
EC/SLRRP	NA	182.9

Sources: Same as table 1 and *M&E Report, 2000*.

OPPORTUNITIES FOR AN ENABLING POLICY ENVIRONMENT

Agricultural production over the past 10 years has been overshadowed by the adversities of the civil conflict. In the post-war period, limited action has been developed to formulate food security policy. However, the emergence of democratic governance in May 2002 facilitated an enabling environment to identify and develop objectives and policy instruments. Under cabinet reform, a MA and FS was established.

The security situation in the country is relatively favourable for current policies which aim to deal with the problem of displaced and returnee farm families. The *Five-Year Action Plan (2001-2006)* focuses on:

- (1) Resettlement and rehabilitation of displaced and returnee farm families;
 - (2) Provision of farm inputs to farmers to restore pre-war production levels;
 - (3) Reconstruction and rehabilitation of agricultural infrastructure; and
 - (4) Provision of opportunities for families and communities for rural livestock restocking.
- Specific strategies in the reform process would aim at the attainment of the following implementation plan:

Agricultural Production and National Food Security

The primary objectives of the government's current agricultural strategy are to promote sustained growth of agricultural output, attain food security, and achieve a reduction of poverty. The strategy comprises development programmes, especially for rice, other food crops, export crops, livestock, and fisheries. The objective is to expand and diversify national food production, generate employment, and export revenues. In support of these programmes, action would be needed in five main areas: maintaining good policies and incentives for farmers and private entrepreneurs in general; developing infrastructure;

strengthening institutions; carrying out a programme of agricultural training and education; and ensuring transparent donor coordination.

Rural Poverty and Household Food Security

The target groups to be addressed by the poverty alleviation strategy would be principally small farmers, landless rural dwellers, improvised urban families, with greater focus on women and children. The objective is to increase in the short- and medium-term the daily calorie intake from the current 1,800 cal to 2,400 cal by the year 2010 in line with general food security policy, which would include food for work programmes, thus promoting the change from subsistence production to market-oriented agricultural development. The process would also constitute equitable distribution of available inputs and food products, as well as the provision of international grants in an effective and transparent manner.

Agricultural Production Promotion Policies

The general objective is to attain food self-sufficiency, generate agricultural tradable surpluses, create employment, and raise the standard of living for both the rural and urban poor. In an effort to translate the vision into action, specific objectives would include: (a) intensification of crop production through the development of irrigated double-cropping in lowlands and supply of inputs — mainly improved seeds, other planting materials, fertilizers, agro-chemicals, and tools to farmers; (b) tree-crop expansion; (c) reduction of post-harvest losses; (d) genetic livestock improvement and fisheries development; (e) agricultural exports and employment generation; (f) rural financing schemes accessible to small-scale farmers; (g) feeder roads rehabilitation; and (h) favourable macroeconomic policies to synergize the private-community initiatives in processing and marketing activities.

Subsistence farming will certainly continue to be the main agricultural activity, while local tradable surpluses will be generated for urban supply. It is expected that the shift from low-yielding upland-rice to more productive swamp-rice production will encourage farmers to produce surpluses and make them competitive against low-cost imported rice. On the other hand, there is considerable scope for diversification, particularly towards poor soil-tolerant root crops whose expansion is expected to reduce the country's dependence on rice imports.

Prospects for Trade in Agricultural Products

Favourable liberalization policies coupled with the rehabilitation of damaged rural infrastructure are expected to encourage local dealers to restore disrupted trade circuits and ensure farmers' supply with agricultural inputs, as well as urban food supply. Sierra Leone has the comparative advantages in the areas of export of agricultural products such as coffee, cocoa, and tropical fruits, as well as fish (saltwater), especially shrimp. Building networking and advocacy in private participation would promote joint ventures, and enlist supports for the introduction of adequate production technologies which would ensure the quality of exports thereby increasing the country's prospects for expanding agricultural exports.

IMPLEMENTING FOOD SECURITY ACTION-PROGRAMMES

Sierra Leone being predominantly rural with over 65 per cent of the population engaged in farming, the overall objective is to assist small-scale farmers achieve improved and sustainable growth in agricultural production and productivity, thereby reducing food insecurity, poverty, and improving incomes of small-scale farmers by the demonstration and adoption of modern crop production technologies. Practical approaches would require the establishment of a balance between the following policy strategies and the results of diagnostic work therein which emerges from the constraints analysis and resolution:

- (1) Supporting policy reforms to create an enabling environment for the growth of the agricultural sector;
- (2) Supporting institutional and human resource development;
- (3) Demonstrating environmentally-friendly improved technologies; and
- (4) Supporting private sector initiatives in the production and promotion of improved technologies.

The implementation phase provides the opportunity to demonstrate and refine proven and promising technologies and approaches to agricultural production, and it is expected that the pilot project would mobilize small-scale farmers and other local personnel for hands-on training and adequate, timely provision of the required inputs needed in an effort to attain food security and increased income through increased production and productivity. In addition, institutional strengthening and human resource development would form integral components of the capacity-building process. More importantly, the improved policy environment would facilitate increased involvement of the private sector in the agricultural economy of the country.

The implementation plan would consist of five interrelated and complimentary components. The first component would support public institutions of agricultural intensification, land conservation, and policy dialogue. The second component would support the private sector and producers in the production and adoption of improved technologies on a sustainable basis. The third component would focus on capacity-building. The fourth component would deal with project management. The fifth component would focus on sustainability initiatives. Comprehensive summaries of each component for project matrix development are outlined as follows:

PROPOSED PROJECT DESIGN FOR THE IMPLEMENTATION PROCESS

Component 1: Support to Government Institutions for Agricultural Intensification, Land Conservation, and Policy Dialogue

The implementation would directly involve the activities listed below:

Agricultural Intensification:

- (1) Collection of improved technological innovations in collaboration with research and extension, and dissemination to small-scale farmers in hands-on training conducted in management training plots (MTPs) on improved technologies as appropriate;
- (2) Development of new, location-specific crop production/intensification technologies

with the active participation of research, extension, and farmers;

- (3) Participatory monitoring of the performance of recommended technologies in farmers field through field days, farmer exchange visits and crop assessment visits;
- (4) Annual updating of the research recommendations in consultation with the farmers;
- (5) Promoting the introduction of new, beneficial technologies (e.g., Nerica rice cultivation and use of integrated pest management (IPM) in food crop production); and
- (6) Promotion of post-harvest technologies including storage, processing, and food utilization in collaboration with relevant organizations and institutions.

Land Conservation:

- (1) Improved soil and water management practices especially in irrigated areas;
- (2) Conservation tillage for better moisture utilization, improved soil conditions and fertility; and
- (3) Improved agronomic practices in the use of leguminous crops to maintain soil fertility.

Policy Dialogue:

- (1) Involving government officials in policy workshops, and enabling them to appreciate the need for priority action to promote agricultural development, food security, reduce poverty, and improve the living standards of small-scale farmers; and
- (2) Enlisting support from government and civil society organizations to address issues that may impede/retard as well as those that may accelerate the agricultural sector growth and development.

Component 2: Institutional Support for Technology Production and Adoption

- (1) Assist private sectors to develop marketing strategies for input marketing (village stockists and farmer's associations);
- (2) Link farmers with market sources especially for cash crops (cocoa, coffee, oil palm, rubber, cashew nut, and fruits);
- (3) Support the introduction of drudgery reduction techniques in crop production and appropriate means of transportation;
- (4) Encourage formation of farmer association and their full participation in the purchase of inputs and produce marketing; and
- (5) Assist farmers to gain access to lending institutions and provide them opportunities to become creditworthy.

Component 3: Capacity-Building

This component would strengthen institutions and develop human capacity in the field-level demonstration, thereby enhancing the expansion, replication, and sustainability of the successful outcomes. The component will support the following activities:

- (1) Routine seasonal training of extension agents (EAs) and farmers for effective technology transfer;
- (2) Organization of visits for farmer groups to research institutes, MTPs with standards of excellence, input agencies, as well as farmers' exchange visits and field days;
- (3) Co-sharing of extension publications with institutions, organizations, and the farmers; and

- (4) Linking academic institutions with sustainable agricultural and food education (SAFE) to develop partnership with a view to reform their agricultural education programmes into more practical and relevant approaches to food security.

Component 4: Implementation Arrangement and Executing Agencies

- (1) A lifespan of the initial phase of 5 years with a second phase of another 3 years depending on performance, and the need for integration with national strategies;
- (2) Implementation would be at village level through district organization of the MA and FS and the traditional leadership of the respective chiefdoms; and
- (3) Executing agencies would include the project coordinator, four provincial directors, fourteen district directors, and the EAs who will be responsible for the monthly and annual planning and execution of project activities in their assigned areas.

Components 5: Project Sustainability

This component would be introduced to prepare the ground for sustainability of all project activities by:

- (1) Committing the grass-roots public sector level in sponsoring EAs and farmer training, as well as field demonstrations and trade fairs;
- (2) Making available inputs to farmers for the establishment of farmers' field schools;
- (3) Providing logistic supports (especially mobility) for the frontline extension staff by the MA and FS; and
- (4) Enlisting the support of input agencies and local government units (LGUs) to sponsor field days for agricultural trade fairs.

HOW TO IMPLEMENT THE ACTION PROGRAMMES AT THE LOCAL LEVEL

Objective/Vision

LGUs, staff of MA and FS, and external agencies working together on the ground must actively involve the pro-poor and build up demand-responsive action programmes for those identified in the target areas as low-income food deficit households to improve their food security through rapid increases in food production and productivity, by reducing year-to-year variability in food production on an economically- and environmentally-sustainable basis.

Approaches — Two Phases

Phase I. Action programmes must provide opportunities to demonstrate and refine proven and promising technologies, and the complimentary approaches should aim at increasing agricultural production and rural incomes among potential target beneficiaries to build their capacity for farmer-farmer experience-sharing as pilot projects before applying the technologies on a much larger scale

Phase II. Is determined by the outcome of phase I and by the need for integration with national strategies and programmes for agricultural development, sustainable use of natural

resources and improved food security. The aim is to build on the achievements of phase I to create the conditions for large-scale replication of development approaches that have proven successful.

Factors to Consider in Phase I

Capacity-building. Farmers and other local personnel are trained and provided with seeds, tools, and the equipment that they need to enhance production.

Participatory constraints analysis and resolution. Distinguishing features in phase I should emphasize participatory constraints analysis and resolution. The aim is to ensure that the appropriate interventions address opportunities and problems identified — with special attention to the empowerment of women — in ways that are adapted to local conditions.

Interrelated and complimentary approaches. In an effort to improve farm output, income stability and system sustainability the pilot projects must focus on four interrelated and complimentary areas of activity: improvement in on-farm water control, crop intensification, diversification of production systems, and constraints analysis and resolution.

Integrated knowledge system management. The balance between these four depends on the local circumstances and the results of diagnostic analysis of the indigenous knowledge for integrated knowledge system management (IKSM) in information technology.

Extension of Phase I

As resources become available to farmers, phase I may be extended in two ways:

- (1) By increasing the number of activities at existing sites; and
- (2) By adding to the number of sites, to create maximum coverage of sites in different ecological and administrative areas

And to ensure replicability in the ongoing pilot project, the costs of all on-farm inputs are met by participating farmers in the extension phase, with repayments going towards revolving funds, while promoting successful outcomes to other farmers for wider coverage in different ecological and administrative areas. No extra allowances should be paid to government staff beyond the standard national rates for travel and fuel.

Formulating Policy Instruments for Phase II

The ultimate aim is to create suitable conditions for large-scale replication of successful outcomes involving four essential elements in the regulatory framework:

Food security and agricultural policy reform. Suitable for integration into the macro-level socioeconomic and institutional reforms;

Agricultural investment opportunities. To overcome infrastructure constraints and social service delivery mechanisms; and

Feasibility study of bankable projects. To stimulate private and public sector financing for agricultural activities and services at the household and community levels

Information technology and data-base management. To develop and document successful outcomes of improved technologies and managerial capabilities for experience-sharing in networking through interactive-governance or i-Governance in research-extension-farmer linkages. Also establish demographic, environmental, cultural and socioeconomic village data-base accessible by target community by building telecentres as

TABLE 6. COMPLIMENTARY COMPONENTS IN PILOT PROJECTS FOR PHASE I

Complimentary Components	Objective-Oriented Activities
Improvement in on-Farm Water Control	(1) Small-scale water harvesting; (2) Irrigation and drainage systems using rainfall, water runoff, small streams, shallow groundwater and simple lifting devices such as the treadle pump; (3) Land development and tillage systems that offer greater resilience to climatic variation
Crop Intensification	(1) Sustainable intensification of crop production systems with the introduction of widely accessible technologies, including the effective use of high yielding varieties, improved cultural practices, integrated pest management and appropriate post-harvest handling, storage and processing technologies, combined with functional marketing and credit schemes. (2) Improve support service delivery systems and rural income by increasing community's capacity to produce value-added goods – such as parboiled rice or smoked fish
Diversification of Production Systems	(1) Diversification of production systems includes aquaculture, small animal husbandry (poultry, sheep, goats, pigs, etc.) and tree crops (2) Special attentions should be paid to post-production activities (post-harvest and value-added food processing techniques)
Constraints Analysis and Resolution	(1) Identify the problems and obstacles that prevent farmers from adopting improved technologies and management practices. (2) Search for practical means to overcome these problems and obstacles, and take action to remove as many of them as possible during phase I operation. (3) Formulate action proposals for the removal of more complex constraints, that is, those requiring major policy decisions or investment, so as to stimulate the widespread adoption of technical innovations during the expansion phase.

alternative means of overcoming the challenges to information openness and the creation of opportunities for an electronic economic community in local development.

CONCLUSION

Responding to food security in the post-conflict local development of Sierra Leone requires empowering the poor to participate in decision making, and to enable their voices to be heard by undertaking efforts to address and commit both human and economic resources to the full range of community-led actions in food availability, access/entitlements, and the biological utilization of food. This requires overcoming formidable challenges and building strong institutions through community-based strategies. Promoting opportunities for community participation would enhance coexistence and develop trust among people to support these efforts. Particularly, to make the extreme poor and vulnerable populations food-secure or to enable them to move out of poverty, there is need for social arrangements to meet their basic needs. Effort to ensure sustainable livelihoods and work-based security

for all needs to be strengthened. Above all, access to land, credit, education, housing, and empowerment of women, are critical. And a way forward to synergize the complimentary areas of activity can be achieved through adequate training for the participating communities together with the provision of inputs and other equipment needed to enhance production and productivity. This is the key to livelihood security. The successful outcomes will restore confidence and enhance people's own capacity for direct and immediate intervention as well as longer-term development policy action to ameliorate food insecurity, hunger, and poverty in post-conflict Sierra Leone.

NOTES

- 1/ United Nations Development Programme (UNDP), *Human Development Report 2000* (New York: Oxford University Press, 2000).
- 2/ National Institute of Statistics (NIS), *Annual Report* (Government of Sierra Leone, 2001).
- 3/ Ministry of Agriculture and Food Security (MA and FS) (2001). (incomplete citation)
- 4/ Food and Agricultural Organization of the United Nations (FAO), *The State of Food Insecurity in the World* (Rome, 1991).
- 5/ W. S. Atkins, *Priorities for a Rural Development Programme Phase 1: Assessment of Policy and Institutional Environment, International* (Brussels: Commission of the European Communities, 1988), p. 12; and International Bank for Reconstruction and Development (IBRD), "The State of Sierra Leone Environment" (Situation Report) (Geneva, 1990).
- 6/ UNDP, *Human Development Report*.
- 7/ *Ibid.*
- 8/ Kofi Annan, "Secretary General Salutes International Workshop on Human Security in Mongolia" (Two-Day Session in Ulaanbaatar, 8-10 May 2000) (Press Release SG/SM/7382, 2000).
- 9/ IBRD, *World Development Report 1990* (New York: Oxford University Press, 1990).
- 10/ FAO, "Assessment of the World Food Security Situation, Report CFS: 99/2" (Prepared for the 25th Session of the Committee on World Food Security, Rome, 31 May-2 June 1999).
- 11/ United Nations, Department of Economic and Social Affairs (UN/DESA), *Report on the World Social Situation* (New York, 2001).
- 12/ World Health Organization (WHO) (2001). (incomplete citation)
- 13/ Amartya Sen, "Global Inequality and Persistent Conflicts" (Paper presented at the Nobel Awards Conference, Oslo) (2002).
- 14/ Commission on Human Security (CHS), *The Commission's Report, Human Security Now: Protecting and Empowering People*. Available from <http://www.humansecurity-chs.org>; accessed 2003.
- 15/ Frances Stewart and Valpy Fitzgerald, *War and Underdevelopment* (Oxford: Oxford University Press, 2001).
- 16/ UNDP, *Human Development Report 2002* (New York: Oxford University Press, 2002); and U.S. Agency for International Development (USAID), Bureau for Humanitarian Response (BHR), Office of U.S. Foreign Disaster Assistance (OFDA), "Situation Report no. 1, Fiscal Year (FY 2001)" (20 April 2001).
- 17/ World Commission on Dams, *Dams and Development: A New Framework for Decision-Making* (London: Earthscan Publications, 2002), p. xxix.
- 18/ World Summit for Sustainable Development (WSSD), Johannesburg, Republic of South Africa (2002).
- 19/ Rachel Marcus and John Wilkinson, *Whose Poverty Matters? Vulnerability, Social Protection and PRSPs* (Working Paper series; no. 1) (London: CHIP, 2002).
- 20/ S. Bah, "Women and Water Supply Development in Sierra Leone," *Journal of Rural Development* 2 (1988):97-109.
- 21/ World of Work, "Sierra Leone: The Terrible Price of Poverty and Unemployment," *Magazine of the ILO, Communication*, 33 (2000).

-
- 22/ National Committee for Disarmament, Demobilization and Reintegration (NCDDR), "Reintegration of Ex-Combatants: Transition from War to Peace — Management of a Complex DDR Process," *NCDDR Situation Report* (Government of Sierra Leone, 2000).
 - 23/ USAID, BHR, OFDA, "Situation Report no. 1, Fiscal Year (FY 2001)".
 - 24/ MAF and MR, *Annual Report* (Freetown: Department of Planning, Monitoring and Evaluation, Government of Sierra Leone, 2001).
 - 25/ MAF and MR, *National Land Survey Report — Provisional Estimates* (Freetown: Department of Planning, Monitoring and Evaluation, Government of Sierra Leone, 2000).
 - 26/ FAO, "Assessment of the World Food Security Situation."
 - 27/ MAF and MR, *Annual Report* (Freetown: Department of Planning, Monitoring and Evaluation, Government of Sierra Leone, 1999); and Government of Sierra Leone, *Policy Paper, Annual Budget Report* (Freetown: Ministry of Finance, Government of Sierra Leone, 1992).
 - 28/ NCDDR, "Reintegration of Ex-Combatants".

ADDITIONAL REFERENCE

Sierra Leone Gazette "Report on Central and Local Governance of Sierra Leone" (Sierra Leone Government Information, Gazette) (12 April 1994).