

FOOD SECURITY IN SUB-SAHARAN AFRICA

"What do you want to be when you grow up? Alive."
- UNICEF African poster, 1985.

"Frustrations and failures will continue to mount if we do not immediately summon the courage to revise the ways we think and take action - as well as maintaining essential services to support life and health...saving hundreds of thousands...who are at risk of dying from malnutrition or infection is an immediate imperative. But it must be only one stage in the progress toward other activities, and one element in the truly comprehensive approach."

- Cheikh Hamadou Kane, Minister for Planning and Cooperation, Senegal, 1985.

"The small boy who breaks a pot goes to tell his mother "It got broken"...And who did this? We did. We broke the pot."

- Flt. Lt. J.J.Rawlings, Head of State, Ghana, 1983.

FOOD SECURITY: A VANISHING GOAL?

In Sub-Saharan Africa today food security at national level is the exception both by country and by year. For twenty years the trend rate of growth of food production has been below that of population. Unless that is reversed in the next drought cycle - if not the current locust plagues - it will result in far more seriously malnourished, epidemic struck and dying people than in 1983-85.

Household food security is even weaker and more threatened than national. Average food availability levels of under 90 per cent of requirements in "normal" years - typical of Sub-Saharan Africa - imply 30 to 40 per cent malnutrition in such years. In the pre-harvest "hunger season" and during drought (or flood or locust years) those levels rise to more than half of all households. With growing populations pressing on stagnant wage employment and onto ever poorer and more drought vulnerable land, the degree and scale of vulnerability and poverty is rising. Further, the overuse of good as well as of marginal and extra marginal land - as well as the increased use of trees and bushes for

fuel, fodder and construction- is speeding up erosion and desertification.

To address national food security requires identifying ways to raise output. To render that security relevant at household level requires making it possible for poor peasant households to grow more food, poor urban households to earn enough to buy food and government to provide safety nets (supplementary feeding and supplementary employment) to support their efforts - especially in bad years.

To do this requires attention to agricultural prices, input supplies, access to buyers, access to incentive goods and access to research. But it also requires attention to basic service. Undernourished, sick, illiterate people cannot work very hard, very long or very productively. Nor can women worn out tending the sick, collecting firewood and transporting water. Because most crop work is in the female side of the gender division of labour and because household self-provisioning (so called subsistence) is predominantly "women's work", special attention to the problems of the typical peasant as she experiences them and as she believes they might be overcome is essential to reversing the two decade long erosion of food security.

SECTION 1: NATIONAL FOOD SECURITY

"National food security" can be defined as a country having adequate assured supplies of food to meet aggregate consumption needs. It involves stability of supplies and secure access to available supplies on the part of those who need them. A distinction can be made between chronic and transitory food insecurity: the former is a continual absence of food security while the latter is temporary, arising because of unforeseen events. The major sources of instability are fluctuations in food production, in foreign exchange earnings and in international food prices. The widely adopted empirical formulation of national food security is as the probability of national consumption of cereals, or,

more broadly, of all basic staples, falling below 95 per cent of trend levels of consumption.

POPULATION GROWTH

World Bank estimates of annual population growth rates in Sub-Saharan Africa for 1965-73, 1973-83 and 1980-2000 are 2.6, 2.9 and 3.2 per cent respectively. In absolute figures, World Bank population projections for Sub-Saharan Africa are 398 million in 1983, 496 million in 1990 and 675 million in the year 2000. Rapid growth rates place a severe burden on agricultural production, an important factor in making food security as a primary objective of policy.

AGGREGATE AGRICULTURAL PRODUCTION

Aggregate agricultural production for Sub-Saharan Africa has increased slowly. Overall, in the past few decades food production for the region has shown annual growth rates of 2.5 and 1.7 per cent for the periods 1960-70 and 1970-82 respectively, while total agricultural production has had growth rates of 2.5 and 1.4 per cent respectively over the same periods. Thus for 1970-82, food production actually did better than non-food production and for 1960-70 did as well, indicating that the problem is one of overall agricultural growth, and not of balance between food and industrial or export crops. However, even food production growth rates were well behind population growth rates, with obvious repercussions on per capita food production figures. Overall trends also hide fluctuations: in 1973 and in 1982-84 there were drops in aggregate production levels from previous years.

Between 1970 and 1980 crop area planted showed a slightly upward trend overall. Fluctuations in yield were therefore the main determinant of total levels of production. Since 1981 crop areas planted have fallen, accentuating falls in yield.

World Bank indices of per capita food production for the period 1961-65 to 1983 show increases for Latin America and Asia but decreases for Sub-Saharan Africa. Between 1969 and 1973, a period of drought in the Sahelian belt, there were severe declines in per capita food production. Again after 1981, there were severe falls in annual per capita food production, until a levelling off in 1984. 1985 showed a recovery: in some countries record production levels were recorded in 1985 and 1986 and overall Sub-Saharan Africa had a coarse grain surplus. Such rapid swings between deficit and surplus domestic production levels have important policy implications and indicate a very strong need for policy flexibility, especially since surpluses are very costly, almost unsaleable commercially and dependant for use on uncertain triangular food aid.

PER CAPITA FOOD AVAILABILITY

National food security depends on total food availability, including food imports and exports and food aid. Commercial food imports to Africa have increased significantly since the 1960s. Average annual imports of cereals were 1.8 million tonnes in 1961-63, 2.35 million tonnes in 1969-71, 8.7 million tonnes in 1980-82 and over 13 million tonnes in 1985.. In 1984-85, imports of cereals were equivalent to over 20 per cent of domestic production. Since 1979/80 there has been a rapid rise in food aid. Cereals aid increased from 1.6 to 4.9 million tonnes in 1984/85, before falling sharply in the current year.

Per capita food availability: Per capita grain availability fell from 147.9 kg in 1981/82 to 123.4 kg in 1983/84. However, in Sub-Saharan Africa root crops as well as cereals have a high dietary importance and so should be considered too. In recent years the ratio of average calorie availability to the FAO/WHO basic requirements standard has fallen to 80 per cent in many Sub-Sahara African countries, and in some to under 70 per cent. With 1984-86 recoveries in production these figures have increased in most countries, but in a majority remain below 95 per cent. (1).

AGRICULTURAL POLICY

In most Sub-Sahara African countries the agricultural sector as such receives less than 10 per cent of government expenditure and 20 per cent of foreign aid; and even including public services and infrastructure only 30 to 40 per cent, well under its 60 to 75 per cent share in population. Sub-Sahara African government food pricing policies have often held grower prices down in a, usually unsuccessful, effort to ensure low urban food prices. This has effectively diverted trade away from official channels, which on average handle perhaps 5 per cent of domestic food production (with 75-85 per cent consumed by producers and 15-20 per cent marketed privately). Grower price and exchange rate policies have had much more severe effects on export crop production. Foreign exchange problems and lower government revenues have directly affected agriculture. Farmers have been poorly supplied with inputs and have faced shortages of even the most basic consumer goods.

IMPORTANCE OF THE AGRICULTURAL SECTOR

In Sub-Saharan Africa agriculture accounts for 50 per cent of GDP, 80 per cent of employment and 90 per cent of foreign exchange earnings. Thus it is important not only as a source of food but also as a means of livelihood (and thus ability to purchase food) and a means by which to acquire basic imports that cannot be produced in sufficient quantities within the country.

In Sub-Saharan Africa the urban population was on average 23 per cent of total population in 1983. Despite urban drift, most increase in population is still in rural areas. This puts further pressure on rural resources and services and intensifies competition for land. In 1986 there were 97 million people accruing agricultural livelihoods; and in the year 2000 there will be about 160 million. Thus not only must more food be provided but rural activities, including agriculture, must provide sufficient livelihoods to allow many more people to obtain sufficient food intake.

SECTION 2: POVERTY AND FOOD

HOUSEHOLD FOOD SECURITY

"Household food security" can be defined as a household having assured sets of entitlements - from food production, cash income, reserves of food or assets and/or government assistance programmes - such that in times of need they will be able to maintain sufficient nutritional intake for physical well-being. Chronic food insecurity is a continuously - or seasonally - inadequate diet caused by a persistent failure to acquire adequate food. Transitory food insecurity is a temporary decline in a household's access to enough food, resulting from instability in food prices, food production or household incomes.

There are three important elements determining household security: the average level of household income, the magnitude and probability of seasonal and annual fluctuations around this average and the value and form of stocks a household can maintain. Poorer households have more difficulties in attaining positions of food security because their lower incomes both inhibit the building up of stocks and are often more subject to major fluctuations.

INTRA-FAMILY FLOWS AND THEIR IMPACT The distribution of resources, including food, within a household is highly inequitable. Men often eat before women and children; and women may eat an entirely different and far less nourishing diet. In times of hardship men come first, then boys, then girls and finally women, albeit in famine conditions adults and older children all seem to come before younger children. But although severe malnutrition has an obvious impact on health, such as through increased vulnerability to disease and parasites, and therefore on productivity, it is very difficult to measure economically the impact of less severe malnutrition. (2)

STRUCTURAL AND SEASONAL POVERTY

Poverty can be defined as the inability of a household to meet basic food requirements and other basic needs. Seasonal poverty refers to poverty arising as a result of seasonal stress. Structural poverty refers to poverty arising as a result of prevailing patterns of production, employment and resource allocation. In Sub-Saharan Africa these two types of poverty are closely interlinked and mutually reinforcing.

Poverty has neither rapidly nor consistently declined in Sub-Saharan Africa. Rather, the level of poverty has risen since 1979 in a majority of Sub-Saharan African states, contrary to popular images fostered by the media. With the exception of heavily drought or war affected rural areas, the most marked increases of poverty appear to have been in urban areas where the poor have now become worse off than the majority of rural people. In most Sub-Sahara African countries the net resource flow is now urban to rural. Rural absolute poverty has grown unevenly. Those most geographically isolated and with less political, economic and social power have suffered more in terms of production and service access. There has been a failure of productivity increases to become accessible to the poorest 20 to 25 per cent of peasant households.

Effective food prices have risen relative to wages and usually to other consumer good prices but this has not really helped the poorest groups of rural people because of stagnant or falling outputs. Agriculture provides most of the self-employment and subsistence livelihoods but in recent years (until 1985/86) there has been a decline in agricultural output and so in productive agricultural employment. These hit the poor the hardest because they are the residual workers, and so are the first to get laid off, and producers on sub-marginal land, who are most affected by climatic savings and/or declines in input availability.

Traditional mechanisms for coping with seasonal stresses in Sub-Saharan Africa are being eroded by population pressure and vulnerability is increasing (3). Increased vulnerability implies increased poverty.

Without poverty seasonality would not threaten food security (4). Measures must be taken to reduce poverty and to strengthen coping mechanisms to seasonality so that vulnerability does not rise further.

SECTION 3: AGRICULTURE

PHYSICAL CONDITIONS

In most of Africa temperature and day length are well suited to agriculture. Most arable land is rain-fed, with less than 5 per cent of it being under irrigation in most countries. Agricultural production is highly vulnerable to variations in rainfall: the high variation in production both between areas and within areas between seasons are largely a result of moisture levels. The soils in Sub-Saharan Africa are generally considered to be of poor quality and delicate. Most African traditional agricultural systems are "land-intensive", with a long tradition of clearing cultivation and long fallow periods. Manure and off-farm inputs are not widely used. Yields per hectare of staple crops are lower in Africa than in other developing areas.

In much of Sub-Saharan Africa population pressure is increasing, leading to more intensive land use, smaller holdings and the pushing of poorer people onto extra marginal (ie, poor soil and/or higher weather risk) land. This is in turn causing erosion, loss of topsoil, deforestation, soil compaction and soil nutrition exhaustion. Deforestation and over-grazing in particular lead to desertification. In determining future food security policies, further studies need to be made of the human carrying capacity of the land. According to the FAO, in a majority of countries with a majority of the population this is, or by 2000 will be, below actual population, unless significant technological breakthroughs are achieved.

AGRICULTURAL RESEARCH

Little immediately applicable new technology that could substantially increase the productivity and profitability of smallholder farming in most of Sub-Saharan Africa exists. Rates of return to agricultural research have been very large in other parts of the world, but not so in Sub-Saharan Africa. By developing world standards, Sub-Saharan Africa is spending heavily on agricultural research. This research is being supported by fairly widespread extension and by international research centres. The researchers are well qualified, and there is substantial foreign involvement. There has been a rapid increase of national public-sector agricultural research outlay coupled with a deacceleration in agricultural growth. Agricultural research will only see substantial returns if the factors inhibiting its success are overcome.

One problem is that most research stations are much smaller than the optimal size with poor communications between stations, high diversity of agriculture and language specificity between countries, and shortage of administrators. Improvements in organisation and management offering more career structure, recognition and financial reward need to be taken to reduce staff-turnover rates. Agricultural research should concentrate on areas that have shown response.

Agricultural research must be relevant to local conditions, crops and practices for satisfactory uptake and response levels. In Sub-Saharan Africa, there has been a strong bias shown toward export crops, richer people's products, to crops grown in the more favourable climatological regions and to large scale input intensive systems. The normal "transfer-of-technology" model for agricultural research is biased, favouring better off farmers in a position to replicate conditions of research stations.

The severe foreign bias of agricultural research in most Sub-Saharan African countries is not only costly in itself but also means that career incentives are far less for nationals because foreigners take the top jobs. One way of increasing the relevance of agricultural research

and of saving on imported exports is to combine agricultural research with other socio-economic research. Labour market circumstances, household structures, consumption patterns, supply and marketing arrangements and seasonality as well as the farming system are all important in determining farmers' behaviour and response to agricultural research. Interdisciplinary research provides far more understanding of current practices and needs of farmers, especially of basically household provisioning ones. It leads to greater recognition of the expert knowledge of the peasants themselves about their problems, strategies and priorities. Researching farm systems, as opposed to individual crops, makes output of agricultural research better suited to specific needs.

Reliable, up-to-date information on food and agriculture at aggregate and regional levels -and a public policy system that can use it- are fundamental to effective agricultural policy including directing agricultural research towards the areas most in need of it. Also, in measuring agricultural output, attempts must be made to estimate the quantity and value of household self provisioning and locally traded production for domestic consumption. All innovation involves a degree of risk. The poorest are - quite rationally - the most risk averse, with cautious or sceptical reactions to suggestions for technical improvement, especially where founded on unreliable information with a high risk factor and where - as is usual in Sub-Saharan Africa - past advice has been wrong. Risks for different groups in different areas should be assessed to devise appropriate agricultural policy strategies. In low risk well served areas agricultural production could possibly be best increased by improved access to inputs and agricultural know how; while in high risk areas agricultural policy should concentrate on reducing vulnerability.

Women form 60 to 80 per cent of the agricultural labour force in Africa and are responsible for 80 to 90 per cent of household provisioning. But, particularly in the past, their agricultural role has been "invisible" (5). Traditionally male tasks, such as clearing and plowing - not weeding, tending and harvesting - have been given higher priority

by agricultural research and technological innovation. Some technology has actually increased the unremunerated workload of women and made competing demands on their time and energy. Women have been deprived of information and access to inputs and are excluded from planning and implementation of projects. And these biases have accentuated the invisibility of women, especially given the marked, complex gender division of labour by task, production and household provisioning or sale orientated activities. One group particularly affected by such biases are female headed households, which comprise a large proportion of the poorest and the landless. Agricultural research and appropriate technological innovation needs to concentrate more on women's activities, on staple crops grown predominantly by women and on household provisioning aspects to the peasant household economic units.

INCREASING FUTURE AGRICULTURAL OUTPUT

For agricultural research and agricultural policy to be effective they must stress smallholder food production. Within this group the poorest most vulnerable people must be identified and measures taken to help them produce more. Particular attention must be paid to the production of food crops for domestic consumption, especially root crops, plantains and coarse grains which form the bulk of the diet of the poorest people.

Sub-Saharan Africa's rapidly increasing population leaves little alternative but to attempt to make progress with the higher yielding varieties (HYVs) and their associated package of inputs. But most HYVs now available depend on a number of accompanying inputs to produce significantly higher output (6). New seed types and farming methods must be field tested to suit local needs. Because of variable rainfall in most of Sub-Saharan Africa, water management systems are urgently needed with emphasis on micro-irrigation. One of the major requisites for the success of agricultural research in Sub-Saharan Africa is the development of water resources. The availability and promptness of arrival of tools, fertilisers and other agricultural inputs is also important. Small farmers - now largely orientated to household

provisioning - will only be able to afford these inputs if they are free/subsidised or if means are provided by which they can increase their incomes, e.g. by raising output enough to have a surplus to sell after feeding their families (her family) adequately.

INSTITUTIONAL PARAMETERS

Land tenure, credit and marketing are regularly raised as institutional structures hampering agricultural production in Africa. Unfortunately to date - especially for small farmers - the "reforms" have tended to worsen, not improve, the context in which they have to operate.

Land tenure in Africa is very diverse. The least uncommon form is communally (by chiefs or councils) allocated secure user rights which are heritable but not - or not freely - transferable. While a very bad system for a creditor who wants to foreclose or to force a land sale, this system is quite compatible with user investment in improvements and concern for ecological soundness of her or his practices.

Problems have arisen in adapting these systems to increasing population - under such conditions they may give rise to very small fragmented holdings. Where the allocation process has become subject to elite manipulation, substantial inequality of holdings (especially as to quality) has arisen as well as a "land mining" pseudo capitalist kulak farmer pattern based on ability to abandon ruined land and to secure new (mis) user allocations.

Attempts to consolidate holdings, increase transferability and/or introduce modified freehold tenure have virtually without exception increased inequality and landlessness - but do not seem to have had any comparable effect on productive investment or output. Kenya is an example. Mixed individual user right/communal use systems in grazing have also tended to have unfortunate access of poor and ecological results not envisaged by their designers (e.g. Botswana).

Reassessment is needed of the traditional household or community user right system (and of the security of female rights to land for provisioning production within the overall allocation) and of how it can be adapted to relate to denser populations, more female headed households, less frequent moves to new land and the need to facilitate increased peasant productive investment. This is - in many cases - more likely to be consistent with production, as well as of protection of the poor and vulnerable, than somewhat artefactual importation of freehold systems already under severe criticism in their countries of origin.

Credit is by no means a universal problem to African peasant farmers; and when it is, the problem is as often too much ill-directed credit (leaving debts and not much else) as no access to needed funds. Credit for seasonal inputs is frequently available. The timeliness of loans approvals and especially of input supply is frequently much less adequate. Long term credit is less available but also plays a smaller role in even fairly large peasant farm development.

What is frequently absent is emergency (funeral, wedding, illness, birth, crop failure, house fire) credit. Like other aspects of social security in Sub-Saharan Africa, it is often the case that old communal or family systems have weakened or disintegrated with no adequate modern successors or complements. Here the most realistic route ahead would be strengthening existing and creating more modern and/or adapted traditional community or small group savings and credit societies. In some cases and areas these are already important so that a "grass roots" exchange/technical cooperation/extension orientation would seem to be indicated.

The counterparts of somewhat inadequate and certainly low use of credit have been high levels of non-repayment and - in general - absence of crippling debt burdens. The former is a problem: if loans (except on an agreed basis in cases of disasters) are frequently not repaid, credit will cost more or dry up. The latter - which relates to the great difficulty of seizing or forcing sale of assets to recover a loan - is clearly a blessing.

However, debt burdens are rising. With the loss of the land frontier, the need to stay put arises and does help creditors exert pressure as a fortiori do "reforms" toward free transferability of land. Even more serious are certain managed smallholder and, especially, irrigation schemes. These frequently do not result in enough output to cover capital cost service, central operations and adequate peasant incomes (usually ranked in that arguably perverse order of priority). As a result, many supposedly independent peasants on them (notably in West African large scale irrigation schemes) are in practice debt bonded sharecroppers. The cure would appear to be twofold: not to embark on such schemes without greater evidence of viability and, second, to give adequate peasant income absolute priority in allocating proceeds of production (perhaps underwritten by greater allocations of land within such schemes for household self provisioning).

Marketing in Sub-Saharan Africa costs too much relative to grower or export prices. This is not, contrary to popular impression, either a new phenomenon or unique to the public sector. Payments to actual growers of 25 to 40 per cent of retail or export prices (less in areas either remote from markets or off main roads) are documented for the 1930s and 1940s and for the private sector. To the grower (or consumer) it matters little whether the low (high) price results from inherently high transport costs, oligopolistic profits or incompetent management and overstaffing.

The lines of attack on this problem would appear to be:-

- a. improved transport - more roads (including less gaps in or closures of main highways) closer to farmers combined with more servicable vehicles - to lower costs;
- b. more competition - i.e. multiple buyers and channels (public, private or mixed) accessible to growers - to improve the grower's bargaining position;

c. reduction in excess personnel, transport and storage costs of public marketing bodies (in one case such a board has 110,000 wage employees of a national total of under 500,000 - at a charitable estimate 15,000 to 20,000 are needed for all its functions including extension and processing).

For industrial and export crops single channel official marketing combined with unrealistic exchange rates and (in some cases) transfers to the state have caused substantial long distance smuggling and/or shifts to other crops. For food crops the situation is radically different except in a handful of cases. First, contrary to popular impression, only about 5 per cent of Sub-Saharan Africa's domestic food production (15 per cent grain, near 0 per cent root crops, 2 to 3 per cent other calorie sources) passes through single channel public sector marketing. Second, if free market prices are well above official prices, it is normally easy to bypass official channels and sell at the free market price. It needs to be remembered that relative to wages and in trend terms Sub-Saharan Africa in general has dear, not cheap, food. Only if the state can both subsidise urban food prices and import the food to meet demand (a rare case since 1980) can domestic food prices really - as opposed to on paper - be depressed.

Similarly, many "reforms" do not attack real causes or actually make them worse. In Zambia the supposed opening of the market has to date had parameters virtually guaranteeing that nobody will go to peripheral areas to buy from smaller growers. In Tanzania the circle from frequently unaccountable, inefficient co-ops to slightly less unaccountable, cost guaranteed (whatever the level) co-ops hardly seems to address accountability to peasants (or consumers), general cost control, over-staffing or transport cost levels.

The quadrilateral of transport cost reduction, general public sector cost control, accountability and alternative market access by growers needs to be seen as basic. The instruments will necessarily vary, but the broad parameters within which a solution can be found are more general.

SECTION 4: SUPPORTING SERVICES TO FURTHER FOOD SECURITY

Rural development cannot be sustained without sustained food security. But, equally food security cannot be achieved without rural development: certain basic goods and services not directly related to agricultural production enhance people's ability to achieve a position of food security as much as direct increases in their food security. For example, improved health increases labour productivity; and increased education and training opens up more opportunities to earn supplementary income in slack agricultural seasons as well as increasing agricultural innovation and productivity.

The deterioration of many Sub-Sahara African economies in the later 1970s and early 1980s has placed extreme pressures on public finances. Public service provision has then fallen as a result of both budget stringency and foreign exchange shortages. Private trade of basic goods has been similarly affected. Often buildings, equipment and staff have been maintained but with inadequate supplies, maintenance, and transport facilities to operate. Together with falls in staff salaries' purchasing powers, these cuts have created a demoralisation and rapid staff turnover. This has added to the decay of services, with falls in quality as well as quantity of public services supplied. The decline in services has had most severe impact on the poorest in isolated rural areas, in urban slums and in areas with high population growth (and so rapidly increasing demand for services). Access of the poor to health and education has also been negatively affected by the raising or reintroduction of fees for basic services.

Policy emphasis should now be aimed at reductions in new fixed investment and restoration of recurrent expenditure, to increase capacity utilisation and improve quality and reliability. Provision of non-food basic goods to rural areas should also be expanded to act as an incentive in stimulating food production for sale.

AREAS WHERE SUPPORTING SERVICES COULD IMPROVE FOOD SECURITY

The extremely high rates of population growth in Africa are a major impediment to the achievement of food security, at both a national and household level (7). But it is often in the interest of the poor, in short term household economic terms, to have large families because the economic benefits accruing from them (in terms of work done) outweigh the economic costs. Factors important in reducing the desired number of children a couple wants are education, especially of women, improved status of women and reductions in child mortality rates (via improved maternal and childcare services and health services generally) and - where the other factors are present - family planning.

Better health and nutrition increase productivity and improve children's learning ability. Most health expenditure has been put into urban care, with modern, capital-intensive projects favoured. Aid donors have supported this preference. Rural areas and preventive measures have received far less attention. Recent cutbacks have tended to hit rural and recurrent expenditure most severely (8). There is also an unequal distribution of health care at the household level, with women receiving less (9) and having to care for the sick and take them to clinics on top of their other workload.

The emphasis of health and nutritional policy should be on community-based primary care, especially in rural areas. Specific mother and child health care and nutritional programmes are important in improving the intra-household distribution of health care and food. Immunisation programmes against major communicable diseases and oral-rehydration treatment are also priority areas. Access to safe and adequate water supplies is important both because of the effect it has on the improvement in health and because it reduces the amount of time women and girls spend in collecting water. This time could then be productively employed in another activity.

In the past two decades literacy rates in Africa have more than doubled, although female literacy rates are still about half those of male except

in countries with very high rural literacy levels. Primary education, especially of girls, is one of the best investments in the improvement of health and nutrition and in the reduction of fertility rates. There is now evidence to suggest that the level of enrollment rates may actually be falling. Policies of increased expenditure on primary education and of sufficient allocation of budgets for recurrent expenditure must be implemented.

Increased demand for fuel as population continues to grow is affecting soil productivity as deforestation continues at an alarming rate. Also, collection of firewood is another even more time-consuming female burden. Reforestation programmes must be adopted, with incentives to keep trees alive once they are planted.

To reduce fluctuations in total incomes, and thus improve food security, seasonal and drought period employment schemes are needed. Labour should not be diverted from essential agricultural tasks: rather alternative employment should be fitted around these.

The cost and difficulty of access (transport) to many rural areas impedes the pace of rural innovation, incentives to market output and access to basic goods and services. The network of rural roads must be improved. The importance of recurrent expenditure needs to be stressed: in the past, government and donor agencies alike have preferred show piece investment in major roads rather than investment in rural roads or expenditure on maintenance. However, contextual analysis is needed - in some cases state rehabilitation of main highways combined with peasant construction of feeder tracks with assistance on bridges would seem likely to yield the best results.

Storage in Sub-Saharan Africa has had higher annual percentage losses (ranging from 2 to 16 per cent) in recent years, especially in central and regional warehouses. Resources need to be put into smaller, less capital intensive local stores and into helping raise the efficiency of household storage which is very uneven. This would reduce costs of

storage, increase food security and reduce seasonal peak demands on already overstretched transport systems.

Changes in domestic exchange rates between wages and goods and among different goods are a major cause of food insecurity. Poor people are often the most severely affected by them because when food production levels are low they have the smallest stocks of food and so have to buy food at increased prices. They are also the first to sell their assets - especially livestock - in times of food shortages, facing falling prices for these as more and more of them enter the market which richer people less vulnerable to seasonal fluctuations can exploit by accumulating these cheaper assets. Movements in terms of trade could be counteracted to some extent by government intervention to secure fair rates of exchange, through price interventions and possibly through supply of food into local markets at times of food supply difficulties and also food relief or food for work programmes when rural purchasing power as well as food production is eroded.

SECTION 5: REGIONAL ROLES IN REACHING FOOD SECURITY

Food security in Sub-Saharan Africa could be strengthened if addressed regionally. Substantial actual or potential complementarity exists among neighbouring countries and climatic zones. In West Africa medium to long distance interstate food trade is large - albeit largely unrecorded. In Southern Africa (excluding South Africa) it could be, were means to finance flows from structural deficit states to be devised and implemented.

In drought years the potential for regional action to increase food security is even greater - especially if regional or national reserves have been built up in previous good years. In both Western and Southern Africa substantial triangular food aid and lesser volumes of commercial sales were made in the early 1980s and again in 1985/86 to the benefit of both the surplus and recipient states. The barriers to broader use of

this avenue - like those to formal, recorded intraregional commercial food trade - are primarily logistical (transport), institutional (marketing and pricing) and financial (scarcity of foreign exchange on the part of buyers and export credit finance on that of sellers). None is insuperable but none is likely to be resolved without serious priority being given by a functioning regional organisation.

The Southern African Development Coordination Conference (SADCC) has made food security a priority sector for action and sought to implement it. Its related transport programme has begun to reduce logistical problems; and a financial and marketing facility to institutionalise partly existing triangular food aid and commercial transactions is nearing adoption. The trade sector programme - stressing two-way, roughly balanced expansion of trade - may also have a positive impact in this respect.

SADCC's experience shows other areas in which regional efforts can compliment national efforts toward food security. These include coordination of research on key crops - in this case millet, sorghum, groundnuts and grain legumes - as well as providing modalities to pool and exchange research results more generally. Animal disease control - and potentially crop as well - has proven to be an area profiting from multi-country action, as have agro-meteorological early warning systems. Initial pilot projects in erosion control, reforestation and fuelwood production/use in several states are expected to be of value to others and to have a genuine spin-off impact.

These initial results or indications of probable results led the OAU at its 1985 Summit Conference to advise all regional (subregional) cooperation/integration bodies to study the SADCC experience with a view to more effective action in respect to food security in their own programmes. It also commended to their attention SADCC's emphasis on coordinated national and complementary regional activity with national personnel (not regional secretariats) dominant at all operational and decision taking levels.

SECTION 6: INTERNATIONAL MEASURES

INTERNATIONAL FOOD SECURITY MECHANISMS

There are two types of international food security measures. Firstly there are measures to reduce risks to national consumption from the international market or from instability in concessional flows, especially for countries significantly dependent on international trade for food security.

Such measures include stabilisation of primary commodity earnings and costs through long term contracts of purchase and through international price agreements which reduce inter-year fluctuations. Policies directed towards the achievement of national self-sufficiency would protect countries from international instabilities, and so could possibly reduce chronic food insecurity. But this is not necessarily so: it depends on the effect of self-sufficiency on food prices, on incomes of the poor and on the availability of food to disadvantaged groups.

The other type of international food security measure is actions which provide finance or commodity support to reduce the costs to governments of national food security interventions. These include finance for the maintenance of food stocks, interventions in the market, provision of services and basic supplies which promote food security, agricultural support, improvements in absorptive capacity (in terms of port facilities, road, rail, vehicles etc.) to facilitate movement of food, administrative support and the collection of information on the food in/security position.

International agencies should direct resources to areas that raise food security at the household as well as the aggregate level. A clearer indication of donor commitments in these areas is needed, including an increase in longer-term commitments which cover unmet recurrent expenditures after initial investment is carried out. Government economic planning is made very difficult when there is uncertain

knowledge about precise future donor commitments. Also, greater cooperation is needed between governments and donors, governmental and non-governmental, to ensure that their assistance measures complement rather than undermine the others.

FOOD AID

Food aid is normally divided into emergency and developmental assistance. This distinction may be useful to separate transitory and structural elements in food deficits of developing countries and to reflect a difference in administrative procedures. However, it leads to ineffective use of emergency aid in ways less than optimal in restoring production and development.

Emergency food aid is supposedly a rapid response to requirements of a natural or man-made disaster. Emergency food aid when late and badly planned so that peasants have been driven from their land before it arrives involves the direct distribution of food to refugees in camps or to displaced persons. Where genuinely timely it can, via supplementary feeding, rations or work for food employment, help peasants stay on and rehabilitate their holdings. It also flows into government marketing systems as non-project and budget support food aid. All aid should be used in ways which allow farming households to remain on their farms. It should have rehabilitation, reconstruction and development as its underlying, if not most immediate, objectives.

Food aid for promoting development falls into one of two categories: non-project or programme and project food aid. Programme or Non-project food aid is the largest category of food aid globally and to Sub-Saharan Africa in most years. It is provided by the bilateral donors directly to governments. Governments then sell commodities through their internal marketing system or provide rations to particular groups of the population. In lean seasons this can be an important form of income transfer because it may prevent poor households having to sell food or other assets. A recent important development has been that of food-

security projects, in which grain is stored by governments under a longer-term agreement. These reserve stocks are used in times of acute shortage or for price stabilisation. This is programme assistance within a longer-term agreement, although it can play a role in preventing transitory as well as structural food insecurity. Project food aid involves the direct distribution to pre-identified groups or beneficiaries within long term projects. These can include agricultural and rural development projects, over 90 per cent of which are food-for-work or work for food financed from food sales. Such projects should be aimed at overcoming food insecurity problems, at national and household level, through the output of the projects, including creation and operation of supporting services, as well as through the guaranteed meeting of more immediate food needs. The other major direct project use of food aid is in nutritional improvement programmes, feeding vulnerable groups such as small children, nursing mothers and school children.

VOLUME OF FOOD AID: PAST AND FUTURE

During the early 1970s Sub-Saharan Africa received 5 percent of world food aid, by 1985 over half. Cereal food aid was 1.4 million tonnes in 1979/80 and 5.0 million tonnes in 1984/85. Emergency food aid grew, in 1984/85 forming 51 per cent of that total. Absolute values of project and programme food aid have also increased overall.

All of the various exercises in estimating future food aid requirements predict that food aid requirements will be high in years to come. This increase is largely due to the failure of food production in Africa to match population growth, to the limited capability of low-income food deficit countries to finance commercial food imports and to the need for balance of payments support, whether in cash or to substitute for otherwise commercial imports..

PROBLEMS WITH FOOD AID AND IMPLEMENTATION STRATEGIES

The impact of food aid, especially on the agriculture of recipient countries, is a subject of much controversy. When food aid represents additional food imports there is the greatest potentially depressive effect on domestic prices and production. But the fall in prices will increase demand; and the increase in supply - as well as the price decrease - may be highly desirable in times of acute food shortages. This effect is maximised when the government intervenes and targets food subsidies rations to low-income households. If food aid is used to create employment in areas of high cyclical, seasonal or permanent unemployment then there are possible multiplier effects on the rest of the economy. Additional food will also constitute additional government budgetary revenue to relieve budgetary pressures. The effect depends on how the government spends the additional revenue. However, there is a danger of fiscal dependence on food aid. Also, reliance on concessionary food imports could reduce the priority accorded to agriculture in government policy.

When food aid represents substitutes for commercial imports, this constitutes balance of payments support. Its effect then depends on government policy. The freed foreign exchange could be spent on critical imports (oil, agricultural development equipment etc.); wastefully on armaments and political follies; to avoid adjustments in exchange rates; to reduce pressures to increase domestic food production. There are no direct disincentive effects through prices.

Food aid has some other potential effects too. Firstly, it may lead to a change in tastes (especially to rice and wheat) and so create a permanent dependence on imports. Secondly, free imports from outside Africa can discourage regional trade, it hampering use of African country surpluses to meet neighbouring country deficits.

The overall effect of food aid is disputed. Very few African countries have been receiving food aid on a significant scale over an extended

period of time. There is a predictable continuing, but variable, demand for emergency food aid in Sub-Saharan Africa. The supply of food aid for other purposes should be expanded but in the context of national or regional strategies, linking it to longer-term development.

Food aid must be linked to a food strategy policy, both for handling immediate food deficits and for promoting longer term self-sustaining development in the context of the African designed 1986-90 programme for recovery. It is particularly important for emergency assistance to have explicit and intimate linkages with development strategies. Rural projects supported by food aid must appropriately sustain long-term benefits with greater involvement of local communities in the planning and implementation of projects. Where food aid is sold the local currency proceeds should be used within the framework of national development strategies defined by governments and acceptable to donors. Ways in which food aid can assist structural and seasonal adjustment need to be examined. Food aid should be more closely linked with financial aid in order to provide complementary inputs for rural services including research, health, water and education as well as crop and livestock production.

One limitation to use of food aid is that at the country level the amount and type received in any year is difficult to predict (10). To be a dependable input into planned development food aid receipts must be projected for several years ahead or cash alternatives guaranteed (as the EEC is now beginning to do) if physical food becomes inappropriate. Donors should make multi-year forward commitments as to the volume and timing of non-emergency deliveries. Also, recipients should specify the policy and programme framework within which food aid will be used. Methods of assessing requirements need improvement, with assessment of food aid needed to meet structural deficits carried out on a multi-year basis. Closer consultation, information sharing, coordination and collective action among all parties concerned with food aid need assessment and use require a consultative forum at national level. There must also be increased flexibility in donor - and user - regulations and procedures governing food aid.

The full cost of food aid (including packaging, transport, handling and so on) is usually an additional 50 per cent of commodity costs. It may be more cost-effective for donors to acquire commodities within Sub-Saharan Africa and move them between deficit and surplus areas between and within countries. More importantly this would provide Sub-Saharan African surplus food producing areas with a market for their output; and promote the development of integrated national and regional food markets. Donors should cooperate more frequently with African governments to facilitate such triangular transactions of food aid, taking account of potential difficulties as well as of potential benefits.

Lagged response is a major problem in the use of food aid to meet transitory food insecurity problems (11). International and regional stocks could be held on a temporary basis to meet immediate emergency needs while other processes of meeting emergency needs were being set in motion.

INTERNATIONAL SUPPORT FOR AGRICULTURAL RESEARCH

Internationally agricultural research should feed into national agricultural research as discussed earlier. The emphasis of such international research for Sub-Saharan Africa needs to be on increased production, especially by poor people. It should concentrate agricultural research on crops widely grown and consumed in Sub-Saharan Africa - sorghum, millet, maize, rice and roots and tubers; and on input and technique patterns feasible for African peasants. International research stations can play an important role in adapting their own direct experiences of successes and failures in agricultural research in Asia to Sub-Saharan Africa. Their transfer of research experience to a different area should cut costs and save time.

SUMMARY

- 1.) Food security in Sub-Saharan Africa has - for most countries and most vulnerable groups - been eroding for up to twenty years.
- 2.) The agricultural sector has often received a low proportion of state expenditure directly and taking into account supporting physical (eg, roads) and human (eg, health) infrastructural expenditure. And much of that expenditure has had low or even negative results.
- 3.) Food security has eroded both because of overall food output growth below that of population and because increasing numbers of poor or affected vulnerable households can neither grow nor afford to buy enough food.
- 4.) Basic human services (health, education, pure water), non-farm income opportunities (including processing) and access to inputs, transport, markets to sell on and goods to buy are crucial to food production. If access is universal they are also key to poor and vulnerable household and group (especially female headed households and women and children) food security.
- 5.) Regional and international cooperation can increase food security now and enhance development (including food production) potential. But the opportunities for use of surpluses within sub-regions and of food aid to enhance either household food security now or its development are not being adequately explored or utilised to date.

RECOMMENDATIONS

- 6.) Raising the production possibilities open to the rural poor (especially female headed households) should be seen as central to increasing household and important to raising national food security levels..
- 7.) Agricultural research, extension and input supply as well as physical infrastructure and basic service provision should be reorientated to address the needs of peasant households, and, within them, of self provisioning production of food which is predominantly a female tasks in most areas of Sub-Saharan Africa.
- 8.) The need to address household needs and potentials (including non farm income and reducing women's wooding, watering and caring for the sick workload) not just single crop production levels should be central to agricultural/rural research policy and resource allocations.
- 9.) Ecological security, population and food security should be seen as interlocked - rising population pressure and unchanged techniques force practices which erode, deforest and lead to desertification; thus their reversal depends on making it possible for poor peasant households to meet present food and income security needs without destroying their future.

10.) Regional food security initiatives - including agricultural and nutritional early warning, coordinated research and intraregional trade and triangular food aid should be given priority attention (as, e.g., they are in SADCC) while food aid should be seen in a coherent context of rebuilding food security through rehabilitating and expanding peasant production capacity and worker incomes. .

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NOTES

(1) Statistics are fairly reliable only for the formal traded portion of output. Food production statistics are prone to large inaccuracies because on average 75 to 80 per cent of food produced is consumed by farming families or traded locally. Errors frequently arise in trying to assess total levels of production through surveys. Government regulation of agricultural marketing has in some cases encouraged the growth of parallel black market activities. Some health and nutritional indicators also suggest that per capita and total food production has not fallen as much as official statistics indicate.

(2) However, certain facts are apparent. First, rural women often do heavier physical work than their male counterparts, as well as having further physical needs because of menstruation, pregnancy and lactation. Thus they need higher levels of nutritional consumption. Low nutritional intake has obvious effects on the health of women; and since women's activities largely determine the nutritional intake of the whole household, via their household provisioning agricultural operations, it effects the nutritional intake of the whole household.

Secondly, severe malnutrition affects the physical and intellectual capacities of children under five years of age. In Sub-Saharan Africa, as in other developing areas, children make a positive net contribution to the household's livelihood and represent a security for older generations in ill health and old age.

(3) Population growth has not been matched by an increase in opportunities for productive agricultural employment (including self-employment). Fallows are being shortened because of rising land-population ratios. There is very little water control, with 3 per cent of Sub-Saharan Africa irrigated as compared to 30 per cent in Asia. Climate is becoming increasingly unpredictable. Markets are often isolated, with low levels of inter-regional (price-compensating) movements of grain. There is a lower proportion of landless or near-landless labourers but also fewer non-agricultural employment opportunities (because of poorly developed rural industries and services) than in Asia. As a result of urbanisation, food aid and agricultural research biases, changes in agricultural practices are occurring, away from older crops and mixed cropping systems towards maize, wheat and rice which all have more seasonal vulnerability to moisture stress.

Traditional complex forms of social relationships which in the past have helped insure against poverty, including various redistributive measures, have gradually been eroded. This is partly due to families having fewer resources to spare as a result of increasing poverty. Opportunities for changing the composition of diets in times of stress to include food stuffs reserved for periods of acute scarcity such as wild shrubs, berries and leaves have gradually been restricted as deforestation (because of intensified land pressure and demand for fuel) has reduced the number of shrubs and trees used for such purposes. A

series of poor agricultural years has left no opportunity for the poor to build up any food stocks and has led to the sale of assets, another form of security against increased hardship.

(4) In Sub-Saharan Africa the hardest hit farmers by the rising trend in the incidence of poverty fall into five categories. Firstly there are the victims of sustained drought and/or ecological degradation whose previous sources of income have been undermined. Secondly there are the, often female headed, households forced onto marginal lands because of land shortages. Thirdly there are those households that are more isolated, either physically or in institutional terms and so suffer first and most severely from disruptions in resource flows. Fourthly there are the small producers who sell a small proportion of their output but are unable to increase or sustain output in the face of falling prices. Lastly there are the three to four million peasant households hit by external aggression (Angola, Mozambique) or civil war (Ethiopia, Sudan, Chad, Uganda).

(5) Women may be "invisible" because they are physically secluded from, mainly male, researchers on cultural grounds, because they are perceived as being of little interest or importance or because researchers and extension officers literally do not see to whom they are talking. For similar reasons men may under-report the importance of the work of their women-folk. Also, much women's work is non-remunerative and domestic and so difficult to quantify and/or not generally quantified anyway.

(6) The most well-known HYV success stories are water-controlled wheat and rice. But in Sub-Saharan Africa about 75 per cent of cereal output is in maize, sorghum and millet, and non-cereals are far more important in diet consumption. Great success has been made with sorghum HYVs in India in fact; and there was a fair degree of success with maize and millet. But there are no signs of any breakthroughs with pulses or root crops. Also, there are problems of transferability of HYVs between Asia and Africa; and the high dependence of success on the timeliness of arrival of HYV seeds renders them somewhat unfeasible for Sub-Saharan Africa.

(7) The existing rate of population growth (3.2 per cent per annum for 1980-2000) is higher than the rate of growth of food production and the rate at which the capacity to meet essential needs can be increased: population pressure on the land in some areas is reaching such severe levels that it is reducing productive capacity of the land. Crop rotation cycles are being speeded up, so reducing the benefits of such practices. Increased demand for wood, for fuel and building purposes, and increased demand for land forcing poorer people onto marginal lands are leading to deforestation and to deterioration in the ecological state of the soil. This, in turn, adversely affects productivity. Also, increased use of marginal lands by the poor in itself reduces their food production levels.

(8) Health cuts may have halted or even reversed the improvements achieved in life expectancy and infant mortality rates in Sub-Saharan Africa in 1960-79. Moderate and severe child malnutrition has reached levels of 30 per cent or more in most of the countries for which data exists and is approaching 50 per cent in some, even excluding famine crisis years.

(9) This has repercussions on the rate of infant mortality and reduces women's productive capacity, and so can reduce the nutritional intake of the whole family.

(10) Some multi-year commitments are now being made. But in contrast to other types of aid, donor interests play an important part in determining year to year variations in volumes and importance of recipients of food aid. The process of commodity selection is strongly sensitive to short run surplus considerations. There are also budgetary limitations to the amounts of food aid that donors have felt able to supply. Meanwhile, year-to-year requirements for food aid are dominated by short-term transitory requirements because of the high level of variability of Sub-Sahara African agriculture. This leads to a sharp cyclical pattern in the level of overall import and food aid requirements which demand high degrees of donor flexibility and do not aid donor multi-year planning.

(11) Administrative, procurement and delivery procedures are so complex and lengthy that food aid supplies often arrive extremely late and in irregular amounts. Thus it not only fails to meet immediate transitory food deficit needs but it may also disrupt the food import scheduling, handling, storage and distribution systems of recipient countries.

BIBLIOGRAPHY

African Development Bank and World Food Programme - "Report on WFP/ADB Seminar on Food Aid for Development in Sub-Saharan Africa, Abijan, 8-11 September 1986". Draft.

Allison, C. - "Women, Land, Labour and Survival: Getting Some Basic Facts Straight". IDS Bulletin, Vol. 6, No. 3.

Benson, C.- "Food Aid to Sub-Saharan Africa: A Background Paper". Paper prepared for the WFP/ADB Seminar "Food Aid for Development in Sub-Saharan Africa", Abijan, 8-11 September 1986.

Borton, J., Clay, E.J. - "The African Food Crisis of 1982-86". Paper prepared for the ESRC Conference on Rural Transformation in Tropical Africa, University of Birmingham, 23-24 Sept. 1986. Relief and Development Institute, 1986.

Chambers, R. - "The Crisis of Africa's Rural Poor: Perceptions and Priorities". Discussion Paper 201. Institute of Development Studies, Brighton, 1985.

Clay, E.J. - "Aid to Development? Aid to Trade? PL480, US Agricultural Exports and Third World Agriculture". Paper prepared for the Curry Foundation Conference, "United States Agricultural Exports and Third World Development: the Critical Linkage", 14-15 July, 1986, Washington DC.

Clay, E.J - "European Food Aid and Africa's Food Needs" in Fitzpatrick, J. (editor) Can Europe's Food Surplus Solve Africa's Famine?, Irish Council of the European Movement, Dublin, 1986.

Clay, E.J. - Organising Food Security: Lessons from South Asia, 1985. Report for Advisory Council on Development Cooperation, Dublin.

Clay, E.J., Everitt, E. (eds.) - "Food Aid and Emergencies: A Report on the Third IDS Food Aid Seminar". Discussion Paper 206, Institute of Development Studies, Brighton, 1986

Daniel, P., Green, R.H., Lipton, M. - "Towards a Strategy for the Rural Poor in Sub-Saharan Africa". Discussion Paper 193, Institute of Development Studies, Brighton, 1984.

Green, R.H.- "Food Policy, Food Production and Hunger in Sub-Saharan Africa: Retrospect and Prospect". International Journal, Fall 1986.

Green, R.H. - "Hunger, Poverty and Food Aid in Sub-Saharan Africa: Retrospect and Potential". Paper prepared for WFP/ADB Seminar "Food Aid for Development in Sub-Saharan Africa", Abijan, 8-11 September 1986.

Green, R.H. - "Sub-Saharan Africa: Poverty of Development, Development of Poverty". Discussion Paper 218, Institute of Development Studies, Brighton, 1986.

Hay, R. - "Food Aid and Relief-Development Strategies". Paper prepared for the WFP Policy Unit, Rome 1986.

Lipton, M. - "The Place of Agricultural Research in the Development of Sub-Saharan Africa". Discussion Paper 202, Institute of Development Studies, Brighton, 1985.

Lipton, M. - "Seasonality and Ultrapoverty". In IDS Bulletin Vol. 17, No.3, 1986.

Longhurst, R. - "Household Food Strategies in Response to Seasonality and Famine". In IDS Bulletin Vol.17, No. 3, 1986.

Longhurst, R., Chambers, R., Swift, J. - "Seasonality and Poverty: Implications for Policy and Research". In IDS Bulletin Vol.17, No. 3, 1986.

Overseas Development Administration - The Agricultural Dilemma in Africa, 1986. Papers of the 1985 ODA Natural Resources Advisers' Conference

Shaw, J. - "Poverty, Development and Food: Basic Needs Revisited". Discussion Paper 217, Institute of Development Studies, Brighton, 1986.

The Other Economic Summit (TOES) - New Economics 85, 1985. Report and Summary of The Other Economic Summit, 1985.

World Bank - Financing Adjustment with Growth in Sub-Saharan Africa, 1986-90. Washington DC, 1986.

World Bank - Poverty and Hunger: Issues and Options for Food Security in Developing Countries. Washington DC, 1986.

World Bank - Toward Sustained Development in Sub-Saharan Africa. Washington DC, 1984.