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PROPOSALS FOR FOOD AND AGRICULTURE DEVELOPMENT

1986 - 1990

<sup>\*/</sup>  
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PROPOSALS FOR FOOD AND AGRICULTURE DEVELOPMENT  
1986 - 1990

I. BACKGROUND

1. The adoption of the Lagos Plan of Action (LPA) in 1980 represents the most significant social, economic and political decision by Africa since the issuance of the OAU charter in 1963. But as we pause and take stock of what has happened to the African economy, in particular the food and agriculture sector, since the adoption of the Regional Food Plan for Africa (AFPLAN) in 1978 and LPA, much of what we have witnessed are depressing stories of famine with declining standards of living in many countries, and general human misery in nearly all of them. For some countries, poverty has become the way of life.

2. The general malaise and the poverty trap are directly linked to the depressingly poor performance of the food and agriculture sector, whose annual trend in per capita terms has continually worsened since the 1960s. The African countries have failed to satisfy the higher demand for food from domestic production, thus more food aid and imports have been necessary to maintain declining levels of essential dietary energy supply, currently below requirements in some 28 African countries.

3. During the period 1980-83, there was an annual per capita decline of 2.7 percent in agricultural production with the food subsector alone declining at 2.9 percent per person, culminating in widening food-population gap which, for all of Africa, has shown an annual deterioration of 1.3 percent in the decade 1971-80. <sup>1/</sup> As shown in Table 1 of the paper, The Critical Food Situation in Africa and the Prospects for 1985 and 1986, which is also being discussed in this meeting, all the African subregions suffered severe declines in food and agricultural production. In 1983, food and agricultural production declined by 3.1 percent and 2.8 percent respectively compared to 1982. The declines in the West and southern African subregions were particularly pronounced at 7.2 percent and 3.8 percent respectively in agricultural production and 7.4 percent and 4.1 percent with respect to domestic food production. The immediate consequence was that 24 African countries experienced abnormal food deficits to the tune of 5.4 million tonnes during 1983-84.

4. FAO has recently identified 21 countries facing critical food shortages in 1984/85 whose combined cereal production is likely to be

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<sup>1/</sup> While agricultural production grew by one percent per annum during 1980-83, population increased by three percent per annum. Population growth is expected to remain at this level for 1980-2000.

23 percent below normal. The response to LPA's exhortation that "over the period 1980-85, the objective should be to bring about the immediate improvement in the food situation and to lay the foundations for achievement of self-sufficiency in cereals and in livestock and fish products" remains largely unrealized.

5. The AFPLAN/LPA period has therefore seen the food and agricultural crisis facing Africa become one of the gravest challenges of our time. Over the five-year period (1980-84), per capita cereal production alone dropped by 19 percent for Africa as a whole. The deterioration of the African overall economic condition is staggering and would seem to be intractable. The crisis is characterized by a persistent drop in the rate of growth of output over the years, which has been decreasing steadily since 1980. Agriculture did not grow by 4 percent. Indeed, there appears to be no correlation between the promise of LPA and the performance on the ground.

6. In the LPA, the African Heads of States committed themselves "individually and collectively, on behalf of our governments and peoples, to establish national, subregional and regional institutions which will facilitate the attainment of objectives of self-reliance and self-sustainment". They were also, among others, to give an important place to the field of resource development, and science and technology in the service of development of the African peoples by reinforcing the autonomous capacity of their countries. In the field of agriculture, the objective of achieving self-sufficiency in food production and supply was given special priority. In this respect, the will of Africa is involved, and the Plan represents a major landmark in Africa's attempt to engineer changes in existing concepts, perceptions, policies, plans and programmes.

7. These worthy commitments to get agriculture moving were to be achieved through sound science and technological policies which are critical for sustained industrial development, itself closely linked to enhanced food and agricultural advancement. In this connection, the successful outcome of the various projects under such programmes as the Industrial Development Decade for Africa and the UN Transport and Communications Decade for Africa and others is of vital importance in easing some of the basic constraints on African food and agriculture development.

8. The 40th Ordinary Session of the OAU Council of Ministers, held 27 February-5 March 1984, passed some 25 resolutions. None of these, however, specifically dealt with achievements in the implementation of the LPA, although some reference was made to this effect in the resolution dealing with the current critical economic situation in Africa. 1/ The Council of Ministers urged all member states to intensify their national and collective effort to implement the LPA

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1/ CM Res. 928 (XL)

through, among others, a readjustment of their national plans and programmes in order to lay a solid foundation for self-reliance and self-sustainment.

9. Explicit in the realization of the LPA objectives, and the commitments endorsed by African Heads, was the assumption that governments would institute drastic social, economic and political changes and reorientations for the benefit of their peoples. It was first and foremost hoped that the leadership would appreciate the need for reorientation of social and economic systems in order to facilitate the internalization of Africa's development process. 1/ Resources into agriculture were to be augmented (for research, technical packages, manpower, etc.) and intra-African food and agricultural trade had to be improved. But, as already documented in the Assessment paper, most of the LPA targets were not achieved. It is also not clear as to what extent governments have consciously taken AFPLAN and LPA into consideration when drawing up their national plans. And, as far as the agricultural sector is concerned, have the Ministers of Planning, responsible for the LPA, explained adequately the objectives and targets of LPA to their colleagues in the Ministries of Agriculture, Rural Development and similar institutions? Do people whose lives are to be affected by the LPA know about the Plan? Although it is apparent that AFPLAN and LPA may have provided some sense of direction and emphasis in a number of countries, in general, countries appear to have paid more attention to strategies of their own national plans and those of donor agencies.

10. The proposals and recommendations for 1986-90 suggested in this paper represent no departure from the original principles of the LPA. The objective remains unchanged: the amelioration of the worsening state of underdevelopment and economic backwardness, as well as the reorientation of past development policies. Indeed, the experiences and implications of the current crisis re-emphasize ever more sharply Africa's development priorities in the immediate future and in the long run. The specific priorities and content of the suggested strategies will obviously differ from country to country. This paper, however, attempts, within the broad context of AFPLAN/LPA, to outline, given various crises facing most countries 2/, major priority development strategies with respect to food and agriculture. For the feasibility of the operationalization of the implementation of the LPA, the main focus for the next few years should be programmes or actions that improve countries' capacities for preparedness for emergency situations, increasing countries' abilities to absorb and

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1/ This recognizes the historical fact that no society has developed by depending exclusively on external initiatives.

2/ Four separately identifiable crises affecting African agriculture have been singled out by FAO: technical, development, economic and political. See the paper presented by FAO at the ECA/Dalhousie University Conference on the Lagos Plan of Action, Halifax, Nova Scotia, Canada, 2-4 November 1984, The Persistence of Food and Agricultural Crisis in Africa and the Role of the International Community.

minimize future emergency shocks. This preparedness will also enable countries to take advantage of future development opportunities.

11. However, since the emergency solution is a long-term strategy, the preparedness being called for should reinforce LPA's medium and long-term objectives, including the laying of groundwork for the development of agricultural technological and other innovations, manpower capable of handling these situations, feasible institutions and infrastructures. The chosen strategies should give special attention to the development of smallholder agriculture, in particular with respect to the three basic food commodity groups (cereals; roots, tubers and pulses; and meat) as well as export crops.

## II. EMERGENCY MEASURES

12. The critical food situation now facing most of Africa makes it mandatory for governments to take emergency measures to deal with the problem. The emergency measures package includes the following: mobilization of technical and financial assistance, the procurement of food supplies to meet the immediate emergency needs of victims of drought and displacement, expansion of food storage capacities, improvement in the food distribution systems, improvement in the management systems dealing with emergencies and the promotion of production to avert further starvation.

13. Shortfall in food supply is a situation which the majority of African countries now face. The results of a survey undertaken by FAO on expected production of cereals show that many of the countries for which information is available forecast production levels of cereals and other staple foods which fall below their national requirements. Two countries which expect to meet their domestic food demand from internal production (Ghana and Tunisia) indicated that they required additional supplies to build up stocks of strategic reserves. The deficits indicated by the governments are to be acquired through imports.

14. Assistance from the international community is expected. For the 21 African countries designated by FAO as having abnormally high cereal import requirements during the 1984/85 crop year, pledges amounting to 5.1 million tonnes had, by mid-February 1985, been made to their governments by donor agencies. Of this amount, 2.0 million tonnes had been actually received. The amount pledged was still 2.0 million tonnes short of total food aid believed to be needed to meet current needs.

15. As the governments formulate development strategies and policies and initiate programmes for ultimate food self-sufficiency, they need assistance (financial and material) from the international community to cover for existing shortages. Favourable response to the requests made by the governments will help alleviate the serious food and balance-of-payments problems that the African countries face today. Efforts must be made to avert deterioration of the already precarious

nutrition levels of most seriously affected countries. More important, however, is for African countries to resolve their food crisis by themselves. The unattractive prices paid to farmers, accompanied by exchange rates which favour imported foods, have led to increased food imports for urban consumers while penalizing growers of domestic food crops.

16. Adequate food supply is an important condition for dealing with the food problem in Africa. Measures must be taken, however, to ensure that suitable storage for food supplies is available and that transport and distribution services are available to get the supplies to the areas where relief food is needed. To highlight the problems that some countries face in this area, mention can be made of how food aid programmes in Ethiopia and Chad have been adversely affected by the inadequacy of storage and transportation facilities. To deal with the storage constraint, implementation of food storage projects needs to be accelerated. Storage projects are known to have been prepared and approved by member governments in the region. Donor assistance has been committed for some of these projects. Implementation of these projects should be accelerated.

17. Food shortage in the region implies that food supplies be transported to villages in the food deficit areas. Roads to the villages which provide an important mode of transport to these areas should be made passable. This underscores the necessity to accord priority to the rural access roads projects. In addition, emergency food activities should incorporate the element of transport which includes trucks, trailers and railway wagons. External food aid packages should include vehicles to help in the distribution of food. The administration of food emergencies is done largely through central and local government authorities. These are in most countries in the region supported by officials of agencies such as marketing and non-governmental organizations. Coordination of the activities of these agencies is important. Trained personnel are required to organize and manage efficiently activities relating to emergency administration.

### III. PRIORITIES FOR RECOVERY AND REHABILITATION

18. Rehabilitation measures and medium-term developmental policies and programmes should aspire to achieve not only the short-term but also the medium-term targets. The ECA in 1983 carried out a preliminary perspective study of possible future development paths for Africa. <sup>1/</sup> The Study's report has a normative scenario with projections of production and input requirements for cereals, roots and tubers and meat products, as well as major export crops, if

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<sup>1/</sup> ECA and Africa's Development 1983-2008: A Preliminary Perspective Study, April 1983, Table 4, pp. 27 and 28, is based in part on analysis done by FAO for the study, Agriculture Toward 2000, 1981.

TABLE 1  
AFRICAN FOOD BALANCE FOR SELECTED COMMODITIES  
UNDER NORMATIVE TRENDS SCENARIO a/

	Millions of tons			Projected % growth per year	
	<u>b/</u> 1978-80	Normative Projection		Under norma- tive scenario	If hist- orical trends continue <u>c/</u>
		1985	1990		
<b>CEREALS</b>					
Total demand	74.8	91.0	110.7	3.99	3.63
Food	59.9	72.2	87.1	3.82	3.55
Other uses <u>d/</u>	14.9	18.7	23.5	4.64	3.95
Total production	58.4	72.1	89.1	4.31	3.28
Imports	20.9	22.7	24.8	1.71	3.77
<b>ROOTS, TUBERS AND PULSES</b>					
Total demand	85.1	99.3	115.9	3.14	3.38
Food	64.6	75.3	87.7	3.11	3.40
Other uses <u>d/</u>	20.5	24.0	28.2	3.25	3.34
Total production	88.2	102.4	118.9	3.03	3.26
<b>MEAT</b>					
Total demand	4.7	5.7	6.9	3.87	3.87
Total production	4.3	5.3	6.5	4.20	4.23

a/ Based on scenarios in Tables 4 and 14 in ECA and Africa's Development, 1983-2008, April 1983. The "normative trends" scenario shows what would be entailed if these countries were to achieve 85% self-sufficiency in cereals (against 71% in 1978-80), maintain existing 100% self-sufficiency in the other two food categories, and support a 20% increase in per caput cereal consumption and a 14% increase in per caput meat consumption by 2008. This scenario projected substantial increases in food demand arising from both population and income growth, and showed that radical (but not technically unfeasible) changes in agricultural production systems would be required in order to meet these challenges.

b/ Based mainly on FAO figures for 40 African countries.

c/ Not a simple projection of trends but, rather, a calculation of possible responses and outcomes if underlying demographic, economic, institutional and technological patterns were to continue.

d/ Feed and seed, industrial uses, and waste.

developing Africa is to become more self-sufficient in food and economically viable. The programme implied by those projections has been recommended for African countries, and provides a basis for addressing shortfalls in production. In Table 1 the baseline figures for 1978-80 and projected growth rates are reproduced from the ECA's report. Estimates for 1985 and 1990 which have been derived from these are also shown.

19. Using growth rates assumed for the period 1978-2008, estimates have been made for demand and production for food crops. These provide some insights as to the levels of output which African countries could aim at achieving in the years 1985 and 1990. Comparing domestic production figures in the past four years with the implied targets, it is found that, for the period 1980-84, the gap between demand and production of food items has widened instead of narrowing.

20. It is obvious from Table 1 that governments have to redouble efforts and that the region has to improve greatly its patterns of food and agricultural performance if Africa is to avoid further deterioration of her social and economic systems. Even if there are adjustments within the bounds of existing constraints (see historical trends growth rates), self-sufficiency in food crops seems likely to decline further and cereal imports to increase substantially. Under the normative scenario, prospects for the African region over the next decade improve significantly. However, this scenario envisages that major structural changes would, in fact, be in place.

21. Recovery in the food and agriculture sector can be brought about if governments in Africa take a number of measures. Important among these are the following: increasing the utility of arable land, more trained manpower resources being directed to agriculture, improved technology being applied in agricultural production, increased use of inputs, and policies which provide inducements to investment in agriculture and production of food.

22. As already emphasized elsewhere in this paper, Africa is rich in agricultural resources, but utilization of these resources in sustainable manner still remains at a low level. Some insights in regard to the development of the sector may be gained by making comparisons between Africa and the Far East using selected indicators of agricultural development. First, in 1975, about 20 percent of the arable land in Africa was utilized for agriculture as compared to 59 percent in the Far East. Secondly, whereas in Africa the percentage of arable land under irrigation was, in 1975, 2 percent, for the Far East it was 25 percent. The level of application of fertilizer in crop production was, in 1980, five times more in the Far East than in Africa. The utility of machinery is about two times more intense in the Far East than in Africa.

23. Table 2 carries important implications for ability to achieve the targets set out in Table 1, in that it gives some idea of Africa's potential to raise revenue, through the export sector, to fund

TABLE 2  
MAJOR AFRICAN AGRICULTURAL EXPORTS IN RELATION TO  
OTHER EXPORTS UNDER NORMATIVE TRENDS SCENARIO a/

	Value (US\$ millions)			Projected % growth per year	
	1980	Normative projections		Under norma- tive scenario	If hist- orical trends continue
		1985	1990		
<b>CASH CROPS</b>					
Coffee	3 177	3 856	4 682	3.9	3.2
Cotton	2 102	2 959	4 166	7.1	5.9
Cocoa	1 944	2 263	2 635	3.1	2.3
Tea	458	564	695	4.2	3.6
Tobacco	340	416	509	4.1	1.8
<b>MINERALS</b>					
Copper	<u>b/</u> 2 138	2 389	2 586	1.6	1.6
Bauxite	540	559	579	0.7	1.4
Iron ore	461	482	504	0.9	1.2
<b>ENERGY</b>					
Crude oil	<u>b/</u> 66 067	64 635	63 632	-0.3	-0.3
Natural gas	<u>b/</u> 2 448	3 732	5 044	6.2	5.1

a/ Based on scenarios in Tables 10 and 20 in ECA and Africa's Development, 1983-2008, April 1983.

b/ These figures are for 1978.

agriculture and rural development. The orders of magnitude of the effort necessary to achieve the projected targets seriously call for a rededication on the part of African countries. Special note should be taken of projected growth rates of main minerals. Crude oil production is projected to decline by 0.3% a year.

24. According to the ECA-recommended strategy for Africa's development, arable land that should come under irrigation would increase from a 1980 level of two percent to three percent in the year 2008.<sup>1/</sup> Consumption of fertilizers would increase at the rate of 4.5 percent annually. This would result in an annual consumption of 7.9 million tonnes of NPK-fertilizers by the year 2008. Use of improved seeds would be programmed to increase so as to achieve a target of 38 percent share in total seed used in the region. This would amount to 9.6 million tonnes per annum by the year 2008. The same scenario recommends an annual rate of growth of 4.9 percent in pesticides excluding herbicides.

25. Some appropriate measures toward attainment of the targets which could be taken as part of near-future African rehabilitation efforts are as follows:

26. First, as discussed subsequently, food and agricultural development in African countries is constrained by inadequacy of resources. It is important, therefore, that infrastructure already established to service the sector be properly utilized. Roads, irrigation systems, and water supply systems, to mention but a few of the various types of agricultural infrastructure, should not deteriorate and be in a state in which they cannot be used. Rehabilitation of these facilities deserves first priority in allocation of resources. Scarce capital is often better utilized when it is used for rehabilitating existing underused infrastructure than in the development of completely new infrastructure. The latter should be planned and implemented when existing infrastructure is fully utilized. It is important also to ensure that adequate funds are allocated for maintenance of existing infrastructure.

27. As stated earlier, storage capacity has not been adequately developed. Storage on farms, rural service centres, and at national and subregional levels should be developed. Resources for such investments should be made available from both national budgets and external assistance resources.

28. Internal food distribution systems should be improved. The farmer cannot be induced to produce if his output is not readily marketed. Availability of essential consumer goods is just as important to the farmer as his ability to market his produce.

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<sup>1/</sup> See ECA and Africa's Development 1983-2008, pp. 62-63

A strong disincentive to produce emerges when items which farmers consider essential to their well-being are not available in the market place. Consumption goods on which farming communities spend their income are known to have been virtually unavailable in some countries in Africa. Farmers have not been encouraged under these circumstances to produce. Their income served no useful purpose to them as there were no goods on which to spend their hard-won income. Although most countries in Africa are faced with balance-of-payments problems, governments should adopt import management practices that will ensure the availability of essential consumer items and requisites for farm production.

29. The food crisis faced by developing Africa underscores the need for all countries in the region to establish and maintain Early Warning Systems (EWS). At the international level, FAO has generated a global system which serves two main objectives: i) the monitoring of world supply and demand outlook for basic foods and fertilizers and ii) the identification of countries and regions where serious food shortages are likely to occur, along with assessment of their likely emergency food requirements. Items covered in the EWS include cereals, meat, milk, roots and tubers, pulses and fertilizers. To participate effectively in EWS, governments in developing Africa should improve their systems for collection and processing of data on crop production, rainfall, deliveries to markets and wholesale price trends.

#### IV LONGER TERM STRATEGIES TO INCREASE FOOD AND AGRICULTURE PRODUCTION

30. In the short term, especially when countries are faced with emergency situations, countries will have no choice but to give priority to preventing loss of life through food emergency relief and other measures. These, however, are only temporary and stop-gap measures. Africa of the 1970s was, in many instances, characterized by crash food production programmes which, together with emergency food aid, do not offer a long-term solution. Countries should take immediate post-emergency measures to step up a rapid restoration of what is now a debilitated sector base. These measures are intricately associated with long-term constraints, and policy measures to solve them have to be taken now although they should be conceived in terms of longer term perspectives to avoid past trends. Emergency actions and improvised quick results are necessary but the severity of Africa's food and agricultural problems demands that Africa's strategies should focus on the longer run by preparing for sustained performance of the sector, thus improving capacity to deal with future emergencies. There must be a fundamental rethinking by the African countries on the role of this sector in overall growth and development.

31. Long-term strategies aimed at alleviating long-term physical and structural constraints are needed in order to avert recurrent emergencies. These strategies have to be adopted now to pave the way

for mobilization of adequate resources (physical, human and financial) for agriculture, all of which take time to undertake. Research and technological development as well as other agricultural development activities have a long gestation period and therefore take time to bear results. Often, ten years are needed between expenditure on agricultural research and the time when the newly developed technology becomes available. Time considerations are also important with regard to training and upgrading of human capital for food and agricultural development. Resolution of the present crisis will take time also because of the period required for fundamental changes and redirections in agricultural policies including improved restructuring of major agrarian and agricultural institutions.

32. Policies and plans should emphasize the rehabilitation, reconstruction and revitalization of the agriculture sector with a view to combating in the near future the consequences of drought and drought-like conditions, and other manmade and natural disasters, in a manner which also helps prepare agriculture for the longer term.

33. Africa desperately wants to free herself from hunger, disease, unemployment, increasing mass poverty and general instability; and policy makers in many African countries are increasingly becoming preoccupied with the problem of how to solve the declining or stagnating food and agricultural sector. The recent 20th OAU Summit is a good example. It is important, however, that the emerging policies aimed at closing the widening gap in Africa be put to the fore in the choice of sound development strategies including those for agriculture. The development environment has changed dramatically in recent years, mainly because of calamities and shortage of investment resources. The African countries must focus on a few well chosen priorities.

34. The position of this paper is that this ought to be done by concentrating on some selected critical areas - those areas that prepare countries for sustained growth.

35. The ECA 1983-2008 perspective study foresees desperate conditions 25 years from now if historical trends are allowed to continue. Looking ahead to the year 2008 (ECA's golden jubilee), Africa's population is projected to be 997 million people, from about 440 million in 1980. The implications in terms of current food crisis are staggering. The self-sufficiency ratio in cereals is projected to decline from 75 percent in 1978-80 to 71 percent in 2008. Total demand for cereals will be 224 million tonnes, and this will require an annual growth rate of 12 percent in cereal production between now and 2008 if the region were to become self-sufficient. Overall food and agricultural growth should be 4.3 percent annually, with roots and tubers and pulses growing annually at 9.5 percent. Agriculture will continue to be the key sector to provide food, foreign exchange, government revenue and general livelihood, including employment for the majority of people.

36. Any plan for development must address itself to the development of African agriculture, in particular the predominantly peasant sector. Political support for an agriculture-led development strategy is urgently called for, with parallel development of related sectors such as industry, energy, commerce transport and communications. The agriculture-led development strategy should have smallholder cum smallherder systems forming the cornerstone of national policies, strategies, programmes and projects, all of which should aim at appropriate modernization of the production systems of this sector. The removal of impediments which hinder its development will have to be accompanied by increased and sustained investment.

#### A. Agricultural training and manpower development

37. The enduring colonial legacy continues to exert undue influence on development strategies pursued by many African countries today. The structure of many African agricultural institutions and development policies bear this testimony. Decades of neglect of the agriculture sector are revealed in the inadequate flow of resources into the sector, especially investment in the development of human capital. Consequently, managerial weaknesses and constraints abound in all the existing institutions (public and private): agricultural administration, planning, research, extension, marketing and others. <sup>1/</sup> Weaknesses exist in policy and programme development, analysis, and plan implementation and monitoring. The urgent need for the establishment of manpower development programmes at all levels can therefore not be overemphasized. These programmes and the calibre of manpower to be trained should aim at producing people who can effectively plan and manage the sector, research and extension, training and other institutions. Waste and misuse of available trained manpower should also be minimized. Special focus will need to be directed toward the subsistence sector not only because of its predominance in most economies, but also because the sector is usually a very unattractive client where conventional financial institutions are concerned.

38. Training and research scholarships, within and outside Africa, will be required in order to improve or develop local capability for various agricultural activities, including absorptive capacity for financial and technical assistance. In addition to augmenting local capacities for planning management and execution of development policies and programmes, manpower development is needed to deal with

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<sup>1/</sup> In the Second Lecture of the University of Ibadan Lecture series for 1983/84, Q.B.O. Anthonio identifies management as the most limiting resource in Nigeria in general, and is "singularly constrained in agriculture" (p. 13). Also, the "idea that Ministries or quasi-government agencies can successfully and profitably implement direct agriculture production schemes is a futile dream....it can even be counter-productive" (p. 15).

emergencies and preparedness. Planning capacity, particularly the generation and monitoring of programmes should be considered as a key factor in the implementation of the LPA.

39. Training of farmers, rural artisans and entrepreneurs should be a concomitant objective of this strategy. This recognizes the fact that jobs cannot be created in the cities for all the job seekers. Opportunities must be created in the countryside in food and cash-crop agriculture as well as rural small-scale industrial enterprises.

**B. Research and development of feasible agricultural technologies and transfer**

40. Until now, expansion of areas under cultivation has been the major factor accounting for most of increased food and agricultural production in the region. Research and yield-augmenting technologies continue to be at low levels and governments are yet to give the priority required in this area. This is especially so where food crops and livestock are concerned, in particular with respect to mechanical, agro-chemical and biological technologies. Forestry development also continues to depend on imported technology in terms of three species developed and transferred from elsewhere, often in a very different environment.

41. The strategy in this field should therefore entail planning the development and strengthening of basic and applied research capabilities. This relates directly to the need mentioned above for countries to expand the acquisition of trained research scientists capable of developing techniques which are of relevance to African development, as well as being able to adapt and mesh imported technologies. The new technologies should focus on raising Africa's agriculture productivity: research with a view to understanding better the traditional farming systems; research on land and water issues including the extension of agricultural land frontiers and the use of marginal lands; development of low-cost technological packages; drought-resistant and disease-resistant varieties and animal breeds and quick maturing crops to increase cropping frequency.

42. The process of modernizing the traditional small-scale sector will take time and effort. In fact the "ability to screen, borrow and adapt scientific knowledge and technology requires essentially the same capacity as is required to invent new technology. Capacity in the basic and supporting biological sciences is at least as important as capacity in applied science." <sup>1/</sup> Efforts by member states to develop their scientific and technological capabilities must therefore start now, if not yesterday.

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<sup>1/</sup> R. Evenson, "Cycles in Research Productivity in Sugarcane, Wheat and Rice", in Research Allocation and Productivity in National and International Agricultural Research by Thomas Arndt, Dana Dalrymple and Vernon Ruttan, Minneapolis, University of Minnesota Press, 1977.

43. The formulation and adoption of appropriate policies on agricultural technology should be the first step to be taken in this direction. Policies should address the problem of technological development as well as its dissemination through effective delivery and incentive systems.

44. Research effort should also be directed to other areas of concern in food and agriculture, such as research on government and donor development policies and strategies; and the establishment of agriculturally based small-scale rural industries.

45. In order to make a major breakthrough, and also to maximize on the use of existing scientific manpower and other scarce resources, technological cooperation among the African countries on the one hand, and between Africa and the other LDCs on the other, should be expanded.

#### C. Physical, structural and social infrastructural development

46. Some of the principal areas of governmental investment for agricultural development are in physical, structural and social infrastructure. Roads, irrigation systems, storage facilities, processing plants, and marketing and credit institutions have a direct impact on production activities of the agricultural sector. Social infrastructure including health, education, housing, water supply to provide some of the basic requirements of the rural population is essential.

47. The development of rural roads in Africa is inadequate. Roads are required to move inputs to the farms and the products of the farms to the markets. The current difficulties in transporting emergency food supplies to the rural areas experiencing food shortages are a manifestation of the inadequacy in the transport infrastructure of the region. There should be promotion of the development of road networks for rural areas connecting them to service centres and urban areas. The latter provide rural areas with their markets and are a source of agricultural inputs. Transport and communication between rural and urban areas is therefore vitally important. Some of these road networks can be developed through labour intensive programmes that generate employment and income opportunities. The development of these roads is an essential component of agricultural infrastructure development.

48. As stated earlier in this paper, African agriculture is excessively dependent on rainfall. Crop failure and loss of livestock occur with abnormal weather patterns. To reduce exposure to weather patterns, irrigation should be developed as much as possible. Investment in irrigation facilities should be made for achieving the goal of 3-percent arable land in Africa being under irrigation by 2008.

49. Storage capacities have to be developed at the farm level, in area service centres and in national warehouses. This diversified programme will relieve governments from maintaining monolithic organizations such as those established for grain storage which have proved expensive. As considerable food loss can occur during storage, methods should be evolved commencing at rural levels on storage that avert loss of crops. Cooperation in storage particularly grain should be encouraged at subregional levels throughout Africa.

50. Financial institutions that administer credit to farmers should be developed and extended to smallholders throughout the agrarian areas. For farmers to utilize such inputs as improved seeds, fertilizers, insecticides, and appropriate implements they must have ready access to both seasonal and longer-term finance. Also, such finance must be used for the intended purposes so that there will be a marketable surplus with which to make repayments.

51. Organizations and systems for marketing and processing agricultural products are widespread in the region. Most of them, however, are not operating efficiently. Some have actually become a liability to the development of agriculture. Efficient marketing of agricultural output is a prerequisite to the promotion of production. Farmers should be paid promptly for their deliveries. Delayed payments are a disincentive to production.

52. Producer prices for basic foodstuffs and other agricultural produce are considered to be nationally important in many African countries and are often prescribed by government. Where this is done, it is important that price announcements are made on time, and preferably in advance, to give time to farmers to determine the use of their resources. Secondly, the farmer's interest must be taken into account. The prices should be fixed at levels which reward the farmer for his labour inputs and use of other resources. There is a tendency for prices to be determined at levels which make consumer interests override those of the farmers. This usually results in shortfalls in output. The farmer under these circumstances is not given the incentive to produce.

53. Most inhabitants of the region live in rural areas. Approximately 65 percent of the population of Africa live in rural areas. Although urban growth exceeds rural population growth, forecasts show that the bulk of the population will continue to live in rural areas in the future. Since an overriding objective of development is to improve the well-being of the people, the quality of life in rural Africa must be improved. Prerequisite to this is the development of rural amenities such as housing, health, education and water supply. Government outlays on these should be at appropriate levels.

#### D. Environmental issues

54. Improvement of environmental quality is recognized as an important element in national development strategies. In the agriculture sector degradation of the environment is still rampant through soil erosion, deforestation, livestock overstocking, shifting cultivation and water wastage. Governments should take appropriate measures to deal with these problems; farmers should be advised and helped to practise methods of growing crops that avert soil erosion. The livestock-carrying capacities of farm lands should be determined and appropriate herds maintained. Afforestation programmes should be formulated both for forest areas and for the small farms. Wood is an important source of energy in the agrarian economies of most African countries and smallholders should be encouraged to grow trees.

55. Agro-industries such as sugar mills, coffee cleaning and processing, and pulp and paper industries are an important source of air and water pollution. Standards of effluent treatment should be established and maintained for these industries.

56. Resources should be invested in water collection and conservation. Much of Africa is semi-arid. Rainfall is seasonal and rainy periods are separated by many months of drought. Useful water is lost during the few months of rain. Programmes for harvesting and conserving water from precipitation should therefore be incorporated in national development programmes.

#### E. Interregional and intra-African cooperation

57. Agricultural regional interdependence is manifest in such areas as international trade, food security and food aid, capital and technical assistance, and research and transfer of technology. African countries have naturally to trade with all countries in the world - developed and developing. Food aid from developed countries as already discussed will continue to provide a sizeable part of food supply in Africa for some years. Cooperation and assistance in the food security area is vital particularly the developed countries assistance for African countries in various aspects of establishment and maintenance of strategic food reserves. The shortage of financial investment resources prompts the promotion of the flow of capital resources from developed to developing countries. The emphasis placed on development of research and transfer of technology requires that international cooperation in this area is fostered as much as possible. Notwithstanding this, it is important to place priority on intra-African cooperation.

58. Important areas for intra-African cooperation at subregional as well as regional levels are: research, manpower development, trade, agro-industrial development, storage and management of common resources.

59. Similarities in ecological conditions and modes of agricultural practices make it appropriate for countries in various subregions to initiate collectively programmes for research in the crop as well as animal husbandry areas, and in the training of high level manpower for management of the sector. Joint programmes should be formulated for the exploitation of lakes, rivers and natural forest resources which are shared by a number of countries. Furthermore, joint ventures should be encouraged in the agro-industrial sectors. Intra-African trade in agricultural products which, as discussed in Document E/ECA/CM.11/37, should be promoted.

#### F. Investment resources

60. It is acknowledged that the food and agricultural sector in Africa will grow and perform better than it has performed in the last decade if appropriate levels of resources are invested. Domestic, public and private resources to the sector, supplemented with external resources, should be directed to such vital areas as financing of farmers' production activities, funding of extension services, marketing, infrastructure development, research and technology improvement. In Document E/ECA/CM.11/37, it is clearly shown that the food and agricultural sector has not received a proportionate share of resources. LPA recommended annual public investment levels of US\$ 4.4 billion per annum. Domestic resources were to finance at least half this amount. Available data show that, in the past five years, public-sector planned expenditure on food and agriculture has remained low. As the sector cannot register appropriate levels of growth without increased levels of resources, it is mandatory for governments to translate their commitment to LPA into additional resources directed to the sector.

61. Countries in Africa, in spite of the economic crises they have undergone in the last four years after the adoption of the LPA, do have resources that they can harness for food and agricultural development, as well as other sectors. There are three areas where actions could be taken to raise the resources that are needed for agricultural development. These are i) resource mobilization, ii) elimination of inefficiency and waste in the public sector, and iii) fair distribution of benefits and responsibilities of development.

62. Domestic resource mobilization ought to be part of renewed commitment on the part of African governments in an effort to back up their avowed food self-sufficiency objective. Actions relating to resource mobilization include the expansion of the financial infrastructure to the rural areas. The savings potential of the people, particularly in rural areas, has not been fully exploited. The extension of commercial banking services to the rural areas has, in countries where it has been initiated, brought encouraging results. Incentives for savings should be formulated, including tax exemptions on savings and establishing attractive levels of interest rates. Savings are known to have been increased three or fourfold in some African countries where appropriate policies have been applied. It

thus appears that government revenues could be increased in spite of the tax base being narrow and largely inelastic. Taxes can still be increased on petroleum, tobacco, alcoholic drinks, and luxury items. Furthermore, unearned incomes on wealth, property, capital gains, gifts, estates and inheritances can be used to transfer some resources from high-income groups. Appropriate measures taken in these areas would enable governments in Africa to have revenues for support of the development of the agricultural sector.

63. State-owned corporations, established to provide services which are accorded importance in many countries in Africa, can be a source of waste of scarce national resources. They often do not function efficiently, and some have out-lived their original purposes. Many, apart from the inefficient use of resources invested in them in earlier years, make demands on present-day national budgets through the subsidies paid to them to enable them to maintain operations. Reform of public organizations in the agricultural sector can release resources to be used for constructive development of the sector. Many governments have already initiated these reforms but much more remains to be done.

64. More resources can be made available to agriculture by governments in Africa pursuing monetary policies that promote investment in agriculture. This can be illustrated by the case of a government which has directed financial institutions and banks to utilize at least one-third of the deposits made in rural areas to support agricultural credit. The monitoring of operations of these sectors indicated an increase in resources directed to agricultural development. Furthermore, mobilization of resources for agriculture can be achieved through actions such as those taken by some governments of establishing and expanding financial institutions promote agricultural and related activities in rural areas.

65. If the resource-mobilization policies and programmes discussed in the preceding paragraphs were implemented by governments, it would be possible for LPA-prescribed levels of domestic resources for investment in agriculture to be made available to the sector. These resources should be augmented by external resources from multilateral and bilateral sources.

66. Document E/ECA/CM.11/37 discusses the serious balance-of-payments and recession-related problems that developing countries in Africa face, and how these economic difficulties have profoundly affected food and agriculture. The economic crisis in which the region finds itself prompts the international community to increase aid to Africa. In the period 1976-82, the per capita annual rate of growth in external capital assistance to agriculture (broadly defined) in Africa was 16.6 percent. However, it should be noted that the share of this assistance directly for agricultural production activities declined from 65 percent in 1980 to 47 percent in 1982. As external assistance in support of the development

of agriculture is required in large amounts, it is important that some of the flaws which are inherent in the administration of aid be avoided. These include donor-agency prescription of conditions for their aid, such as the adoption of policies and measures that may not be appropriate to local conditions in the recipient country, and excessive demands on the time of high-level government officials.

#### V. PROPOSALS FOR MORE EFFECTIVE IMPLEMENTATION OF LPA FOR 1986-90

67. The proposed actions to be taken at different time horizons - emergency, medium- and long-term - to implement the LPA will necessarily take into account the peculiarities of each country with respect to natural resources, manpower and national priorities. Common to all countries, however, is the need to carry out a critical appraisal of existing development strategies, plans, policies and programmes with a view to releasing energies and resources from marginal projects in order to fully implement the proposed strategies. It will also be necessary to carry out regular agricultural censuses aimed at obtaining information on what is happening to the priority areas (production, food losses, etc.) which contribute most toward increased food self-sufficiency.

68. Along with critical analyses of development strategies, steps should be taken at the national level to coordinate functions of all the institutions concerned with the food and agricultural sector. This should include ministries, parastatals, boards and other organizations as well as the activities of donor and aid agencies.

69. The monitoring mechanism envisaged in Paragraph 48 of the LPA was considered an important component of the Plan's implementation. It will be recalled that the paragraph called on "Member States (to) set up specific yearly goals for food and agriculture and establish effective national and regional machineries to monitor progress towards them".

70. During the 13th FAO Regional Conference for Africa, which met in Harare, in July 1984, Africa's ministers responsible for agriculture recommended that action should be taken to activate the implementation and monitoring provisions of the LPA, and this was in recognition of the fact that monitoring was necessary for control over events at all levels from policy direction to technical execution. They were guided by the fact that, in the implementation of policy-oriented plans such as the LPA, responsible and credible monitoring harnesses the necessary political will to the realities of execution, serves to maintain the momentum of implementation and strengthens self-confidence on the part of the country or countries concerned, as well as the confidence of contributors of external resources. The Ministers further accepted that, with the ending of the first time-phase of the agricultural part of the LPA against the background of the persistence and even worsening of the food and agricultural crisis which necessitated the Plan in the first place, information and data of the kinds to be generated by systematic national and regional

monitoring would be a highly useful foundation for setting or confirming objectives for the second half of the decade and beyond.

A. The case for a decentralized monitoring system

71. Throughout the AGC/LPA, emphasis is placed on national action in planning and execution. Moreover, the problems of implementation are as varied in their impact and combinations as are those of national policies and plans. This, together with the enormous range of diversity among the countries of the region in size, population, climate and ecology, political and economic organization, social system and customs, human and physical resource endowment, etc., militates against a uniform system. The lack of data for technical and economic analysis is a further constraint. In these circumstances, it is unrealistic to attempt to apply any stereotyped supra-national monitoring system, and monitoring must begin with self-monitoring at the national level. It will, however, be more meaningful if national monitoring is fitted into a flexible, internally coherent regional framework.

72. Such a framework might well encourage insight into four pivotal questions: i) are the targets realistic, ii) are appropriate implementation means being used, iii) are the resources adequate, and iv) what are the underlying causes of any difficulties which are being encountered?

B. Basic requirements for a monitoring system

73. The initial requirement is for African governments to re-commit themselves to formulating their policies and plans in line with AGC/LPA priorities and targets, and specifically "to set up yearly goals for food and agriculture and establish effective national machineries to monitor progress towards them".

74. The basic technical requirements are: the selection and development of socio-economic indicators appropriate to the monitoring of specific items of national plans and targets; the establishment of benchmarks (preferably 1980-based) for these indicators; systematic and regular collection of related quantitative data sets; simple quantitative and qualitative analysis techniques; the use of special studies where required.

75. Responsibility for monitoring the AGC/LPA at the national level must be specifically assigned to a monitoring unit endowed with the necessary authority. Clear lines of responsibility need to be laid down, so that the periodic monitoring analyses are reviewed at a level capable of taking policy action.

76. It is important that the monitoring be carried out effectively at two levels - national and regional - and that these be designed so they complement one another and avoid duplication of effort.

1. The national system

The national system should:

- (i) be within the technical and budgetary capacities of the government concerned;
- (ii) be built upon the existing statistical and administrative services and grow out of them;
- (iii) be relevant to the country's own agricultural, fisheries and forestry circumstances and to the policies, plans and targets it has developed in implementation of AGC/LPA;
- (iv) be designed to promote the generation of a regular instead of spasmodic flow of data relevant to (iii);
- (v) be capable of contributing to a synthetic regional review of the implementation of AGC/LPA.

77. Given the diversities of the continent, requirements (i) to (iii) will produce a wide variety of monitoring reporting, both in content and technical sophistication. Some objectives of AGC/LPA may be irrelevant to national circumstances. Some objectives of AGC/LPA are not capable of being monitored on a statistical basis, but they must nevertheless be covered in the national system. For example, the establishment of forecasting and early warning systems, as well as the redirection of research efforts, requires narrative rather than statistical treatment. However, the importance will be to establish the trends towards achievement of national objectives within the context of national plans, as they correspond to the AGC/LPA. It should extend to checking the efforts made to motivate farmers at the grassroots, and their response.

78. A means to this end would be the establishment of indicative categorization of the information required, in the form of a common set of socio-economic indicators by reference to the categories of the AGC/LPA recommendations. A suggestive list of indicators is shown in the Appendix. In order to lighten the burden on monitoring services, to avoid duplication and to make optimal use of existing arrangements, the indicators recommended under the Programme of Action of the World Conference on Agrarian Reform and Rural Development (WCARRD) have been used whenever possible. It is emphasized that national monitoring would relate to national policies, plans and targets. National monitoring reports, which might be produced at biennial intervals, would be the basic building blocks of a regional monitoring review.

2. The regional system

79. Regional monitoring needs to bring together into one focus the results of national monitoring and the monitoring of those objectives which are specifically subregional or inter-country. It is in this respect that common categorization of socio-economic indicators can facilitate the synthesis. The main categories of specific regional action called for by the AGC/LPA are:

- subregional food security arrangements for collective self-reliance;
- studies on the establishment of regional food trade and distribution organizations (for action by FAO/ECA in collaboration with regional and subregional organizations);
- subregional training centres and workshops on livestock production, slaughterhouse practices and poultry and small stock development, and forestry;
- regional and subregional animal disease and plant pest control (trypanosomiasis, rinderpest, regional quarantine system, foot-and-mouth disease and desert locust);
- intra-African fish distribution (trade, infrastructure);
- subregional cooperation in the assessment of fish potential and management of common stocks (oceanic and international lakes and river basins);
- regional development and harmonization of forest industries;
- strengthening of existing regional forestry bodies;
- inter-country cooperation in the form of production, trade, price and financial agreements;
- inter-country cooperative research programmes;
- resources - external financial flows;
- regional training in preparation, execution, monitoring and evaluation of agricultural development projects.

80. The objects of regional monitoring should be to provide an overall survey at biennial intervals of progress in the implementation of AGC/LPA in the terms and categories of the Chapter. This consists of: (i) the degree of achievement of specific targets, and (ii) the degree of fulfilment of AGC/LPA recommendations not susceptible of regular progressive quantification. For the first, the main source of information would be the national reports, compiled into a regionwide synthesis. The regional responsibilities summarized above are, in the main, more a matter of descriptive than of statistical monitoring.

81. Much also remains to be done in persuading donors to adopt AGC/LPA resource targets, priorities and categories in their dialogue with recipients, in planning their resource flows and in monitoring their own performance in these terms in their policy and procedures reviews.

82. Because of the nature and origins of the AGC/LPA and responsibilities under it, monitoring would require careful inter-agency coordination, especially among FAO, OAU and ECA. Compilation of the biennial regional monitoring report could be a shared inter-agency responsibility. For this, some sort of formal or semi-formal machinery would be necessary:

- (i) a collecting point for the receipt of national reports, and collation with other data flows;
- (ii) machinery for the compilation of a regional report;
- (iii) arrangements for a review of the reports at inter-governmental level.

83. For the collecting point, the Joint ECA/FAO Agriculture Division would be appropriate. FAO Country Representatives could assist as necessary in channelling data flows relating to the indicators, such as replies to questionnaires, country reports and reports of special missions. The compilation and submission to inter-governmental review of the biennial report could be made the joint responsibility of the Joint Division and of the FAO Regional Office, using existing financial and manpower resources. It was the view of the African Ministers of Agriculture that the suitable intergovernmental forum might be the FAO African Regional Conference, which could make the review a standing item of its agenda. There would, however, be no obstacle to OAU and ECA doing the same in their Governing Bodies as appropriate.

#### C. Proposed action

84. The Conference may wish to join the African Ministers of Agriculture in recommending:

- (i) the establishment of a feasible monitoring system, as described above, for the purpose of measuring progress towards these objectives;
- (ii) the adoption of the indicative list of socio-economic indicators for monitoring the implementation of the Agricultural Chapter of the Lagos Plan of Action, as contained in the Appendix for optional selective use by Member Countries as appropriate to national monitoring of the implementation of their plans and targets under AGC/LPA;
- (iii) request OAU, FAO and ECA, in collaboration with other interested agencies, to assist in the establishment of the monitoring system proposed, and to provide guidance and training in the strengthening of national and regional monitoring systems.

#### VI. HOW THE INTERNATIONAL COMMUNITY CAN REINFORCE NATIONAL INITIATIVES

85. The proposed strategies imply policy reforms and major adjustments by the African countries, with all the associated problems in financing them. Due to emergencies and declining external earnings

and tax revenues from agriculture, many African countries are facing difficulties in mobilizing domestic resources for development and for meeting costs of needed policy adjustments and reforms. For a number of them, development programmes have been thrown into disarray.

86. The commitment to implement the identified priority strategies will therefore be required also from the international community; calling for their policy adjustments aimed at increased and sustained support, both capital and technical, in conformity with LPA's principles and priorities. While external commitment to African agriculture has increased, the resources committed fall far short of the amount actually invested in the sector, and also the LPA minimum required target. One estimate is that net capital flows to Africa south of the Sahara will decline from about US\$10 800 million in 1980-82 to about US\$5 000 million per annum in 1985-87, unless the donor community takes drastic measures to reverse the decline. <sup>1/</sup> In contrast to the declining trend in medium- and long-term regular flows of resources, there has been a positive external response for emergency assistance and disaster relief.

87. The impacts of existing and future external assistance on use of scarce resources would be substantially improved if better harmonization and coordination within governments, among donor and aid agencies and between the efforts of the African governments and donor agencies were effected. All too often, there is only a patchwork of many uncoordinated projects and programmes which, in the final analysis, end up not supporting the agriculture and rural sector. The international community can play a major role in assisting the African countries to help themselves. This can be done by stepping up assistance to resolve the technological, managerial and financial resource gaps impeding food and agricultural production in Africa. It also entails appropriate measures and policy adjustments to tackle problems of nutrition, food security and structural changes in international agricultural trade.

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<sup>1/</sup> Adebayo Adedeji, The Monrovia Strategy and the Lagos Plan of Action for African Development - Five Years After, paper presented at the ECA/Dalhousie University Conference on the Lagos Plan of Action, Halifax, Nova Scotia, Canada, 2-4 November 1984. As indicated in Tables 5 and 14 of Document E/ECA/CM.11/37, FAO data show that, so far as official development assistance is concerned, official flows of funds to agriculture increased during the late 1970s and early 1980s.

Appendix

Indicative List of Indicators for Monitoring the Implementation  
of the Agricultural Part of the Lagos Plan of Action (AGC/LPA)

Countries generally maintain some basic current statistical series which are relevant to the monitoring of AGC/LPA. These, in combinations inter se or with other data, provide analytical indicators, of which indices of trends are particularly useful. The main ones are:

Population

Gross National Product and Gross Domestic Product

Weather, by climatological area

Land use

Food security: level of strategic food reserves

Domestic agricultural production...(a) gross/net per capita  
(b) by main crop, livestock, etc.

Domestic food production.....(a) gross/net per capita  
(b) by main crop, livestock, etc.

Post-harvest losses

Agriculture imports/exports

Food imports/exports

Fish catches and landings

Forestry production and exploitation

Resource flows to and from food and agriculture: financial and manpower