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COMPREHENSIVE POLICIES AND PROGRAMMES FOR
LIVESTOCK DEVELOPMENT IN AFRICA

Volume I

"Problems, Constraints and Necessary Future Action"

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FOREWORD

This paper "Progressive Development of the Livestock Sector in Africa," is in Two Volumes, respectively embracing "Problems, Constraints and Necessary Future Action," and "The Performance of the Livestock Sector, 1968-1982," was undertaken by the Secretariat of the United Nations Economic Commission for Africa in collaboration with the Food and Agriculture Organisation of the United Nations.

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I. INTRODUCTION

1. This study, directed at the livestock sector of the member States of the Organization of African Unity (OAU), was prepared in response to Resolution 463 "Assistance to the Livestock Sector in Africa" adopted by the Ninth Conference of Ministers of the Economic Commission for Africa (ECA) in Addis Ababa, Ethiopia, in 1983. The Resolution called upon the Secretariat of the ECA Commission to conduct, in close collaboration with the Food and Agriculture Organization (FAO), perspective studies in the livestock sector, evaluate progress, and formulate a specific approach to the development of this sector aimed at increasing the contribution of livestock to food and agriculture development.
2. The study was planned in three phases: Phase I was exploratory and preparatory, encompassing the modalities for collaboration between FAO and ECA and the outline for the major study. The main issues to be addressed in the study were identified and presented in a progress report to the 1984 ECA Conference of Ministers. Preparation of the present report entitled "Progressive Development of the Livestock Sector in Africa", constituted Phase II of the work. The report is scheduled to be presented at the 11th meeting of ECA Conference of Ministers in 1985. The follow-up actions as proposed by this Conference together with the perspective studies will be the subject of Phase III.
3. In preparing the present report, desk studies and review of existing literature was undertaken by the ECA Secretariat, which also held extensive discussions with field livestock specialists working with other international organisations, particularly FAO and ILCA. In addition, an ECA staff member travelled through a part of Africa and attended meetings organized by ILCA, the African Caribbean and Pacific Countries/European Economic Community (ACP/EEC) and by ECA to gather extra valuable inputs to the study. Some help was also obtained from a consultant on livestock in Africa. His considerable knowledges of livestock problems and international development assistance have been most useful.
4. The present paper has drawn upon another paper entitled "Production and Quality Improvement of Livestock Products in the Preferential Trade Area (PTA) of Eastern and Southern Africa", which was presented at the Second Meeting of the Technical Committee on Agricultural Co-operation of the PTA in 1984. Furthermore, the outcome of an Expert Consultation on Livestock Research and Development in Africa, sponsored by ECA/OAU in 1983 have contributed to the inputs to the study.
5. The present report has attempted to formulate suggestions and recommendations on achieving self-reliant, self-sustaining and steady progress in the development of African livestock through:

(a) evaluation of livestock development problems in Africa; how these are seen by the individual producer, the government and international organizations and donors. The same resources are available to all three groups but they usually have differing or even conflicting objectives and approaches and solution.

(b) an analysis of livestock sector performance over the last 15 years, 1968-1982. Reviewing the patterns of livestock production and development resulted in a stratification of the African region based on - breeding, cropping, and intensive production of meat, milk, eggs - and ecological and socio-economic factors. Also, factors affecting the supply and demand of meat were analysed. A review of production, consumption and trade patterns for livestock products and by-products for the same period was made on the basis of ECA country groupings of the African countries, except that the Great Lake Countries (Burundi, Rwanda and Zaire) and Angola were added to the Central African subregion to reflect the newly formed Economic Community of Central African States (ECCAS) (see Table 1). This chapter, along with the tables, contribute part II of this report.

(c) an identification and critical analysis of constraints of the livestock sector, especially policies on land tenure, production, marketing and pricing, as well as accompanying measures, animal disease, control and eradication policies, the behaviour of the producer; and lastly,

(d) suggested actions at national, subregional and regional levels. Because various strategies, related programmes and projects to increase food and animal production and improve marketing have not been very successful, it was proposed to analyse the mitigating factors before proposing new strategies, while recognizing that natural and man-made calamities also contribute to the poor performance of the livestock sector. However, the most significant constraints lay in the inadequacies of the policies and the actions taken to implement the desired livestock improvement measures. Therefore, to reverse the unfavourable trends, dramatic changes in planning approaches, pastoral and tenure, production, marketing and pricing policies, animal health services and the responses of pastoralists are urgently needed. These changes will entail socio-economic costs and political risks; but it cannot be over emphasized that future social benefits will outweigh these costs. Such changes will assist in creating the appropriate framework for African countries to intensify collective efforts for greater self-reliance and self-sustained progress and development of livestock and thereby contribute to the attainment of an African Common Market by the year 1990, and the African Economic Community by the turn of the Century.

6. It is hoped that the discussion on the main issues will foster progressive development of African livestock and that this study will provide valuable inputs to the Lagos Plan of Action (LPA).

II. THE PROBLEMS OF LIVESTOCK DEVELOPMENT IN AFRICA

A. What are the problems?

7. The problems of livestock development may be considered at three levels embracing the producer, government and funding agencies.

At producer level

8. Conceding the socio-economic, institutional and natural environment in which the great majority of African producers, particularly pastoralists, are living, the problem of the individual producer is to minimize the offtake of animals for meat production subject to the following constraints:

- satisfying the subsistence requirements of his household, including the provision of a fixed quantity of services, animal traction, manure (for fertilizer and fuel), milk and the satisfaction of cultural and religious needs;
- the reconstitution of herds after catastrophic droughts and diseases and/or other man-made calamities; and
- coping with the availability of other scarce resources and services, such as forage and feed, water, veterinary services, pricing and marketing and other institutional constraints such as those relating to policies of input and output, land tenure and credit systems.

At government level

9. The government's perception of the problem of livestock development visualises:

- maximizing the contribution of the livestock sector to the overall socio-economic development of the country through increased quantities of quality marketed meat and milk;
- eliminating constraints in production and marketing, and those inherent in the aggregate behaviour of producers leading in particular to sub-optimal exploitation of range and animal resources;
- improvement of efficiency especially where government funds are used.

At funding agency level

10. The donor countries' or aid agencies' understanding of the livestock problem in Africa has been:

- to modernize a rather backward system of livestock raising;
- recognising the need to provide funds to carry out those actions deemed important and/or politically acceptable to the donor;
- accepting the need to provide technical assistance to ensure that defined actions are carried out "properly" and that aid money is spent "correctly";

In the early 1980s, donor agencies such as USAID and EEC felt the need to define new strategies within a related framework for interventions in African livestock based on their experiences.

B. Has there been progress in solving individual and collective problems?

11. In Africa today, rangeland is largely publicly owned and used communally for grazing, while the animal resources are largely individually owned and exploited, even within a family. The efforts of governments are channelled mainly through projects and programmes largely financed by external aid, contrary to the wishes expressed in the LPA. During the 1970s, African governments were particularly successful in mobilizing outside funds for livestock development so that national efforts have only supplemented donor contributions.

12. Most of these projects and programmes were designed to transfer new technologies and/or to transform the "traditional" sector into a modern livestock sector, and were centred around the following components:

- range water development;
- delivery of animal health services;
- creation of marketing boards and/or processing and marketing facilities;
- consumer price stabilization;
- manpower development;
- credit programmes;
- introduction of modern techniques and management methods and improving indigenous techniques.

- change of diet of the pastoralist from animal products to cereals to diversify his eating habits;
- increase the protein intake of the urban consumer;
- improve the country's balance of payments.

All these are believed to contribute to the change from a subsistence to a monetary livestock economy.

13. Why did African governments resort to the project and/or programme approach to develop their livestock industry, rather than build on indigenous technologies and private initiatives of producers and stock and meat dealers?

First, a project is an easy way to transfer resources from developed countries to African countries. Also, it is a reasonable method by which to bring about rapid modernization of livestock through new techniques and management methods. Furthermore, it is the best way of returning much of the taxes collected in the livestock sector, in the form of quasi-free access to invested resources (water, pasture), animal health-care, etc. However, owing to the complexity of the problems and the magnitude of the demand for services and inputs particularly in areas with comparative advantages in breeding and to the difficulties in which most African countries have found themselves, it is becoming increasingly difficult to mobilize resources, particularly financial, to satisfy adequately the needs of the livestock sector through the project approach.

14. In recent years, most evaluations of livestock projects and programmes recognized that the outcome has been below expectations and that the resulting contribution of the livestock sector to overall economic growth was smaller when compared to its cost, and was much below what had been expected. Moreover, it was found that the unintended consequences of the great majority of these programmes and projects often outweighed the declared objectives, which of course is an indication of poor identification, inconsistent formulation, incorrect choice, inadequate financing and ineffective monitoring and evaluation. As a result, the prestige gained by the livestock sector during the 1970s is beginning to decline and livestock owners, consumers and tax-payers now feel they have been placed at a disadvantage because of current livestock policies and measures.

15. In contrast, the producers and multiple decision-makers, now use various instruments in solving their problems. For instance, to minimize the impact of calamities like drought and disease the producers keep animals of various sexes, age and categories, and in large numbers, and distribute them among relatives living far away. Also, the producer uses transhumance to cope with the seasonal availability of resources, particularly water. Furthermore, during the drier season, the producers barter manure and milk for water for animals, crop residues and cereals.

Additionally, it is to be noted that the operating cost of the livestock farm in terms of cash is low, the diet of stockowners is mainly based on milk, and the dowry is based on the principle of exchange of animals between families so that the total cash needs, which will involve the selling of animals is kept to a minimum.

16. In recent years, the production systems and environment of producers received several shocks, due mainly to government interventions, droughts and disease making increasingly difficult to use fully and efficiently the above-mentioned techniques. In particular, owing to the widespread and recurrent nature of drought and disease, the transhumance and nomadism techniques are no longer as efficient as in the past in coping with the seasonal availability of resources, and to minimize the impact of calamities. Furthermore, the producer very often adopted, vis-a-vis governmental interventions, a strategy not always conducive to progress.

17. In the early 1980s, the framework and strategies for intervention in African livestock were designed by the major agencies. However, this often led to problems between them and the assisted government, since some of the strategies required changes. Past experience has shown that policy and administrative reforms are difficult and delicate, particularly when requests for such reforms are considered by African governments as an interference in the affairs of State instead of being solutions to their problems. Further, this problem is considerably magnified when a multitude of donor and lending agencies have to intervene in a single country and very often without coordination. This intervention of a new problem by the agencies is likely to make it much more difficult to mobilize their resources for government programmes. There is the danger that the agency might be ready to finance livestock development activities that do not reflect the government's priorities or even run counter to them. The rescheduling of debts requested more and more by African governments is jeopardizing their credit worthiness to the point where African countries will find it increasingly difficult to obtain loans on the international financial market without proper guarantees.

18. Thus, it will be seen that the ways in which individual problems have been tackled so far have produced serious shortcomings explaining why African livestock has been performing increasingly poorly. However, general awareness of the worrying state of livestock and the need to reverse the present trend is reassuring and fully justified the adoption in 1983 by the ECA Conference of Ministers of Resolution 463: Assistance to the African livestock sector, and the attention drawn for the first time by the ACP/EEC Council of Ministers to livestock farming, which stressed in particular the inadequacy of the measures for fixing meat prices and the ensuing effects on the keeping and feeding of animals. However, policy issues are at the heart of the livestock problem. Available trained manpower, although limited and inadequate, is often under-utilized and current technical and scientific knowledge on how to tackle the constraints is sufficient to ensure reasonable progress and to realize part of its potential. Although finance is often cited as the

major constraint, this study postulates that if appropriate policies for mobilizing local resources, particularly those of producers, are evolved, this constraint will be significantly alleviated. This is particularly true since the request for rescheduling of debts tends to jeopardize the credit worthiness of African governments. In all cases, if more marketed meat and milk were to be produced on a regular basis, it is essential that all parties: producers, governments and funding agencies change policies and attitudes toward the development of the sector, and become more flexible in implementing their policies and strategies.

III. THE BASIC CONSTRAINTS TO LIVESTOCK DEVELOPMENT

19. The technical constraints impeding development of the livestock industry in Africa are well documented. The expansion of meat and milk production has been somewhat disappointing in many regions of the continent. It may be irrelevant to go into an extensive description of all the known constraints. Therefore, emphasis here will only be on those factors which currently keep livestock production in Africa below expectations, despite the efforts to stimulate it, and the considerable knowledge on how to remove the constraints.

20. The environmental constraints may be geographic or climatic, inasmuch as husbandry techniques vary considerably from the arid and semi-arid zones to the humid or sub-humid zones, or to the highland areas. The rainfall pattern determines the production of forage; the geology of the terrain determines the availability of and the ease of access to underground water. Furthermore, the existence of vector-borne diseases such as trypanosomiasis, piroplasmiasis or East Coast fever limits the use of large areas of Africa by livestock.

21. Many breeds of cattle and small ruminants particularly exotic ones, have no genetic tolerance to vector-borne diseases. The problems posed by the eradication programs of the vectors - especially tse-tse, are compounded by environmental implications. The size and genetic make-up of African breeds are also known to cause low-level productivity in these animals. Attempts to increase productivity by crossbreeding with exotic breeds have not always been successful because of certain diseases and environmental conditions.

22. The African continent is plagued with major infectious and contagious animal diseases: rinderpest, contagious bovine pleuropneumonia, African swine fever, pasteurellosis, anthrax, blackleg, foot-and-mouth disease, brucellosis, etc., which not only affect the development of the livestock industry, but also keep livestock products away from the more profitable markets of the EEC and the Middle East.

23. Institutional constraints (delivery of health services, research, extension, education training, marketing etc.) are seriously felt at the local, national and sub-regional or regional levels in Africa. Coordination

is often lacking and duplication and/or overlapping is not uncommon particularly where collective self-reliance is imperative.

24. Training and research efforts are dispersed; there is dire need for linkage between training, research and extension, while non-formal training is becoming more and more urgent.

25. Whereas the funding (both national and international) of livestock programmes has been and still is, a major constraint in past years, recurrent financing and counterpart costs are becoming increasingly a serious problem. Development projects seldom last long enough to generate internal resources to meet the operating cost.

26. At the social level, development objectives of governments are not often clearly indicated to producers. Whereas the producers' conception of livestock raising and their behaviour towards the environment have always been misinterpreted by government and donor agencies. Access to land may still constitute the greatest bottleneck in many areas of Africa.

27. Probably the economic constraints, as will be analyzed later, most seriously impede livestock development in Africa. These are:

- production inputs: quality and quantity of natural fodder, availability and proper utilization of agricultural and agro-industrial by-products; availability and cost of manufactured animal feeds;
- marketing: numbers, financial capacity and organizations of traders; movement of animals and products (meat, milk, hides and skins and other by-products) from production areas to consumption centres; contracting and standardization; credit financing and insurance; sanitary regulations; prices; competition from subsidized extra-African livestock products, market intelligence;
- pricing policies, both of live animals and meat and meat products as seen by government agencies, producers and operators;
- processing, which is generally handicapped by the lack of infrastructure and outlets for the finished products;
- data collection, analysis and diffusion, an area long neglected by governments as well as by donor agencies. The reliability (or even the availability) of baseline data, often very low causing many projects to miss their objectives.

28. Other constraints to livestock development in Africa include, among other things:

- the political perception or motivation of some governments, which may shed the notion of collective self-reliance in the livestock sector;
- the lack of efficient communication networks, and good road infrastructures;
- the lack of concerted action by governments.

29. Since the early 1970s major efforts have been directed toward removing the constraints to the development of livestock in Africa. However, due to weaknesses in concept and approach, these efforts have not always measured up to the problem and the potential of the livestock industry. Thus, the results have so far been disappointing, mainly because of the failure of government and donor agencies to take fully into account the motivations, objectives, aspirations and strategies of the pastoralists, when designing and implementing projects.

30. Quite often, African producers have no control over management of basic resources such as forage and water; so he has no motivation for the maintenance and improvement of these resources, and therefore, for the reduction of the impact of drought and/or disease. He has no control over the delivery of animal health services as these are provided by the government. Although the health services are particularly for the benefit of the producer he has no say in the quality or the time of delivery of such services. Consequently, he resorts to keeping larger herds than available resources can sustain as security against natural calamities. He is thus assured of always having something to start with again, while managing at the same time to satisfy the subsistence needs of his family. Thus building-up of the herds takes precedence over the decision-making process of the producers, especially as offtake (sales for instance) is concerned. Although the behaviour of individual producers is rational, their aggregate often constitutes a major constraint to improved animal productivity and increased meat production. Only the removal of the causes of this constraint would reconcile the objectives of individual producers and those of the society as a whole. At present technological know-how is sufficient for reasonable progress to be made, but past and on-going programmes have found it difficult to deal effectively with the main factors leading to the herd-reconstitution drive. Consequently, this study stress the reasons for this failure, and suggests ways of reconciling the objectives of producers and society on the one hand, and the strategies of pastoralists and governments on the other.

The major constraints to livestock development in Africa have been classified into five categories for the purpose of this report.

A. PLANNING APPROACHES FOR LIVESTOCK DEVELOPMENT

31. The underlying cause of the poor performance of the livestock sector is the little knowledge and/or complete misunderstanding of the producers' problems and requirements. Thus, projects and programmes designed to alleviate such problems are often built upon wrong assumptions and inaccurate information.

Misunderstanding of the producers' problem

32. For many centuries the pastoralists have lived in their own environment, managing their herds and exploiting their god-given resources with minimal, and often without outside interference. In recent years has come the era of development projects. Project designers came in to review existing livestock production systems and in consultation with the producers, to advise ways and means of reconciling the development objectives and strategies of governments and producers. However, there is ample evidence that most projects have been designed and carried out with minimal consultation between government agencies and producer communities. There is also abundant evidence that project staff and administrators tended to consider the objectives, strategies and behaviour of the producers as major constraints to achieving project goals, especially in beef production schemes. Therefore, the multiple function of cattle and the multiple-decisions of the producers have been ignored, although the bulk of the livestock concerned belonged to producers, particularly nomadic and transhuman.

33. As a consequence, producers had no choice but to conform to the wishes of project staff and administrators, adapting their strategies to project activities to avoid confrontation; but this adaptation never succeeded (as it was not spontaneous) and therefore did not lead to progress in livestock development. This situation sometimes forced producers to flee from their own country to nearby areas, where they could feel more at ease. That is why it is not uncommon to find producers, especially in areas with a comparative advantage for breeding (ACAB), holding more than one national identification card. It allowed them to move freely from country to country.

34. Poor communication, or the lack of it, made development planners and policy analysts of the livestock sector misunderstand and/or poorly appreciate the herd reconstitution objectives of the producers; so, they tried unsuccessfully to change the behaviour of the producers through small-scale, experimental and piece-meal type projects and programmes. There are further indications that these projects and programmes created new technical constraints, without solving the problems for which they were designed. This was so in areas equipped with solar and/or diesel pumps, which did not have the concomitant training of repairmen.

35. It is obvious that one cannot hope to improve, livestock production in Africa without modifying the producers' behaviour (in his own interest as well as that of society as a whole); yet it is important to introduce

technological and social changes in rural societies in a logical way, while resolutely trying to solve problems such as those created by severe droughts and epizootics (the underlying causes of the reconstruction drive), especially watering, grazing and health care. Suggestions for dealing with these problems are made in the sections on land tenure, and eradication of animal diseases.

36. For many years, (from colonial days until recently), most of the investments in range areas (especially the ACABs) were carried out by governments, while herders only moderately contributed to the national budget through a kind of income tax levied on the herd. However, in recent years two things have become obvious. First, many governments were not in a position to deliver the quantity and quality of inputs and services commensurate to the magnitude of the problems to be solved. Moreover, few, if any countries, can afford the high costs of past development schemes by which all investments were their responsibility. There are even indications that many countries are increasingly finding difficulties in maintaining and fully operating existing infrastructures and equipment. Second, the herders were not much interested in public investment in which they did not participate directly. This then raises the problem of responsibility, management and maintenance. The solution to this problem, as envisaged by government specialists (and more or less accepted by herders depending on the regions), was to make herders participate directly in the development effort in the form of user-charges on a per-head basis. It would cut short the free access to range resources, watering facilities and animal health services as public utilities. The consequence will be an improved protection of the environment (control of stocking rates, control of bush fires, deferred and/or rational grazing, etc.), a less wasteful usage of water resources, regular repair of broken-down equipment by the users themselves, and less burden on the government treasury. It is no secret to anyone that the salaries of government officials make up a sizable portion of the budget of livestock services in most African countries. Whatever is left is hardly sufficient to cover the operating costs of the livestock sector. As a consequence, many herders had little or no access to government services.

37. The public ownership of range resources, the delivery of services free of charge, and the resulting mismanagement of basic resources and investments, increases the risk of drought and the outbreak of diseases, which in turn tend to favour the herd reconstitution drive. Yet present development concepts seem to discourage private ownership of public investments. As a consequence, the herder bears little financial burden in his production, and has no motivation to sell more animals than necessary to satisfy his household needs; which in turn is contrary to the government's objectives of supplying meat and milk in adequate quantity and quality to the local and export markets.

38. At the same time, government investments can seldom meet true objectives; they are often made say for 200,000 animal units (A.U.) where the need is for 500,000 A.U.s. This is derived from a poor

knowledge of the livestock population in many areas, due either to inadequate census, inaccurate declarations of the herders for the purpose of tax evasion, or to the excessive mobility of livestock because of the public ownership of range resources. Most of the investments are viewed by herders as a right because of the head tax they pay for their animals, rather than a necessary evil for the up-keep of which they must be responsible.

39. However, as the demand for more investments (improved range, fire-breaks, diagnostic laboratories, boreholes, etc.) and better animals health delivery services becomes greater every day, there arises the need for a more responsible and dynamic participation of the herders. Governments will be less and less capable of providing such services and utilities in adequate quantity and quality. Thus, as a matter of priority, there is a need to evolve policies which will induce and ensure progressive and active participation of the producers in their own development. The institution of user-charges to be managed by the producers themselves becomes a must. However, this approach needs to be adopted across the board by several neighbouring countries if it is to succeed in any of them. The experience of the sale of animal vaccines in areas where vaccination is mandatory made the herders flee to neighbouring countries where either the vaccines are free and/or vaccination is not mandatory.

The Problems with Development Projects

40. Livestock development projects, as elaborated and implemented, have seldom been considered as a means (rather than as an end) to solving particular problems. Instead, they are viewed as appendices of the government administration, especially when benefits accruing to project staff are disproportionate with benefits for non-project staff, and when such benefits bear no relationship to the performance of the individual project staff or the project output itself. Rivalry between project and non-project staff, and sometimes between expatriate and counterpart staff, is not uncommon and can be attributed to the great difference in salaries and other benefits. Often social or political pressures lead to over-staffing and frequent changes of project managers. The consequence of all this is poor project performance, stagnation of the livestock sector and mis-allocation of scarce resources.

41. As already indicated, the baseline data on which the project is built is often scanty and quite unreliable. Information on the needs and on the behaviour of the herders is distorted. Economic projections are no more than educated guesses; there is little provision for generating new data. Project headquarters are often located far from the project site, usually in the national or in the regional capital city; the institution accountable for the project is not clearly identifiable, or its relationships with ministerial departments are not well specified. The monitoring and evaluation tools and mechanisms are not built into the

project. The overall consequence is that many projects terminate without having solved the problem for which they were designed. The first requirement for designing a viable project appears to be the baseline data. It is essential to define the type of data required, to collect and to analyze it on a permanent basis. For livestock, animal numbers and bio-economic parameters are essential. Regular livestock censuses (5 year intervals for instance), monitoring of livestock movements, periodic inventory of available natural resources, all these concomitantly in neighbouring countries, may be good approaches to generate acceptable data.

42. Generally, the donor country or agency plays a leading role in project design. The donors' ideas and objectives must often be taken into account for funds to be released to the recipient government. Experience has shown that such ideas are not always in line with the development objectives of the country, or of the particular herders concerned. In the case of comprehensive programmes, a donor agency might choose to finance only one activity, which often is not essential to the success of the programme. This activity may only be experimental in nature, and its failure to succeed could well over-shadow all other objectives, and result in a discontinuation of every other type of funding of the comprehensive programme. This has been so in many arid zone projects in which less than adequate management of a borehole caused the suspension of the funding, despite all other benefits derived from the programme. Therefore, it can only be requested of donors to refrain from imposing their ideas and to show a longer-term commitment in their efforts to assist recipient countries. They should, in agreement with recipient governments, study ways and means of giving the local project staff conditions adequate enough to ensure good performance and to avoid a high turn-over rate. However, to facilitate this, greater national efforts should be the mainstay in the development of the resources. Therefore, external assistance should only supplement such efforts, which is possible in the livestock sector of major producing countries.

The Planning Process

43. Another, no less important factor, is the choice of project ideas and the selection of project areas. Policy formulation and coordination among departments and government institutions are at stake here. The planning process is usually centralized to make for better utilization of scarce national financial resources. In many instances the urgency of the work is such that the answer is required even before work has started. Consequently, most development plans have been no more than a catalogue of project ideas, with rough estimates of aggregate costs and the enumeration of qualitative benefits to be derived. Thus, it has been almost impossible to achieve vertical and/or horizontal integration of activities, and often the objectives could not be realized within the plan period and the effectiveness of planning became less evident. In the planning process, there are also indications of poor identification of

problems and formulation of objectives, incorrect setting of priorities, inadequate funding and ineffective monitoring and evaluation of activities of the livestock sector. In 1983, Tanzania recognized that, because of poor planning and organization, it was still far from self-sufficiency in meat, milk and other dairy products, despite a cattle population of 12.5 million head. Therefore, it is deemed that any planning process should rely on sound conceptual foundations, that there is a clear understanding of problems and goals on which to develop the appropriate model for livestock development. Equally important are a meaningful and appropriate data base and an understanding of the empirical relationships necessary to predict the outcome of alternative policies. Otherwise, it will become increasingly difficult to implement comprehensive and well-integrated plans in the face of financial, management and organizational constraints.

44. As opposed to many other sectors, livestock production and trade activities are largely in private hands throughout Africa. Attempts to replace the private sector through the promotion of initiatives in the public sector as well as government initiatives through projects and parastatal organizations have been unsuccessful throughout the continent. Therefore, in planning livestock development, efforts should be directed towards constructing the appropriate framework to stimulate the creativity of the producers and the research and development staff; encouragement of innovations and the adoption of innovations in the livestock sector.

45. There is also a lack of harmonization and coordination in the planning process at sectoral and national levels. A lack of integration of livestock development policy and planning into overall economic planning is particularly common in Africa. How often are agro-industrial by-products exported as raw materials, while plans are approved at national level to use them as feeds in the livestock fattening industry? Also, in planning the allocation of land there is a tendency to continually push livestock producers to peripheral areas and thus earmark all fertile land endowed with good rainfall for cultivation. This trend may continue as long as food security problems assume increasing importance in the majority of African countries. Furthermore, in the planning process of the rural economy, the livestock sector does not enjoy the same inputs and credit as does the cash-cropping sector, to which it is comparable in terms of generating income.

46. Another drawback in the planning process of African countries is the failure to bear in mind the principle of collective self-reliance, as clearly spelled out in the LPA. This principle should imply in the livestock sector the pooling of resources - manpower, markets, institutions, finance, etc., at the subregional, and regional levels achieving effectively the objectives assigned to the sector. Since meat is considered in Africa as a strategic commodity, even the meat-deficient countries have earnestly striven to become self-sufficient in meat production, regardless of production cost. It has often been seen that countries with low potential for animal production have spent huge sums of

money to produce, after five years of effort, sheep weighing 18 kg. live, whereas countries with the necessary advantage were in a position to produce on natural grazing, mutton carcasses of 20 to 25 kg. At the same time, livestock countries have been striving to maximize their export revenues from livestock and livestock products. These conflicting attitudes create unnecessary competition for the limited financial resources made available by donor countries and agencies, and impede the efficient implementation of vital national, sub-regional or regional programmes. Therefore, efforts should be made to prepare integrated strategies at national and sub-regional levels for a better coordination and monitoring of programmes, and a more efficient use of national and international resources.

B. LAND TENURE POLICIES

47. Since independence, many African governments took over by decree the ownership of all land, mainly for equity motives. Thereafter, usufruct of specified portions of land had to be obtained from government and/or appointed traditional chiefs. This was particularly true in ACACs and ACAIs. However, in ACABs, rangeland remains largely publicly owned and is used communally with or without an effective code of use, and proper method of management of range resources. It should be recalled that in many ACABs, the traditionally evolved regulations for access to grazing land and water were either abolished without anything else taking their place, or governments introduced new regulations thought to be more suitable or efficient. Also, the access of livestock producers to land in humid zones, where rainfall is relatively regular and abundant, is often limited by the presence of tsetse flies and ticks, as well as by a tenure policy which tends to favour crop cultivation through the earmarking of all fertile land endowed with good rainfall. Analysts of rangeland policy in Africa are faced with confusion, since they are caught in three inter-related evolutionary processes of land tenure systems. There are two types (variants), of communal and one of individual tenure systems, which all may exist side-by-side in the same country.

Communal Tenure: Variant 1

48. Under this tenure, the rangeland is publicly owned and used communally without a set of regulations and mechanisms for regulating its access. The decision-making process concerning the use, management and development of range resources (water and forage), particularly for controlling carrying capacity, as well as the disposal of products, becomes very complex and costly. Therefore, no individual or group of individual producers is sufficiently motivated to invest in improvement programmes, or even to maintain the quality of existing resources. In addition, the producers feel little responsibility to the society for the conservation of the environment, and this has resulted in increased fragility and further degradation of the eco-systems. Therefore, under the system of publicly-owned and communally-grazed land, conservation measures, investments or improvement programmes are almost exclusively the

responsibility of the government. Furthermore, the land tenure policies of most African countries, (especially in the ACAB's), do not allow for optimal allocation and efficient use of the scarce range resources, and therefore are not conducive to progress in the livestock sector.

49. However, it has to be stressed that few, if any countries, could afford the high cost of the past development schemes and in recent years many African governments have increasingly found it difficult to maintain and fully operate the existing infrastructure and equipment. Consequently, the producer and particularly the pastoralist, who is risk adverse, has no choice but to reinforce herd reconstitution by minimizing the offtake of animals for cash sale, and maximizing the number of animals he owns. Unfortunately, wrong conclusions have always been drawn about the motives of the pastoralists, because his actions have been wrongly analyzed and interpreted. For example, the tendency to hold large numbers of animals has often been interpreted as a desire for a large herd to satisfy social status in a society which is known to be constantly on the move (trans-humant or nomadic) or to maximize his benefit from the common range resources. In fact, the rational behind minimizing the offtake of animals has been to enable the producer to reconstitute his animal numbers, while still being able to satisfy the subsistence requirements of his household after outbreaks of disease and drought. These calamities are occurring at shorter time intervals and becoming more widespread than in the past.

50. Also, the family, as well as the animal resources of the producers, are split and scattered over a good portion of every year in search of forage and water, which has made it increasingly difficult to take full advantage of the services and goods available to the urban consumers, and therefore to improve the standard of living of his family beyond subsistence level. This inhibits his ability to take full advantage of the available techniques for the management of range and animals.

51. At the national level, the impact is felt in terms of further deterioration in the self-sufficiency ratio, per caput supply and balance of payments, and higher rates of under-employment, particularly among pastoralists and high- and middle-level trained animal health staff, and under-utilization of existing animal health and marketing facilities and equipment. All in all, the application of such tenure policy leads to the further impoverishment of the pastoral society, in particular, and of society at large. It also results in the greater dependency of Africa on external sources of supply of meat and milk.

Cummunal Tenure: Variant 2

52. Under this tenure, access to range resources is regulated either traditionally or with the assistance of a project as in the case of group ranching, which was particularly widespread in East Africa. Variant 2 is better than Variant 1 since the decision-makers are few, and therefore known to each other. Also, the community is made collectively responsible for the conservation and management of the range resources.

53. As stated earlier, well-established traditional mechanisms for regulating access to rangeland were destroyed in most ACABs. In contrast, the failure to respect effectively the plans, and planning, as spelled out in the project has impeded the success of most group ranches. In particular, it was often impossible to agree on the disposal of animals so that as compared to Variant 1, the offtake was higher, but less than expected or required. Also, the degradation of range resources was lessened, but not to the fullest extent.

Individual Tenure

54. The third system is the individual tenure, based on the principle of demarcating a piece of rangeland for use all the year round, by the individual or group of individual holders. This tenure has rarely been practised in the ACAB and therefore its adequacy and relative merit are difficult to judge. However, if one considers the experience in ACABs of private and public ranches, particularly concerning beef and milk production, the number of failures is greater than that of success, although this state of affairs cannot be attributed to the tenure system.

55. In proposing individual tenure as a possible solution in ACABs, the land policy analyst is asked the following questions: Firstly, how do you solve the problem of equity, particularly as regards the distribution of range resources, between the large and small stockowners? The distribution of range resources should be carefully planned in consultation and collaboration with large as well as small stockowners. It is also important to devise and effectively implement regulations to fulfil the income distribution objectives, particularly within the pastoral society. Equally important is to have legislation with a view to ensuring a proper balance between range availability and animal resources. Secondly, questions are raised as to how many producers can afford the minimal investments needed to make livestock production profitable? The answer is not too many. However, it has to be stressed that if the individual tenure system is adopted, the interventions of governments in the livestock sector need to be reoriented toward facilitating the delivery of services, inputs and credits to producers through both private and public channels, to ensure the success of the system. Other questions are related to the sedentarization of transhumant or nomadic populations. Foremost, it has to be borne in mind that transhumance and nomadism are primarily techniques to cope with the seasonal variations of range resources, than a way of life, as often implied by anthropologists.

56. From the foregoing, it can be inferred that something must be done regarding land tenure systems particularly in ACABs. The complexity of the problems and the possible political and social implications, should not become excuses to tackle the land tenure question, if livestock production in Africa has to increase in response to demand, and in a self-sustained way. The question remains: What should and can be done?

Possible Approaches to Land Tenure Problems

✓ 57. In proposing new or desirable tenure systems, it is essential to take into account all major weaknesses and strengths of past livestock development schemes. Initially, it should be based on the principle of individual, national and collective self-reliance as spelled out clearly in the LPA. In particular, own-effort should be the mainstay of the development philosophy in the African livestock sector, and external assistance (i.e., outside assistance to the producers or country or Africa) should only supplement own-effort. Therefore, development should come from inside, rather than from outside, and the producers should be progressively made responsible for the maintenance and development of the basic resources required for livestock production. Above all, the proposed tenure should be aimed at reconciling the objectives and strategies of all those who are concerned with livestock, notably the individual producer, government, merchants and consumers. It should assist in lessening the sensitivity of livestock production systems to drought and disease and to create and maintain conditions which are, at least conducive to productivity and production levels observed in ACABs during the recovery period.

58. In this study attempts have been made to propose approaches to reformulation of land tenure policies. The need for further detailed study is fully recognized and recommended.

Actions required in the short and medium-term

59. In areas where Variant 1 of communal tenure exists, every effort should be made to design an appropriate code of use of communal grazing land, with the required legislation for its effective implementation. In the medium-term and in all areas, an improved version of Variant 2 should be generalized. In all attempts to introduce changes, education of the producers is important with the producer being consulted early enough to ensure his later cooperation.

Actions required in the long-term

60. In the long-term, encouragement should be given by governments towards:

1. individual tenure, whenever feasible and appropriate, and the creation of conditions for smallholders of stock, to pool their resources so as to benefit from economies of scale;
2. the creation of reserves as well as testing and public grazing of land at strategic sites. As in forestry, Reserves Grazing Land (RGL) are required to ensure the protection and conservation of the environment and to assist producers when, due to localized drought, there are failures on individual plots.

Testing Grazing Land (TGL) should serve the research and extension institutions as a means of testing under the same natural conditions as the producers. This should provide an alternative to conventional extension services in agriculture. The Public Grazing Land (PGL) may play the role of regulating the market of roughage, feeder and slaughter animals to maintain their prices in a satisfactory range. The PGL may be used for integrating on a large-scale indigenous and new technologies to help close the gap between them. Joint ventures between private and public organizations, particularly in intensive production of beef, milk and feeds, should be encouraged on PGL;

3. careful planning and maintenance of cattle routes to markets based on the levy of charges;
4. supplying, when necessary and feasible, water to producers at a cost.

Measures to accompany these proposals

61. As stated before in this paper, the movement of animals and their owners across national boundaries is a common practice in Africa. To facilitate their movement across borders with cattle, the producers usually hold more than one national ID card. This means that major reforms in one country may affect or may be affected by what is done in adjacent countries, or by the attitude of neighbouring governments towards that reform. Therefore, to achieve notable progress and success in the livestock sector, the principle of collective self-reliance of LPA, which implies the pooling of manpower, institutions and resources, particularly range and financial resources at the sub-regional and regional levels, should apply. Foremost, the ACABs at national and sub-regional levels, should be clearly defined taking into account the ecological and socio-economic factors which necessitate the making of an inventory of these areas. As far as possible, agreement should be reached on the tenure system to be enforced simultaneously in all ACABs, divided by national boundaries or neighbouring each other.

62. The following measures are suggested, aimed at ensuring proper and accelerated implementation of the tenure system proposed above:

1. to design and effectively implement regulations to assist in achieving development objectives, particularly those of income distribution;
2. to facilitate the creation of dynamic and adequate delivery systems of services, inputs and credits required in the livestock sector and related industries. These should include:
 - a) Credit. The need for credit arises from the long-term target for achieving development objectives in the livestock sector. To facilitate the extension of credit to livestock development, the creation of special financial institutions is necessary in most African countries. At the national level setting up

a Livestock Development Fund (LDF) would be an important and helpful step. These should therefore be encouraged. For forestry, similar institutions exist in many French-speaking countries and a LDF in Mali is under study. At the sub-regional level, the financial institutions of major economic groupings, especially ECOWAS, ECCAS, PFA should be called upon and encouraged to institute a Livestock Development Window (LDW) by allocating to the sector quotas or shares of credit primarily for financing viable livestock development projects and programmes. The same arrangement should be made at the level of regional financial institutions, such as ADB and the newly-created OAU Fund for Drought and Desertification. These national, sub-regional and regional LDFs and LDWs should assist in mobilizing bilateral, multi-lateral, national and individual, in particular livestock owners and dealers, financial resources for livestock development. They should intervene in financing and/or guaranteeing loans made available to the livestock sector by local or foreign financial institutions.

- b) the harmonization of marketing and pricing policies in the livestock sector. In facilitating the exchange of livestock products with other commodities and the integration of production structures across national boundaries, thereby enhancing collaborative and complementary actions in production and trade, harmonization of pricing policies in the livestock sector is required. A study on this subject is underway in the West African sub-region as requested by the 1983 Niamey-based MULPOC Council of Ministers. The LDFs and LDWs may well be suited to coordinate the implementation of such policies.
- c) Joint Ventures. Joint ventures between the private and/or public organizations at national, sub-regional and regional levels for the procurement, production, maintenance and distribution of basic inputs and equipment should be encouraged. Equally important are joint ventures in production and trade of livestock products and by-products, research and training.

C. LIVESTOCK MARKETING AND PRICING POLICIES

63. One question is often raised, both within government agencies and in international fora. Should livestock production be increased (in quality as well as in quantity) to boost its marketing; or rather should the emphasis be put on marketing, with the hope that it will stimulate production? This only stresses the importance of the issue of marketing.

64. A major concern for livestock producing countries is to ever increase their output of quality livestock, therefore of quality meat and meat products, at the most profitable possible prices, whereas the livestock and meat importing countries are ever seeking sources of high quality products at the least possible cost. These two positions can be reconciled only if the necessary actions are undertaken to improve the efficiency of marketing and marketing channels, to organize those operators who deal with live animals, meat, hides and skins, and in animal feeds. Some of the preliminary actions undertaken include constructions and equipment of livestock auction markets, the improvement of transportation, trekking routes and slaughter facilities. Intensive cattle fattening on range supplemented with agricultural and industrial by-products were underway, credit systems were launched, bilateral agreements were entered into by neighbouring countries (even if their enforcement or applicability was sometimes open to question. Market data collection started, and exchange of information between countries was attempted. Regional or sub-regional organizations have become more active (preferential Trade Area of Eastern and Southern Africa, Communauté Economique de l'Afrique de l'Ouest, Communauté Economique du Bétail et de la Viande, Economic Community of West African States, Integration Secretariat between Egypt and Sudan, etc.). But still a lot remains to be done.

65. The approach to the marketing of livestock and livestock products differs greatly from country to country. Whereas in some areas this activity is by and large in the hands of private interest groups, in others the trend has been towards creating monopolistic parastatal marketing institutions such as schools, hospitals, armed forces, etc., and in the operation of slaughterhouses and meat processing plants. In both there are advantages and disadvantages, depending on the economic orientation and the social structure of the country. Problems may arise only when a supplier wants to find a suitable, business-minded partner in an importing country or vice-versa.

66. The toughest bottleneck in the system is the pricing policy. For a long time, both producing and importing countries treated the livestock industry as a subsistence activity and therefore with a very low cost of production. Thus, since meat is considered as a strategic commodity, the temptation was great to control livestock and meat prices. The fixing of such prices has often excluded the participation of producers and traders. Therefore, it can only be based on the purchasing power of the consumers (particularly those in the urban areas). As such, it does not take into account the fact that herders, merchants and butchers also must feed and clothe themselves. It has been estimated in some countries that over the past twenty years, while the price of sugar has increased more than 300-fold, the price of meat has gone up less than three times. Such a situation is neither conducive to better quality meat production nor to the expansion of the livestock industry.

67. Finally, meat inspection regulations, most often artificially set in Africa, impede trading among countries where borders are quite wide open to the movement of livestock.

68. One may wonder why, despite the aforementioned efforts, the marketing system and pricing mechanism have not improved to the point where they can stimulate livestock production and productivity. Areas with comparative advantage for breeding consistently failed to supply areas suitable for intensive production with feeder animals. Indeed, except for a few countries, there exists no price incentive for feeder animals, and until that becomes a reality, there is little hope of changing the situation, despite the regular recurrence of drought. Until and unless the situation changes for the better, the herd reconstitution drive will remain strong among herders, and in the absence of any need for cash, they will have no propensity to increase offtake, thus the harder it will become to integrate marketing programmes into the general livestock activities, and the slower will be livestock development.

69. For areas with a comparative advantage in intensive meat production (ACAI) to offer an attractive price for feeder cattle, they must be able to work without cost restraints. However, the animal feed (when it is not cottonseed, peanut hulls or other agricultural by-products), must be imported or processed with imported machinery. In this latter situation the capital investment is rather prohibitive. Therefore, ways and means must be found to break this vicious circle.

70. The constraints to livestock marketing are compounded by the lack of organization of the system or the bureaucracy of government agencies. In most (if not all) countries cattle, meat and hides dealers need administrative clearance to move their product from one country to another. The process of obtaining this clearance has become in recent years so slow and complicated, that most operators prefer to smuggle across borders at both their own and the consumers' risk. This results in loss of foreign exchange earnings and tax revenues for the exporting country, with the risk of disease spreading in the importing country, and considerably distorting trade information for both countries. The latter even leads to shortage of meat in exporting countries, where the production of export quality animals is dominant on the livestock market.

71. Improvement of marketing may also depend greatly on market intelligence, and on grades and standards. These are at present lacking in Africa, or if they exist, they are embryonic. Competition from non-African suppliers and the tendency of importing countries to encourage unofficial trade also block the intra-African trade of meat.

72. It can be summarized that current efforts to improve livestock and meat marketing in Africa have not provided the necessary incentive for efficient allocation of resources in production and trade activities. Sometimes, they have even resulted in a higher unit cost for feedlot operators and higher meat prices for the consumers, irregular supply and low quality meat, and the development of unofficial trading channels.

The possibility of providing enough economic incentive for the feeding of feeder or culled animals in areas suitable for intensive production, should be explored and tested, particularly in livestock producing countries. It is also highly desirable that marketing and pricing policies be harmonized between countries to stimulate intra-African trade, on whose orderly development will also depend standardization and the proper identification of every animal or consignment put through export channels.

D. ANIMAL DISEASE CONTROL AND ERADICATION POLICIES

73. In most African countries, animal health is probably the area which has most benefitted from government efforts. Since colonial days, the delivery of health services has long been a major concern. Only veterinarians were trained before African countries knew that there was more to livestock development than just health care. Unfortunately, the continent is still plagued by major and contagious diseases, and is far from being successful in eradicating the tsetse fly and ticks, which preclude the utilization of large areas of the continent by livestock.

74. For a long time after independence, African countries struggled individually with their problems. But the permeability of the borders proved that the approach was to no avail. The first major common endeavour was the JP 15 Campaign against rinderpest. This project in itself was a success, but since Africans did not pool their resources for the conservative measures, rinderpest soon reappeared. In recent years, there is sufficient indication that efforts are being pooled for the eradication of vectors, rinderpest and other major livestock diseases, either on a regional or sub-regional basis.

75. Livestock health services are supported by several sub-regional vaccine laboratories, and a few regional reference diagnostic laboratories. Training of veterinarians is quite widespread today in Africa. But these research and training widespread today in Africa. But these research and training efforts are adversely affected by improvisation, lack of concerted action and coordination and a poor definition of real needs.

76. The prevalence of animal diseases results in the reinforcement of the reconstitution objective of the producer, who tends to build up his stock and maintain large numbers as security against disease. Owing to the lack of confidence in the adequacy and continuity of the public animal health services, the producer tends to have less incentive to protect animals through government animal health services as compared to traditional methods. Also, the prevalence of animal diseases leads to low productivity of stock and to substantial post-harvest losses, particularly at the slaughterhouse stage. The resulting loss in revenue is often shared by the butcher, merchant and producer. Furthermore, the presence of disease restricts access of African meat to foreign markets, particularly the European and Middle East markets.

77. There are indications that if the present stock of knowledge is efficiently applied and the animal health delivery systems are improved, significant progress would be made in reducing losses in both animal productivity and post-harvest losses and animal production. As the demand for animal health services is usually great, it is suggested that some fees be charged to producers. Private distributors of medicines and delivery of health care should also be encouraged to increase efficiency and reduce the burden on the budget of the government. Furthermore, to realize the full advantage of animal health services, they should be integrated with water and range development programmes. There is also a need for closer collaboration and cooperation at sub-regional and regional levels in animal disease control and eradication.

E. BEHAVIOUR OF THE PRODUCER IN HIS ENVIRONMENT

78. The behaviour of the traditional producer does not always consistent with the objective of maximizing meat production. The extensive live-stock production system, dominant in Africa is practised in areas where rainfall is low and there is a shortage of water for more than half the year. In the Sahel, for instance, during the dry season animals are watered twice a week for about half the year, and the distance between the watering point and the pasture may sometimes exceed 25 km. Under such circumstances, it is desirable to provide supplementary feeds to animals around water points during the dry season to reduce the radius of grazing areas from water points. However, with the present condition of the livestock sector, this would be costly and uneconomic. Droughts are becoming more widespread and the period in between shorter. Therefore, the drought element has assumed increasing importance as one of the significant variables in the management decision of the producer. So far, it has not been possible to predict the occurrence, length and magnitude of droughts. In addition, veterinary services coverage is often poor, especially for animals in remote areas. As a result, the herd in these areas becomes heavily subjected to droughts and diseases and the natural reaction of the herder is to hedge against these risks and their accompanying losses. In the Sahel, for instance, most herders think in terms of a subsistence in the short-term and of survival in the medium and long-term by leaving animals of various sexes, ages and species with relatives living far away as a means of risk aversion. Also, they minimize the offtake resulting in an increased number of stock against the limited availability of pasture and water supply. Consequently, survival of these animals takes paramount importance in pastoral society culminating in the producers' interest being more in livestock numbers rather than quality. On the surface, this behaviour might look irrational, but deeper analyses reveal that it is rational within the context of the individual producer's environments and circumstances, though it may be irrational from a point of view of society.

79. Barter economy still prevails in some rural areas. The herders usually exchange milk against cereals and manure against agriculture by-products and watering of animals. Most of the producers have limited demand for money income and because of this they have limited supply responses to prices. Therefore, it has been observed that beyond a certain level of prices, the producers, particularly pastoralists, make available fewer animals for sale. The herders' diet consists mainly of milk and meat, which they produce themselves. Consumer goods are often in short supply in rural areas. Most of the resources required for livestock production are free so that the cost of production in terms of cash is very small. Often, there is no profitable economic pursuit for herders other than livestock breeding. For all these factors, producers have limited demand for things money can buy except for a few consumer goods, payment of taxes, school fees, etc., payments which altogether would normally involve the selling of few animals. The consequence of these environmental factors is a low off-take rate of animals encouraged by the herders.

IV. ISSUES DISCUSSED AND NECESSARY FUTURE ACTION

80. The potential for increasing the production of livestock products and by-products at low cost exists in Africa, particularly in the exporting countries. Also, the demand prospects for these products are high at national, sub-regional and regional levels. Despite considerable efforts in designing and implementing policies and programmes aimed at realizing these potentials, objectives remained largely unattained and the livestock resources of the continent remain largely under-developed.

81. In the light of the findings and conclusions of the present study unless radical measures and necessary steps are taken at the national, sub-regional and regional levels to reverse the unfavourable trends in productivity, production and trade, the performance of the livestock sector (improvements in SSR, PCS and the contribution of the livestock sector to the national economy will further deteriorate), might worsen since the occurrence of droughts and killer disease at shorter intervals and more widely, will seriously limit the ability of producers particularly to reconstitute their stock.

82. In analyzing past trends, it was found that policy inadequacies were at the heart of the disappointing performance of the livestock sector. The present stock of technical knowledge for improving livestock products productivity and marketing efficiency, and the available, though limited, trained manpower, could be sufficient to mobilize part of the production and marketing potentials for substantial increases in output. The problem is the lack of well-balanced policies and appropriate accompanying measures to enable this mobilization to be undertaken successfully.

A. The basic principles behind the action being proposed

83. Despite the large per capita livestock resources in Africa, the per capita consumption of meat is currently estimated to be about 13kg. Also, livestock products supply a relatively small proportion of per caput intake of calories and proteins on the continent. Furthermore, the net export position of Africa in the late 1960's has now become a substantial net import position because of rapidly rising imports from non-African sources to meet the needs of consumers, whose real incomes have on average risen and their numbers have also increased during the period under review.

84. Despite the potential to transform into concrete action the declared African objective expressed in the LPA, - i.e., greater national and collective self-reliance - little progress has been achieved towards this objective in the livestock sector. One reason for this is that planners have hitherto emphasized approaches and policies, the implementation of which relied heavily on external assistance. There are even indications that the Official Development Assistance to the Livestock Sector has been decreasing in recent years. Also, it has become apparent that most countries, if not all, have found past development strategies for the livestock sector too expensive since they made themselves almost wholly responsible for the basic investments and supply of inputs and services at both production and marketing levels. These inputs and services were generally made available to producers and traders without either an effective policy for charges to users or a code of use governed by appropriate legislation.

85. Also, livestock production and a large part of domestic marketing and trade activities have been in the hands of private individuals throughout Africa. Attempts over the last quarter of a century to set the pace for livestock development, particularly marketing, by the public sector have also failed almost throughout the continent. Official attempts to redress problems in the livestock sector often resulted in differing or conflicting objectives and strategies between the government on one hand and private sector or producers, middlemen, merchants and butchers on the other. As a consequence, the scarce resources at the individual and national levels, particularly animals, rangeland, trained manpower and financial resources, were often inefficiently allocated and inappropriately used.

86. Fortunately, there is now a general awareness on the part of governments, producers, livestock dealers and bilateral and multilateral funding agencies that something must be done to reverse the unfavourable trend and increase the contribution of the livestock sector to the over-all economy, in general, and to food and agriculture, in particular. The relevant question being asked is how this reversal of declining trends in the livestock sector can be achieved. Foremost, there is an urgent need to reconcile the objectives and strategies of all major

parteners involved in the livestock industry namely, producers, traders, input suppliers and consumers at all levels in the livestock sector, as well as governments at national, sub-regional and regional levels. The critical role should be played by governments by evolving appropriate development policies and adopting legislation which would motivate and enable the producers, traders, veterinarians etc. within and across national boundaries to perform their activities efficiently. These should lead to the achievement of the development objectives intended for the livestock sector, while concurrently satisfying the income distribution objectives at national, sub-regional and regional levels and ensuring the protection and conservation of the environment.

B. Necessary future action.

87. On the basis of the analysis of the major constraints hindering livestock development in Africa, suggestions have been made in this study whenever appropriate on how to alleviate or eliminate them. In particular, in Chapter III, detailed proposals on policies and related measures have been made regarding improved access to rangeland. These proposals are considered to be a prerequisite to any lasting and sustained development of the livestock sector, especially in areas of comparative advantage in livestock production. Therefore, it suffices in this Chapter (IV) to stress the major required action in the short, medium and long-term for accelerating the implementation of the LPA with regard to the livestock sector and, in particular, to suggest ways of creating the framework and laying the foundations for collective self-reliance, self-sustaining progress and development of the livestock sector.

88. Required Short and Medium-Term Action

1. In the short and medium-term every effort should be made to realize the potential in trade through the development of efficient domestic, sub-regional and regional livestock marketing and trade channels so as to raise offtake rates from the present herds and flocks and reduce or eliminate the dependency of Africa on the outside world in meat. The harmonization of marketing and pricing policies between neighbouring countries for the livestock sector, as already envisaged by the Western sub-region is an essential instrument towards this objective.

2. In recent years, it has become apparent that to abate the impact of drought, the producers, particularly pastoralists, have tended to rush their stock onto the market. As there are normally scarcities in meat processing and storage facilities in drought affected countries, considerable quantities of animal products have simply been lost. Therefore, to minimize these losses, sub-regional processing facilities at strategic sites should be encouraged. Meanwhile, countries which have meat processing facilities should be encouraged, through appropriate incentives, to process the animals of drought-stricken countries on an emergency basis.

3. Also, there is a need for Early Warning Systems at national, sub-regional and regional levels to avert the effects of calamities such as drought or the outbreak of diseases.

4. Furthermore, there is an urgent need to take appropriate measures for regulating the access to rangeland throughout Africa. In particular, it is essential in the short and medium-term to design an appropriate code of use of range resources under the communal tenure system, along with the required legislation for effective implementation of the code.

Required Long-term Action

89. In the long-term, efforts should be directed towards creating the bases for progressive and self-sustained development of the livestock sector at the producer and national levels so as to make the sector contribute significantly to food and agriculture as well as to overall economic development in Africa. The key to achieving this objective lies in making the producers and traders responsible for their own development. In particular, the producers should be made responsible for the development and management of the basic resources, especially the range and water required in livestock production in Africa. The following are considered to be the measures required to achieve these goals.

1) Land Tenure

As in short and medium-term measures, access to communal land in the long-term should be regulated. Whenever appropriate and feasible, individual land tenure should be considered, and smallholders should be encouraged to form legalized producer and marketing groupings to benefit from economies of scale.

2) Harmonization of pricing, marketing and trade policies

At the national, sub-regional and regional levels, it is essential to plan production and trade and to improve the efficiency of domestic marketing and trade channels.

3) Livestock Development Fund (LDF) and Livestock Development Window (LDW)

Owing to the characteristics and importance of livestock in the economies of importing and exporting countries, there is a need to create LDFs at national levels and LDWs in the financial institutions at the sub-regional and regional levels. The financial institutions of the present (and future) economic groupings in Africa, such as ECOWAS, ECCAS, PTA and ADB should be encouraged to open livestock windows. The LDFs and LDWs should be in charge of the component of sub-regional and inter-sub-regional marketing information systems of the programme for the harmonization of pricing and trade policies at national and sub-regional levels.

4) To ensure greater collective self-reliance and self-sufficiency in the production of animal drugs and health equipment, feeds and all major inputs, joint ventures in production and trade between private and public enterprises at national, sub-regional and regional levels should be promoted.

5) The possibility of transferring part of the responsibility for the delivery of animal health inputs and services to organized cooperatives of producers as well as private individual practitioners and companies should be investigated.

6) Instituting networks in specified fields and of associations of professionals in the major areas in livestock research and development should be encouraged by governments. These associations should aim at assisting the integration, coordination and harmonization of research training and extension activities at national, sub-regional and regional levels and develop information systems in major subjects concerning the livestock sector, especially in relation to diseases. In particular, these networks and associations will need to provide the basic input into the proposed Early Warning System programme for drought and diseases suggested under item 2. Period conferences, seminars and workshops on livestock research and development, bringing all professions and policy-makers, planners and health specialists, producers, traders and extension staff together, should be encouraged at national sub-regional as well as regional levels.

C. Issues constituting basis for possible immediate action

90. The attention of this Conference is especially drawn to the follow-up to this study providing the inputs for the planning exercises of subsequent phases of the LPA towards the year 2000. Among the main proposed actions are the following:

The ECA Secretariat should undertake whenever necessary jointly with OAU, FAO and other relevant sub-regional, regional and international organizations (ILCA, the Secretariats of ECOWAS, ECCAS, PTA, ADB, etc.) action which would complement efforts of governments in Africa:

- a) to harmonize national, sub-regional and regional policies bearing on production, pricing and marketing of livestock products;
- b) to evolve and implement land tenure policies and programmes designed to accelerate livestock production, particularly in areas with comparative advantage to do so;
- c) towards the setting up of a Livestock Development Fund and Windows.

Provision should be made in the agenda of future ECA Conferences of Ministers to enable the Secretariat to report on the progress made in the implementation by governments in Africa of the recommendations of the present meeting based on this study and the extent to which international (bilateral and multilateral) organisations have reoriented their policies, strategies and programmes consistent with the new thinking in these areas being adopted by this Conference.