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REPORT OF A MISSION
FOR THE STUDY OF PROBLEMS AND PROSPECTS
IN RURAL DEVELOPMENT
OF MALI, NIGER AND UPPER VOLTA

M66-364

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INTRODUCTION

Origin of survey

1. A pilot survey of Mali, Niger and Upper Volta was conducted by the United Nations Economic Commission for Africa, from 25 May 1964 to 31 July 1964, at the request of the Governments concerned, and in accordance with Resolution 117(VI), adopted by the Commission at its Sixth Session of February-March 1964. The Resolution, inter alia,

"Requests the Executive Secretary to give special attention to the study of specific problems encountered by Governments in carrying out rural development programmes, and to give assistance to Governments, at their request, in their efforts to promote the development of active rural life and institutions."

Aims and objectives

2. The survey was conducted in co-operation with the ECA/FAO Joint Division of Agriculture and was aimed mainly at,

(i) discovering the nature and scope of the socio-economic problems encountered by the three land-locked countries of Mali, Niger and Upper Volta, in the development and improvement of rural life and institutions, to meet contemporary needs and possibilities; and

(ii) ascertaining ways and means by which the rural populations of these countries could be assisted to adjust satisfactorily to new conditions of life, to create a modern economic and social environment, and to strengthen their income earning power and the social security of the families; and

(iii) suggesting suitable techniques and programmes for co-ordinated inter-state actions, in rural development.

3. It was not the purpose of the mission to make a comprehensive survey of the area. However certain aspects of health, education and trade problems and other questions relating to the infra-structure of the sub-region and an influencing, to some extent, agricultural and livestock development were examined. It should be recognized that all the three ^{stock} countries are emphasizing an accelerated growth in agriculture and/raising, as the basis for further development. The team members, therefore, endeavoured to collect as much information as possible on matters influencing the process of agricultural and animal production, and another activities depending upon such production for their own development.

4. Also, the purpose of the mission was not so much to determine the magnitude of needs in the field of technical assistance and bilateral aid, as to draw attention to the possibilities of international and bilateral action in certain fields. The ECA sub-regional office in Niamey was closely associated with the mission, particularly with a view to follow-up action.

5. Finally, it was not the purpose of the mission to lay down a precise programme for social and economic development; but rather:

(a) to indicate integrated programmes of development and opportunities for effort of the three countries in the fields of agriculture and livestock production;

(b) to suggest action to improve the marketing processes ;

(c) to indicate possibilities to increase production, in terms of both national plans and of economic and technical feasibility;

(d) to point-out dangers of duplication of investment in common services; and

(e) to indicate specific areas of advantage arising from a co-ordinated development programme for agriculture and livestock, from trade among the states and from joint use of manpower and other material resources.

Method and orientation

6. The survey was executed in three phases:

Phase one (Preliminary study)

A preliminary study was made at ECA Headquarters of available and related documents and publications during February and March 1964. This led to the preparation of a working document containing a description of responsibilities assigned to the members of the team which were to visit the three countries concerned, and also a programme of work to be applied on the spot.

Five documents were prepared which gave a general background of the situation of the three countries, indicating the main fields in which the field study was to be conducted.

Phase two (Field mission)

A nine-week mission was conducted to the three countries, in May, June and July 1964. To reinforce the mission, ECA called for the formation of a team comprising ECA and FAO experts in the following fields:

Mr. A.C. Bessis, Regional Adviser on Rural Life and Institutions, ECA
(Land Tenure and Settlement)

Mr. J.J. Bochet, Rural Institutions Officer, ECA/FAO
(Co-operatives, Credit)

Mr. I. Fall, Statistician, ECA

Dr. A.Z. Sheira, Agricultural Economist, ECA/FAO

The members of the mission,

(a) contacted Government officials and particularly those responsible for rural development programmes, in the three countries, and obtained from them further background information on the orientation of their respective programmes, and the means available for implementation of the national development plans;

(b) gathered additional and more recent statistical data in order to complement the figures obtained during the preliminary study;

(c) undertook field trips in order to make a realistic appraisal of the situation in specific development areas.

Consequently, the mission visited, in Mali, the areas of Segoh, Markala and Mopti; in Niger, the areas of Tahoua, Abalak, Agades, Ingall/Zinder; and in Upper Volta, the areas of Ouahigouya, Tougan, Degougou, Bobo-Dioulasso, Banfora, Mangoloko and Loumana.

Phase three (Analysis of findings)

The third phase of the survey consisted of systematic analysis of the field data and of the setting out of specific problems, as basis for the development of concerted action projects.

7. In the execution of the study and in the presentation of the recommendations, the mission has been guided by the Commission Resolution 117(VI), which requires that emphasis should be put "on rural life and community action as means of promoting the economic and social development of the rural population with its fullest possible involvement." To this end, the team kept foremost in consideration:

(a) the basic, contemporary needs of the rural communities of the three land-locked countries;

(b) the means and methods by which the levels of living and the welfare of the rural people in those three countries could be improved through their increased participation in development.

8. In view of the responsibilities assigned to the team, and the objectives of the survey, a consistent approach was followed through all stages of the survey. This consisted in an appraisal of the existing over-all situation, supported by statistical data which indicated the magnitude of the main economic and social problems, in a way to constitute a substratum on which objectives recommendations could be made to the Governments concerned.

9. A study was made of the measures already adopted by the governments for implementation of the existing national plans for socio-economic development. Constructive criticism of the plans were necessary in order to indicate the obstacles which might tend to hinder the implementation of the plans. In this Report, pertinent recommendations have been envisaged which include co-operation with UN Specialized agencies as a complement to the kinds of assistance already offered to the three governments concerned.

10. Organizations and the governments officials consulted by the mission members are set out in Annex . Non governmental organizations such as research institutes, chambers of commerce, foreign aid missions, private industries, were also contacted.

General observations

11. The mission concluded that the problems faced by the three countries happen to be broadly similar, with variations in degree, but not in kind. Their economies are substantially based on the same products --agriculture and livestock production in which 90 per cent of the total country population are engaged. The three countries have greater potentialities than is often recognized but they have not yet been fully exploited. They also have a degree of economic stability which should encourage investment from abroad.

12. There are valuable physical and human resources, but their full use is restricted by shortages of personnel, finance and technical experience.

13. Agricultural production is mostly for subsistence and is characterized by extensive use of the land situation aggravated by the insecurity of the tenure and by widespread illiteracy.

14. An analysis of conditions encountered in the three countries suggests two major observations.

First, that a co-ordinated approach in the various sectors in the economies of the three countries is required; and, secondly, that government programmes to promote the modernization of rural communities --to improve the social environments --and raise family incomes face the problem of invoking greater incentives for active participation of the people concerned. This is a problem of motivation.

Basic problems limiting the development in the region

15. The three land-locked countries surveyed are at roughly a similar stage of economic development and have common problems. These problems can be listed as follows:

(a) Subsistence agriculture

Agriculture constitutes a very significant sector of the economy of the three countries and is mostly for subsistence. This is partly due to insufficient studies and research in basic agricultural problems, as well as to the lack of skilled personnel and a low degree of literacy. This can be measured in relation to its importance to the region population, the national incomes and the foreign trades.

(b) Low per capita income of the rural sector

The rural population accounts for 90-95 per cent of the total population and is unevenly distributed among the geographic zone of the area. The area cultivated is rather small, being no more than 1.2 per cent of all the land in Mali, 2 per cent in Niger and 6 per cent in Upper Volta. The per capita income of the rural sector is lower than the average of 10,000 - 19,000 CFA for the urban population, although the latter is also relatively low.

(c) Dual nature of the rural sector

The rural sector has two components which differ in nature, i.e. the traditional or subsistence, and commercial or monetary. The distinction is in terms of acreage, value, kinds of farm enterprises and the number of people engaged in each of these activities.

(d) Length of the fallow

In terms of value, the subsistence agriculture production is approximately 65 per cent of the total output for the last years. Apart from its being predominantly subsistence, agriculture is also characterized by the extensive amount of land required to be left fallow within rotations varying from six to ten or more years depending on the locality. Production is very low, and cultivators usually have no substantial surplus to exchange for non-farm commodities.

(e) Nutritional level

The main agricultural products are millet, rice, groundnuts, cotton, livestock and fish, and are used mostly for local consumption. (This was confirmed by the FAO mission to Mali and Upper Volta in 1962)

If by that quantitative data are available, production seems to meet consumption demands in many areas, the nutritional level of the population is in general deficient in some qualitative respects.

(f) Demographic growth

The increase observed in the agricultural production remains insufficient owing to average of population growth of 2.4 per cent and the total needs of the area as far as foodstuffs are concerned.

(g) Livestock production

Substantial resources are devoted to livestock production. However, the income derived is not in proportion to the resources (physical and human) used. This is partly because of social structure factors but also, there has been little soil and land use planning for which the necessary maps have not been prepared.

(h) Transport problems

The three land-locked countries are at a great disadvantage because of their small national markets, their distance from the sea and their communications difficulties.

At its Sixth Session in Addis Ababa in February 1964, the ECA insisted on the need for international road links and, in Resolution E/CN.14/RES/103(VI), called the particular attention of member governments to the necessity (among other items) to "construct international road links with the aim of establishing co-ordinated sub-regional road networks". Fluctuations on the road networks compared to rail transport as far as the cost is concerned are quite big as they go from US\$0.012 to 0.04 T/km.

(i) Social problems

Historical and traditional factors have led to a grouping of nomads and cultivators. There are certain feelings of insecurity, and, therefore, suspicion as regards strangers, and innovations. The population of the area being described as "young"; the emigration movements, if channelled can have positive effect, as contact between the urban dwellers and the rural population through immigration may facilitate a greater participation in action for rural development.

(j) Marketing and prices

The low income in livestock production is accentuated by the problems of marketing, transportation and pricing confronted by the herdsmen and, to some extent, by the limited amount of water and pastures available in the northern parts where the majority of the rural population is pastoral. To the north, the livestock production is limited by lack of water and to the south by the presence of the tse-tse fly. Owing to the concentration of rainfall during a few months, natural food supplies are rarely sufficient for the whole year. Cattle are therefore forced to move southwards during the dry season.

Owing to the widespread of the tse-tse fly, the cattle are seldom able to remain there permanently and have to return to the dryer north at the onset of the rainy season.

(k) Education

About 80 - 85 per cent of the youth are deprived of education for lack of facilities, thus perpetuating illiteracy.

The availability of trained personnel for the education of farmers and herdsmen is noticeable. When such personnel is available, working conditions are very difficult: large area to supervise, lack of working equipment and lack of foresight in the programme of work. An animation programme is obviously the answer.

(l) Industries

The growth of manufacturing industries is hindered by the situation described above, as it depends on increased domestic demand especially from the lower income groups who are predominant in the rural sector. Statistical difficulty prevents the estimation of the output of those partially or totally consumed locally. Limited national revenues weakness of the secondary sector and the small size of the market economy, as well as the lack of a strong co-operative movement, combine to worsen the situation.

(m) Low output of the region

Although governments have intervened substantially and constantly by interfering in order to break traditional channels of marketing, there is little evidence that output has increased much faster than population. To summarize, it is to be stated that the social problems such as the high rate of population growth, high rate of illiteracy, archaism of methods of cultivation, the poor conditions of the women, the absence of business, middle class, and the lack of professional personnel represent serious obstacles to the social and economic development of the region and therefore, the main factors to tackle are first human and second economic and financial.

(n) Position of agriculture

It is apparent that agriculture in the region will have to maintain its dominant position as a source of savings and a provider of employment in the countries' economy, for the foreseeable future. Therefore, while some industrialization is proceeding, rapid and massive industrialization would depend on success attained in dealing with the following limiting factors:

- (i) widespread lack of managerial and technical skills;
- (ii) insufficient spread of the money economy;
- (iii) low level of per capita money incomes, which limits the size of the domestic market for industrial products;
- (iv) difficulty of potential industrial exports to compete effectively with those of industrialized nations;
- (v) limited possibilities for increasing import substitutions.

(o) Prices fluctuations

Wide fluctuations in volume of exports and therefore in incomes, which are mainly due to unreliable weather and low degree of productivity, increase the inelasticity of supply and demand and create wide price fluctuation of primary products. To the difficulties of forecasting long term supply and demand conditions, are added uncertainties due to Government intervention (in terms of timing and magnitude). These render difficult the establishment of commodity stabilization schemes, except in the case of groundnuts.

(p) Production of capital goods

The large part of the population involved in subsistence agriculture and the limited development of local consumption of these countries, which in fact have been developed largely as suppliers of raw materials, make the export trade an unusual important factor in the national income of the region.

Consequently, those countries, which have as yet no local production of capital goods or of many of the necessary or desired manufactured goods, and are also so short of qualified personnel, are extremely dependent on imports.

(q) Inadequacy of the farming system

On the basis of the survey, it is clear that per capita incomes are low and per capita incomes of the ordinary peasant farmers are even lower. This is due mainly to the fact that, in the region, the production of export and cash crops by African farmers has been done, (with the exception of the Office du Niger area in Mali, and a few areas of Upper Volta and Niger), without any real change in the farming system, by adding one third or two thirds of an hectare of cotton or ground nuts cultivated into the traditional manner with hoe and axe. Due to the rapid demographic growth, it begins to be difficult in the region to extend continually the size of the holdings. The additional capital required to expand the agricultural output is not easy to obtain and the physical human labour is not indefinitely extensible. Therefore, this calls for drastic measures of injection of capital into peasant farming in the form of tools, fencing, land consolidation, feeder roads, water supply, etc.

(r) Inadequate agricultural implements

The production of food crops such as millet, maize, rice, manioc, is still regarded as first priority by most farmers in the region. They still remain subsistence farmers in the sense that they grow their own food and they do not produce sufficient cash crop for the market. This subsistence sector is likely to persist for a good time to come, although the Ministries concerned with the agricultural and livestock production pay great attention to the productivity of the subsistence sector. Time has come then for the farmers to get rid progressively of the hoes and of the tedious and time-consuming hand weeding, whenever it is made possible, by appropriate substitutes.

CHAPTER I

A. GENERAL AND PHYSICAL DATA

Physical resources

16. Location: The territory covered by Mali, Niger and Upper Volta is approximately between 12° West and 15° East of Greenwich longitudes and between 10° and 25° lower and upper latitudes respectively. The boundaries of the land-locked area are as follows: Senegal and Mauritania on the West, Algeria and Lybia on the North, Tchad on the East, Nigeria, Dahomey, Togo, Ghana, Ivory Coast and Guinea on the South.

17. This area covers 2,746 million square kilometres inhabited by nearly 11.4 million people.

	<u>Mali</u>	<u>Niger</u>	<u>Upper Volta</u>
Area in square kms	1,204,000	1,267,000	275,000
Population in 1964	4,410,000 ^{1/}	3,310,060 ^{2/}	4,400,000

Natural regions

18. The area is located in the arid tropical zone and is characterized by a monotonous plain dominated by a few mountains in Niger and Mali with an altitude of approximately 700 metres in the region of Bandiagra. From the West to the South West lie the massif of Fonta-Djalon, where the Niger and the Senegal basin rivers have their origin.

- (a) In Niger the Sahara area extends to both sides of the Air Plateau. To the West, the dunes of Azaovak, to the East the desert of Tenere, limited to the North by the rocky plateaux of Djaño.

1/ Plan décennal de développement de la Santé, Mali, 1965

2/ Perspectives décennales 1965-1974 pour la Santé au Niger, 1964

- (b) The Western Plateau is of lateritic formation, quite sandy and crossed from North to South by the Niger River.
- (c) The South Plateau which goes from West to East, is subdivided into two parts : one calcareans, Adar Douths, and the other which contains the rice soils of the "goulbi" valleys of Maradi and Magaria.

19. Two other areas of economic importance are Inder and Mauga. Three zones or natural regions are predominant in the land-locked area and are quite different from each other. Starting from the North they are:

- (a) The Saharan and Sub-Saharan Zones which cover most of the northern parts of Mali and Niger. Both are arid zones and desert which cross the continent from Mauritania to Sudan. This extension covers two thirds of Niger and one half of Mali. In this area nomadic grazing is the main economic feature. Due to the prevailing conditions, cattle population is quite limited in the zone and grazing of herds of camels, goats and **sheep is limited to the area** around the oasis or the rivers where scattered rainfall enables existence of livestock and nomads.
- (b) The Sahelian Zone covers Central Mali, Northern Upper Volta and Southern Niger. This is characterized by the presence of thorn trees and a limited amount of rainfall during four months of the year. The particular conditions prevailing in this zone induce the herdsmen to practice a true nomadism which results in the practice of transhumance --the regular seasonal movement of herds from one place to another. The raising of livestock is linked to the search for water. At the beginning of the first rains, the herds are moved to the north and are dispersed in an area of sufficient pasture, where the water is available at the surface of the ground. When food becomes short and water limited during the long dry season, animals move south forward the Sudanian zone, which is the natural boundary for cattle due to danger of tse-tse fly which appear at the onset of the rains.

This is done as slowly as possible in order to benefit from the existing marshes, the animals being grouped around the existing wells. When the danger of tse-tse flies becomes apparent, the herds return towards the Lake Tchad region. The soils of the Sahelian zone are usually of brown colour, of medium fertility, poor in organic matter, shallow and rich in lime. In the southern parts of the zone, where crops are grown, red, friable and acid soils are found which are often sandy in texture. These latter soils are highly subject to erosion.

- (c) The Sudanian zone lies further south to the Sahelian zone and covers the southern part of Mali, most of Upper Volta and a small portion of Niger. This zone is typically a savannah area with an open woodland containing mainly deciduous trees, leaflets in the dry season with a continuous understory of grass which dries completely after the rainy season. The open woodlands provide shelter and fodder, shea nuts and kapok.

20. Due to the rainfall, the southern part of this zone is of a reasonable degree of fertility and therefore has pockets of densely populated areas, since most of the sedentary population of the three land-locked countries are concentrated in this zone and in the southernmost of the previous one. Rainfall is more abundant here and for a longer period of the year (5-7 months). It represents the granary of the whole region and cultivation of the land is widespread. The settled farmers maintain a considerable number of cattle which offers an excellent opportunity for mixed farming.

Climate

21. Naturally climatic conditions of the three land-locked countries go hand in hand with the three main national geographical divisions of the region. The region as a whole lies in the dry tropical zone, consequently dryness and scarcity of water are the main features of the region.

22. The Saharan zone, which is almost entirely desertic and arid, has rare and irregular rainfall. This is usually below 100 mm. and the rainfall takes place in August and September. Practically no agricultural activity can be carried out successfully in this area. Only some few cases can provide means of livelihood to the nomads who roam about. Extreme heat during the day and cool nights characterize it, in addition to the wide variation of climate during the different months of the year. Being of very unfavourable climatic conditions, this area is, thus, hardly inhabited.

23. Sahelian climatic zone appears to be much better off than the previous one. In fact, it has got a rainy season of about 5 months duration --from June to October-- with less than 700 mm. of rainfall which increases as one moves southwards. The period of maximum rainfall (occurring mainly during August) may vary from 15 to 50 days.

24. Below 400 mm. of rainfall, only subsistence agriculture is possible; whereas rainfall of 550 mm. and upwards enables a more steady crop production of the cereal variety by the more sedentary population. Cereals are, therefore, the staple food of this zone.

25. Below the "isohyete" 750 rainfall is a major factor for crop cultivation. Production varies widely from year to year. A successful harvest is related not only to the quantity of the rainfall, whether it rains when it should. Tardy rainfall, as usually happens in the north (June or July), does not permit of normal vegetative growth unless some precocious crop varieties are involved. On the other hand, in those areas where the rainfall is rather critical, and dry farming is the practice, there is a constant danger of erosion due to the friable nature of the soil, uncontrollable bush fire, and the population pressure which is rather heavily concentrated in the agriculturally more favourable areas. Occasional floods also tend to aggravate the situation.

26. In contrast with the two zones, the Sudanian zone is relatively more favoured by nature. The rainfall there occurs more often during the year and in a larger quantity as compared with the others. In fact, it rains for about 50 to 80 days during the year and the rainfall varies from 700 to 1,300 mm., which is reasonably good and is enough for ordinary agricultural undertaking.

27. Two seasons in the cultivated areas are distinguishable: a dry season which starts from November until May, and a rainy season from May to October, during which agricultural activities are carried out.

28. Normal average temperature varies from 19°.0 in January in the northern mountain at Tessalit, for instance, to 36°.0 in May at Kayes, south-west of the Republic of Mali. The normal temperatures registered in the Kayes and Timbouctou latitude areas during May is as high as 43.0. Maximum humidity occurs in August while the minimum is in March.

Hydrography

29. From the hydrographic point of view, the position of Mali is much more favourable than the other two republics, because Mali is crossed by two main rivers: Niger and Senegal, and their tributaries, in addition to some small lakes. Whereas Upper Volta has only one main river, the Black Volta, the Republic of Niger is crossed by the continuation of the Niger river and many small seasonal rivers, specially in the west of Air. Besides, at the extreme south-east of this country the Lake Tchad plays an important economic role.

Impact of the natural milieu on the general situation of the three countries

30. The above-mentioned zonal divisions of the region have a varied degree of impact upon the people who live in them. The presence of water (rivers, lakes and cases) and the quantity of rainfall have a decisive importance in the pattern of life of the three countries. In fact, in the wooded savannah area of the Sudanian zone, which represents 12 per cent of Upper Volta and only 6 per cent of the territory of Mali, people are sedentary and produce cereals such as rice, sorghum, maize and millet or other products of humid zones such as yams, sweet potatoes, taroes, bananas and other fruit trees. In the populated areas of this zone --where population pressure still exists, erosion of land constitutes a real danger, for deforestation continues and the fallow land decreases, whereas in

the unhealthy areas, there is no such danger. In order to avoid this danger, therefore, anti-erosion measures have to be taken quickly and the change of method of cultivation from the present extensive system into a more intensive one is needed or else this precious capital-land, which is badly needed, will not last long before it is completely wasted.

31. Between the isohyete 1,200 and 750 mm. lies the cattle-pen area. It is the biggest agricultural zone characterized by a number of wooded trees. In this zone the rainfall takes place between May and October with a maximum during August. This area covers 83 per cent of the total area of Upper Volta and 27 per cent of Mali.

32. Main crops of this area are sorghum and millet which are carried out during the rainy season unless irrigation offers possibility of protracting agricultural activities until March and April. In certain swamp areas rice, yams and sweet potatoes are also cultivated. It is also a zone where peanuts and cotton are successfully grown.

33. Livestock which comprises the Taurin type in the south of Mali (up to 1,000 mm.) and Zebu, still belongs to the sedentary population. Transhumance of cattle here is rare in Mali except in some nordic areas. Agriculturally speaking, the best utilized area of the whole zone is the one which is exploited by the "Office du Niger".

34. Big agricultural possibilities exist in this region, but its proper exploitation depends on the availability of water and skilled farmers. In addition to the livestock and crop production, the water of Niger offers also fishing opportunities which add a considerable amount of protein intake to the nutritional value of the population. However, even in the fishing activity, a good number of fish are wasted due to the lack of simple techniques of drying and stocking the catch.

35. To the Saharan and Sahelian climate zone corresponds to the wooded steppe where the rainfall varies between 500 to 200 mm.

36. From the economic viewpoint, beside the wooded plots which provide material to the local carpenters, the *Acacia arabica* and *Hyphanae thebaica* give some useful contribution to the economies of the three countries. In Niger, for instance, some 800 tons of rubber from *Acacia arabica* are extracted every year of which 700 tons are exported to Nigeria and 100 tons to France.

37. The Niger river crosses this zone creating cultivable and habitable areas where sedentary populations engaged in agricultural activities. These sedentary farmers who are considered to be ex-slaves of nomads, do suffer an inferiority complex and they still pay homage to their ancient farmer masters by giving them a share of their products. Unless there is a river, or oasis which could help irrigate the land 300 mm. of rainfall represents the minimum limit below which agricultural production is not possible. The land becomes dry and arid. The wealth of this region is represented by nomadic cattle breeding, which during the dry season, moves towards the south where there are sufficient grazing possibilities. Veterinary services seize this occasion to inoculate the animals. In this area of Mali, wells are dug at various points so as to permit them to water their herds. Where these wells are opened, however, there is the over-grazing problem as well. By-products of the animals do provide the herdsmen an opportunity for various handicrafts : woollen blankets and many other useful domestic items are produced by them.

Resources of the rural sector

38. From the above chapters one can easily deduct that the agricultural resources of the sub-region we are studying are rather meagre and limited to self-subsistency of the population. Even though the human factor has its share of responsibility in this fact, unfavourable natural and climatic conditions are mostly responsible for the existing situation. With a more rational and combined effort, however, the region can still greatly improve the economic and social conditions of its inhabitants.

In those areas where water is available comparatively in abundance, extensive cultivation of the land must be substituted by an intensive one with selected varieties of seeds, crop rotation system and an adequate use of fertilizers and pesticides.

39. Main resources of this region are crops production and livestock breeding. If the latter ones were commercially exploited in an appropriate manner, they could surely become a sound basis from which the economic and social development of these countries could take off.

- (a) Production of crops. If one takes into consideration the whole region from the production view-point, two main production zones can be distinguished: the Sudanian zone which is highly suitable for crop production whenever water availability permits it and is the granary of the area; and the rest of the area which is more suitable for livestock breeding.

In the crop producing areas a variety of cereals including sorghum, millet, rice, maize, etc., and some tubers are produced in addition to some highly commercialized items such as peanuts and cotton. In a limited quantity, some legumes, fruits and tobacco are also grown wherever possible. Output per hectare, however, except in few cases, remains very low and the total production fluctuates very much from year to year following the rainfall conditions.

In addition to this, there is also some production from gardening and the picking of fruits from wild trees which is difficult to estimate. Its economic importance, however, cannot be neglected. Likewise it is difficult to obtain the tonnage of fish catch for the whole region.

- (b) Animal production. As was mentioned before, the region has a considerable number of livestock which could greatly improve the economic and social standards of the people if they were only exploited in a more rational manner. A proper exploitation of this resource, however, is greatly handicapped particularly

by the lack of an adequate grazing ground, lack of water and a reasonable number of wells, the great distance which separates the cattle areas from the places where they could be commercially exploited (this is specially true for the export possibilities) and, finally, because of the non-commercial attitude of the herdsmen who are rather keen in keeping an increased number of livestock than in utilizing them for their own and that of the whole region's economic and social benefit. The latter reason is, of course, not at all specific to these people. Since the desire for marketing and money-making go hand in hand with the social and cultural evolution of the people. At this stage, it is only natural that they wish to keep permanently a large number of livestock for non-economic use. Through the introduction of monetary economy and other social amenities in their area, their attitude toward wealth is bound to change.

Main livestock (cattle-sheep and goats) for the three countries together are roughly estimated to be some 25.4 million respectively divided : 10.5 Mali, 10.5 Niger and 4.4 Upper Volta. In addition, camels, donkeys and horses amount to approximately 1.7 million head for all of them.

In this respect, only Upper Volta, which touches a bit of the Guinean zone, possesses less livestock than her neighbours. Yet, livestock is, undoubtedly, one of their main natural resources.

From the above figures, one can see that the number of livestock of the region as a whole is quite important and it could definitely become a basis for a specialization of the region vis-à-vis the southern coastal countries in most of which the presence of tse-tse fly does not permit them to have such a great number of livestock.

- (c) Water resources. Countries having only limited natural resources cannot afford wastage of any sort. And if any quantitative and qualitative improvement is to be achieved at all, careful planning and exploitation of their natural resources are of paramount importance. Such is, therefore, the case also for the water resources in these countries.

Water resources (surface or underground water) though may have great potentiality in producing electricity (this potential is estimated to be approximately between 3 - 4 million KW per annum with a production capacity of some 20 billion KWH per year for all the three countries), production of primary energy does not seem to be either economical or advisable at the present stage of their economic development. In fact, though in the long run, hydroelectricity is much cheaper than energy produced from other sources (diesel or thermal stations), construction of dams and hydroelectric power require quite large investment and longer time of research before putting them up. Calculations also reveal that with only 1 million dollars one can put up ten different average diesel stations in as many places, whereas the same amount of capital would cover only 1/30 of the investment required in a hydroelectric dam construction.

Circumstances compel the adoption of a policy aimed at rational exploitation of all water resources available in these countries mainly for agricultural purposes: irrigation, digging of wells for human as well as animal use, etc.

In this connexion, it is worth mentioning the existence of a report made on the utilization of underground water resources and organization of research for Upper Volta ^{1/} which could also be a helpful tool to the other two countries.

^{1/} Rapport de fin mission. La mise en valeur des eaux souterraines en Haute-Volta et l'organisation de la recherche (By Jacques Lemoine, UN expert. April 1963)

Resources of the non-agricultural sectors

40. As has been pointed out before, the non-agricultural sectors constitute a very small minority in the over-all economic and social activities of the three countries. All in all they represent only about 30 per cent of the gross domestic product; which shows clearly that these countries are still at the stage of subsistence production. Let us first see what are the existing conditions at the non-agricultural sectors there.

41. Income and its distribution. From the information at our disposal it appears that up to now there are no proper systems of national accounts in these countries. It is possible, however, to construct approximate categories from various reports. ^{2/} (see Table 1)

^{2/} For Mali and Upper Volta see FAO reports op.cit.

TABLE 1
Gross domestic products
in billions of CFA francs ^{1/}

	Mali 1959		Niger 1961 ^{2/}		Upper Volta 1957	
	Value	Percentage	Value	Percentage	Value	Percentage
Primary sector	33.6	55.8	29.8	58.9	24.4	72
- Commercialized production	13.5	22	9.0	17.8	6.8	20
- Subsistence	20.1	33.8	20.8	41.1	17.6	52
Secondary sector	2.8	4.7	5.8	11.5	1.7	5
Tertiary sector	18.7	31.0	15.0	29.6	7.9	23
- Services			10.8	21.3	4.8	14
- Public sector			4.2	8.3	3.1	9
- Indirect revenue	5.1	8.5				
Total GDP	60.2	100	50.6	100	34.0	100

^{1/} 1,000 CFA francs are approximately equivalent to US\$4.05

^{2/} Niger's GDP are extracted from Mr. Fall's notes, which are about the same as those given in the Plan de Développement économique et social 1961-1963 de la République du Niger for 1959 (See volume I, p. 14) just in order to get the break down of the sectorial figures. The Plan de développement, however, gives quite different figures than those from p. 16, which the writer thinks are more sounding and they are: 83.7 per cent from the primary sector, 2.8 per cent for the secondary and 13.5 per cent for the tertiary sector.

Before attempting any interpretation of the above table (table 1) it is necessary to give some preliminary remarks concerning the composition of the table.

42. First of all, in the absence of data on corresponding years for all the three countries, we are utilizing data of different years which are at our disposal. This may --to a certain extent-- hinder the comparability of the data-- especially for Upper Volta. Secondly, to the total GDP of Mali and Upper Volta should be added the imports surpluses over the export of 2,100 and 2,000 millions of CFA francs to Mali and Upper Volta respectively which will make then 62,3 and 36 billion of CFA francs each as the total resources at the disposal of their respective national economies. This will put them in a relatively comparable footing with Niger.

43. After making these remarks we proceed in drawing some obvious conclusions from the above figures.

44. Even though these figures are only approximate estimations, yet they give some rough idea and order of magnitude of the stages and levels of economic and social development of these countries. Generally the three countries' economies heavily depend on the primary sector production, out of which an important portion is locally consumed as a means of subsistence by the producers themselves. This is particularly true for Upper Volta which derives as much as 72 per cent of her gross domestic product from the primary sector which itself is practically composed of agricultural production. It should be pointed out that almost 90 per cent of the primary sector is constituted by agricultural activities : crop production and livestock rearing. In all three countries the share of the primary sector production which is consumed by the producers themselves reaches as high as 50 per cent. This clearly shows that their economies are predominantly at the subsistence level. Relative importance of the tertiary sector of the three countries --particularly that of Mali--relies mostly on transport section.

45. If the resources at the disposal of these countries are rightly estimated to the nearest approximation and they are divided by the estimated number of population in 1960 --this, of course, disfavours the position of Upper Volta but not so much as to disfigure completely the order of magnitude-- then we would have an income per capita of 15,171 CFA francs (-USA \$.61.4) for Mali; 17,612 CFA francs or USA \$.71.3 for Niger and CFA francs 8, 182 or USA \$.33.1 for Upper Volta. It should be stressed, however, the mere indicative character of these figures and more up-to-date data which could permit a fair representation of the situation are highly desirable from further field investigation. Moreover, it is worth indicating here that the income distribution between the urban and rural communities is quite uneven; indeed, there is quite a large gap among them as the per capita income of the urban population is from 3 to 5 times more than that of rural population.

46. The total resources of these countries are distributed between consumption and investment as follows:

TABLE 2

Consumption and investment -- in billion CFA francs (1959)

	M a l i		Niger		Upper Volta	
	Value	per-centage	Value	per-centage	Value	per-centage
Final consumption of households	56.0	90	41.1	81.1	30.0	83.1
- of which the self-consumption	25.7			17.60		
Consumption of the Administration	1.7	3	1.9	3.8	3.3	9.2
Total consumption	57.7	93	43.0	84.9	33.3	92.3
Public investments	2.0	3	1.9	3.8	2.0	5.5
Private investments	2.6	4	0.75	1.4	0.8	2.2
Export	-	-	4.97	9.9	-	-
Total investment	4.6	7	2.65	5.2	2.8	7.7

Source : For Mali and Upper Volta see FAO Report, op.cit. whereas for Niger see Plan de développement, op.cit.

As far as the structure of the household consumption is concerned there is some information available for Mali and Upper Volta in the FAO reports.

47. In general terms one could say that the economies of these countries depend on rural production of the traditional type, carried out with primitive means and with very low output. Crop production and animal rearing activities, representing well over 90 per cent, overshadow the production of the primary sector. Mining shares a very negligible portion of it. Therefore, as a result of these and other factors their income is also very low and unevenly distributed.

48. Commercial sector. As this usually happens in the less-developed countries the commercial sector is very limited, except perhaps in the case of Mali. This represents 40, 30 and 28 per cent of the total production of the primary sector of Mali, Niger and Upper Volta respectively. Out of these percentages a greater portion is shared by the trade of livestock, the other main agricultural products which are commercialized being peanuts, paddy-rice, cotton and karité. The most important item of them all, however, is the livestock trade, since these are exported to the neighbouring countries. Trade of these countries is characterized by the fact that its import-export sectors are monopolized by few foreign companies and foreign private businessmen, while African traditional merchants deal particularly with the trade of cereals such as millet, sorghum, fishes, etc. It seems, however, that the trade of these land-locked countries is highly handicapped because of a multitude of intermediaries and long transit and stockage difficulties. Apparently there is also lack of trade organization. All these factors have their unfavourable repercussions on the price of the product. In fact, the price given to the producers are low; while the price of imported goods are high. On the other hand one must add the fact that the lack of marketing organization and that of an adequate infrastructure aggravates the situation to such an extent that the remaining little surplus cannot be profitably commercialized. Since 1960, however, some concrete steps have been taken towards organizing marketing facilities of the countries under consideration. Some autonomous agencies such as the "Office des Cereales", "SOMIEUX" of Mali and the CFDT (Compagnie Française pour le Développement des Textiles) of Upper Volta are established for this purpose.

49. Industry. Industrial activities are not yet developed in these countries, and the few existing ones are mainly based on agricultural processing activities. As a matter of fact, the table of gross domestic products shows very little percentage in the secondary sector even though it includes an important share of local handicrafts. (Niger's figures -- 11.5 per cent -- given in the table need to be checked.

They seem to be rather high; the development plan of that country, indicates as 2.8 per cent the portion of the secondary sector).

50. At the present time, the most important industrial undertakings of the three countries could be assessed briefly as follows:

(a) Mali:

- 4 rice polishing mills/at the Office du Niger with a capacity of 42,000 tons of paddy, with the possibility to increase it to 120,000 tons.
- 3 other rice polishing industries belonging to the State of which only one is functioning normally and it processes some 4,000 tons out of the total capacity of 10,000 tons.
- 2 other rice polishing enterprises belonging to privates which process 5,000 tons of paddy.
- 2 cotton ginning industries of which one belongs to the Office du Niger having a capacity of 6,000 tons with the objective to go up to 156,000 tons, while the second one belongs to the CFDT but it has rather a small processing capacity, 370 tons. CFDT has also an even smaller plant which in 1960 produced only 50 tons.
- 2 oil processing factories one of them belonging to the Office du Niger whose capacity is 5,000 tons. The second one -- unless it is replaced now -- it is said it was in bad condition and it processed some 710 tons of peanuts, 8,750 tons of karite. Soap factories are also attached to it, whose capacity, however, do not exceed 100 tons.
- Under construction a slaughter house at Bamako of 10,000 tons capacity of meat processing a year.

- Among the food processing industries there is one ice making factory, one for syrup and lemonade, one brewery, one flour-mill and one confectionary but all of them of a limited production capacity.
- There is also a private enterprise producing metallic furniture and a carpentry shop employing some 80 workers. Besides, there are some other small workshops.

It is also planned to set at Bamako a processing plant for vegetables of a capacity of 10,000 tons^{per annum.} Recently, however, parts of the projects which were foreseen by the development plan might have been already put into effect. For instance, industrial plants such as, oil processing, more slaughtering houses, textile and tobacco manufacturings, tomato canning, cement factory (50,000 tons capacity) etc., were due to be established,^{1/} but field investigation should ascertain the present situation of industries in Mali.

(b) Niger:

As has been already pointed out even in Niger industry and handicraft represent only a small fraction of the gross domestic product; in fact, the production of the secondary^{sector}/is stated to be 2.8 per cent only. And, by the time the Development Plan of Niger was prepared, the industrial situation was given as follows:^{2/}

- 17 undertakings of Public Works of which two important ones deal with road construction.
- 1 mining enterprise producing cassiterite.
- 3 oil processing factories.
- 1 industrial cold store for meat.
- 1 cotton ginning factory.
- 4 semi-artisanal factories for soft drinks and ice.

^{1/} See: Industries et Travaux d'Outremer, No.108, November 1962, p.909.

^{2/} Plan de Developpement economique et social 1961-1963, p.269.

- 1 printing house.
- 1 workshop for metallic furniture.
- 1 carpentry.
- 2 workshops for metallic joinery.
- 1 artisanal brick-making.
- 1 flour mill.

In addition to this there are some workshops for repairing cars. It is also stated that none of these undertakings belong to the indigenous people none of them, except the cold store, has an adequate equipment which could yield maximum output. All these industries put together employ only 2,830 people of whom 2,360 are employed in public enterprises.

(c) Upper Volta:

The Republic of Upper Volta has very little industries and the existing ones are processing agricultural products.

- 1 factory producing fats, CITEC produces karite butter, peanut oil, sesame and soaps. Its production capacity is about 6,000 tons. When FAO carried out the survey there it was stated that this industry was producing 3,200 tons of oleaginous products, from 1,000 to 1,200 tons of peanuts and sesames cakes and 560 tons of soap.
- 2 rice polishing factories of a total capacity of 5,000 tons but actually they processed only 690 of paddy rice in 1960.
- 2 ginning factories which in 1960 produced some 1,265 tons of fibre-cotton.
- 2 factories producing sisal fibre which were closed in 1959. It is said, however, that one of them processes sisal brought in by the peasants and that in 1960 produced some 31 tons.

In addition to the above one can mention the existence of four building enterprises, one saw-mill, two woodworks, one brewery, one brick making, one lime-kiln which produced some 50 tons of lime, two printing houses, but all of them employ ^{only} a small number of manpower and their turn-over does not seem impressive.

As can be seen from the above inventory of industrial undertakings that the three countries are still at the rudimentary stage of industrialization. Perhaps, it may be rightly said that they are at the pre-industrial stage. Except for few of them, the undertakings seem to be rather of a handicraft nature. This limited development of the industrial sector may perhaps be explained partially because of lack of cheap energy, limitation of known raw materials, narrowness of market, high costs of transport and investment, lack of national entrepreneurs and, finally because of lack of qualified manpower and technical personnel. According to the various cases all or some of these reasons affect seriously the industrial development of the three countries. Consequently, because of this limited number of industries it follows that the number of people employed in the industrial sector is rather insignificant.

51. Mining. ^{1/} Up to now, these three countries have no important mining concerns. Practically all of them are still at the stage of exploration. From the meagre information we have on this subject, it appears that these countries are undertaking some serious research of the mineral resources. Although the deposits of these resources are not generally quantitatively determined, the existence of mineral resources such as tin ore, copper ore, limestone, manganese, salt deposits, bauxite, phosphate, etc., is, however, well-established. The actual exploitation of the known resources seems generally to encounter the obstacles of high costs of capital investment and transportation as well as that of a limited home market for the product. Experts on this matter usually recommend both small and medium scale production. The above reasons make it difficult to depend on mining activities for the socio-economic development of these countries.

52. After these general remarks which do not necessarily represent the individual picture of each country in respect of the mineral resources, it may be useful to see briefly the particular situation of each country.

^{1/} For this paragraph we have heavily drawn information from Mr.R.C.Howard-Goldsmith unpublished reports.

(a) Mali:

From the information so far available, it appears that there is no extractive industry as such in Mali. Only salt and gold are at the present extracted in mechanical manner. The rock salt deposit of Taoudenni has been known and extracted for centuries. Its production is consumed locally in Mali and part of it exported to the neighbouring countries such as Upper Volta and Niger. It is transported on the back of camels. No figures are available as to the exact amount produced, but it is roughly estimated to be of the magnitude of 10,000 tons per annum. As yet there is no scientific analysis made of the salt deposit, but experts think it unlikely that it contains valuable substance besides common salt.

Gold extraction also is made in the traditional manner but the volume produced may be quite insignificant; probably it may amount to some kilos per year.

Deposits of bauxite (815 million tons), manganese (3 million tons) and phosphate (about 25 million tons) are instead estimated to exist in a large quantity. Phosphate vein of Tilemsi could serve local agricultural needs by turning it into superphosphate, whereas the great distance separating the bauxite deposit from the main centres of consumption would, for the time being, diminish its economic importance. Similarly, the marginal value of manganese, possibly does not permit an economical exploitation of the deposit.

Brighter prospects exist, instead, for building raw materials. Mali, indeed, possess a number of limestone deposits, a variety of marbles, most of them easy to exploit. An important deposit of Kaolin of excellent quality is also said to exist. Besides, there are projects to build up a cement factory whose annual output will be about 50,000 tons, a ceramic industry for internal consumption as well as factories producing lime and others. In all these cases, however, production at a large scale seems presently to be excluded because of lack of a large domestic market, energetic sources and the distance factor which would heavily reflect their burden into the production cost. If the necessary requisites are collected together factories of a reasonable size could economically function to meet the needs of national demand.

(b) Niger:

Niger's mineral wealth also appears to be on a modest scale and unlikely to play a major role in the national economy. Considerable exploration has already been carried out over a number of years, as a result of this several isolated deposits are known to exist which should provide the basis for small or medium scale workings - tin ore, ^{copper ore} limestone, iron ore, manganese, common salt and soda-ash have been found in commercial or marginal quantities.

A total of 1,200 tons of tin ore has been produced to date by hand-picking in the Tarrouadji, Elmeki and Guissat formations. Although by improving the present wasteful method of extraction, the production of tin ore could increase by 50 per cent - according to experts' view - a large scale production, however, appears bound to fail, for the numerous pockets of tin bearing gravel seem to be shallow and small. Systematic search for more substantial deposits is, nonetheless, required before any conclusion is drawn.

Small concentrations of copper oxides are found on or near the surface mainly in old river beds, whereas the biggest single deposit contains less than 10,000 tons of a very low-grade, i.e. 1.5 per cent Cu. These conditions make the copper extraction uneconomic.

Substantial amount of limestone, around 10 million tons, easy to mine and suitable for cement manufacture does exist in Niger. In 1961, thus, there was a project of installing a cement plant to produce some 30,000 tons per annum.

Substantial tonnage of low-grade material, colitic goethite, which assays around 50 per cent Fe and does not lend itself to upgrading is found in the ironstone formation of Niger. The ore being siliceous, high in phosphorous and has an inherent water content of 10 per cent, it is experts' view that at the present such iron ore has no export market. Besides, the creation of a local steel industry seems to be ruled out not only because of the limitation of the iron ore deposit but also because of the lack of coke in its neighbourhood. The nearest known source of coal is at nugu in Eastern Nigeria 1,600 kilometres away, whilst the limestone deposit of Malbaza is over 500 kilometres from Say.

Exploitation of manganese is not considered yet to be of an economic value.

Unlike all the other known mineral resources, salt deposits have had, and still have considerable economic importance. There are three main deposits in Niger from which common salt is extracted by mechanical methods: these deposits are located in the Dallol Foga or Foga Valley, Teguiolola - N-Tessoum and in Bilma-Leguedine. The latter deposit is the most important of them all. Its salt is white crystalline very suitable for domestic consumption. Though there are no tonnage estimates, the reserves of saliferous earth are supposed to amount to millions of tons. Since up to now the product is transported on the back of camels, the transportation costs do not permit competition with imported material. Moreover, a thorough analysis of some deposits is needed to see whether valuable chemical substance such as boron are to be found there.

Extensive deposits of soda-ash are located in Eastern Niger.

In addition to the mineral resources just mentioned, exploration of radio-active minerals, oil and gas and pegmatite minerals is also carried out in extensive manner by various companies since 1959.

(c) Upper Volta:

Information concerning mining activities of this country is very scarce. The assessment of mining potentialities is still going on. Presently gold (about 125 kgs. per annum), manganese, bauxite, a small quantity of silver are mined in the country. Copper ore and uranium are also discovered but their exploitation does not seem of any economic value. As far as it is known, however, the prospect of mining on a large scale in this country does not appear to be bright enough on which she could rely for her economic and social development. Further up-to-date information is, nonetheless, badly required before any categoric affirmation.

53. Fisheries: It is a known fact that fisheries play an important role in the economy of the region. From the Mali production 30,000 tons.

From Niger the production in fresh fishes is quoted as follows:

2,000 tons on the Tchad and the Komadougou;

4,250 tons on the Niger;

50 tons on other areas (Madarounia - Guidimouni).

This is a total of 6,300 tons of which 5,600 tons are exported to Nigeria and 700 tons used locally. The Niger government is planning to build a fishing port and a store house for fishes at Niamey.

B. DEMOGRAPHIC AND HUMAN DATA

The population

54. The population for the three land-locked countries amounts to nearly 11.4 million people, according to the 1960 figures, of which 4,100,000 are in Mali, 2,873,000 in Niger and 4,400,000 in Upper Volta. From most recent (1964) figures, the populations have been estimated as follows:

Mali - 4,405,000 ^{1/} inhabitants
Niger- 3,310,060 ^{2/} inhabitants
Upper Volta - 4,650,000 ^{3/} inhabitants

As stated before, most of the total population is engaged in agriculture and livestock production and consequently is living in villages unevenly distributed over the 2,746,000 square kms area.

Composition

55. Among the total population, many groups may be distinguished although the definition of each group is often difficult to delimit properly since the classification cannot easily be based on language, culture, or history of the people. It can nevertheless be stated that, broadly speaking, more than 50 per cent of the total population belong to five groups in a ratio which can be expressed as follows:

	<u>Mali</u>	<u>Niger</u>	<u>Upper Volta</u>
Bambara	1,360,000	-	-
Sonjay-Djerma	255,000	600,000	-
Hausa	-	1,400,000	-
Mossi	15,000	-	1,700,000
Fula	550,000	300,000	27,000

1/ Planification, Mali (PA/232.64/FAO Vol.18/64)

2/ Perspectives décennales 1965-1974 pour les services Santé au Niger (Nov. '64)

3/ National Plan Development, 1962.

56. The first four groups consist essentially of cultivators. These are hard working people who engage in extensive cultivation, laying fallow huge tracts of land and feeling little attachment to particular plots that lead to individual property claims. The Fula stand quite apart from the others. They are scattered all over the region, and have a sort of monopoly of cattle-breeding which they exercise in various ways. In detail, the population can be distributed as follows for Mali (1960). ^{1/}

Nomads

Peulhs	446,000
Touaregs	219,000
Maures	67,000

Sedentaries

Mossis	15,000
Bobos	116,000
Toucouleur	63,000
Dogons	208,000
Bogos and Senoufos	156,000
Songhais	255,000
Markos	334,000
Dioulas	57,000
Malenkés	250,000
Bambaras	1,360,000
Oualof	6,000
Miscellaneous	644,000

In Niger the population distribution in 1964 was as follows:

Haoussas	54 %	Peulhs	11 %
Sonrais-Djermas	23 %	Makiris	5 %
Touaregs	3 %	Budumos	4 %

57. The nomads live separately from the other groups. In Niger, the Haoussa are well known for their commercial activities which carry them all over West and Central Africa. In Mali, the same activity attracts the Dioulas, but in Upper Volta livestock is a main activity for the Peulhs. The population is youthful so that fast population growth must be

^{1/} Planification Sanitaire Naturelle, Mali 28 (PA/232.64)

expected, especially in Mali, where the population is expected to double itself within the next thirty years.

The characteristics of the populations are as follows:

	<u>Mali</u>	<u>Niger</u>	<u>Upper Volta</u>
Birth rate	5.4	-	4.9
Death rate	4.9	-	3.9
Growth rate	1.6	2.7	1.8
Age group up to 15	41	43	47
" " 15 - 60	53	52.3	54
" " over 60	6	4.7	5

Density

58. The three countries are relatively big in dimension and therefore the population density fluctuates between 3.6 for Mali, 2.4 for Niger and 16 for Upper Volta, which rates are low in comparison with other African countries (54.1 Nigeria; 30.8 Ghana; 11.4 Ivory Coast; 13.6 Guinea; 17.1 Senegal; 30.3 Sierra Leone).

59. As stated then, the region is not densely populated and it is to be noted that the Saharian region is hardly inhabitable. The variations in population density show a close correspondence between population and natural geographic regions, these being a matter of climate and hydrography (the Niger River) which describes a curve extending considerably in a southward direction the inhabitable areas of Mali.

60. There is less than one inhabitant per ^{Square}/km in the northern half of the Sahel region, less than 10 in southern Sahel, except for the vicinity of the Niger river, where it rises over 20 km south of Goa; from 5 to 50 inhabitants per ^{Square}/km in the Sudan region, where the higher densities exist in pockets, with a maximum reached in Central Upper Volta.

Distribution

61. Urban growth has been comparatively slow, moderate and well distributed all over the southern half of the region though modern growth of the capital cities was noticed after the independence. If agglomeration of more than 5,000 are regarded as towns, there are no more than 5 per cent of the population who may be described as urbanized and they are scattered among

39 such centers. The largest towns are (in thousands):

	<u>1955</u>	<u>1962</u>	<u>1964</u>
Bamako (Mali)	52	88.5	
Ouagadougou (U.V)	31.7	63	
Bobo Dioulasso (U.V.)	41.7	46.5	
Niamey (Niger)	22.9	40.1	45,000
Zinder (Niger)	14.3	22.9	25,000
Segon (Mali)	17.5	20.1	

Percentages of populations living in the cities are as follows:

Mali	:	225,000	-	5.2%
Niger	:	125,000	-	4.2%
Upper Volta:		258,000	-	5.8%

62. As the impact of the cities on the country-side is in no way related to the size of the city, it has a constant flow of rural populations to the cities which has been creating all sorts of urban problems such as shortages of accommodation for food supply as well as lack of sanitation and other facilities.

63. In Mali, the rural population represents 95 per cent of the total population but which is unevenly distributed: the Sahara is desertic while the sides of the rivers Senegal, Bafing, Bani and Niger are densely populated, the greatest density being observed in the Dogon area (100 inhabitants per Sq. km) and also around Gao (20-50 per Sq. km) particularly on the small strip of land along the river. The population is usually concentrated between the isohyets 600 and 1,300, along the rivers, the marshes and wells and wherever crop cultivation is possible.

64. In Niger, the Sonrai are living mostly in the country called Dgermagauda. The Peulhs are mostly pastors (nomads) and the Touaregs are semi-nomads (20.7%). The rural population, in Globo, is living in a total of 8,000 villages of which 5,000 are composed of less than 200 inhabitants. The population is distributed mostly in the South and the West of the country.

65. In Upper Volta, the population is mostly distributed unevenly through the country. All the Central parts of the area, from the Sudan

frontier to the Ghana border (Poregion), about 20 per cent of the total area of the country, is occupied by great numbers of people (2,000,000) with an average density of 37 inhabitants per Sq.km with extreme fluctuations between 125 and 150 Sq.km. On the contrary, the North and the East have only a density of 3-4 Sq.km as also in the West. In the South, the population is concentrated into the valleys with a density of 12 Square km.

Population structure

66. There is a great degree of homogeneity in the structure of the total population of the area, but for the purpose of the present survey it looks desirable to present a detailed picture of the situation. In Mali, 41 per cent of the total population is under 15 years of age and the active population (15-60 years) constitutes 53 per cent of the total.

The classification of the active population among the three sectors of production was in 1962 as follows:

Primary

traditional	1,435,000
modern (monthly salary)	15,000
	<hr/>
	1,450,000

Secondary

traditional (handicraft)	200,000
modern	5,000
other	4,000
	<hr/>
	209,000

Tertiary

traditional	93,000
modern (commerce)	5,000
modern (transport)	4,000
other services (servants etc.)	9,000
administration	20,000
	<hr/>
	131,000

67. In general the magnitude of the territory and the communications problems have compelled the population to be self-sufficient which has somehow retarded the development of the social and economic activities.

68. In Niger, 13 per cent of the population is between 12 and 19 years of age, and 36.6 per cent from 20 to 49. The active population represents in globo, 45 per cent of the total. The three sectors of production are as follows:

<u>Primary</u>	1,450,000
<u>Secondary</u> (handicraft, industry, buildings) }	50,000
<u>Tertiary</u> (commerce, transport, services) }	

69. In Upper Volta, 41 per cent of the total population were in 1959 under 15 years of age and the active population represented by 54 per cent of the total. In general the repartition of the population was classified as follows:

<u>Primary sector</u>	<u>2,400,000</u>	98%
<u>Secondary sector</u>	<u>19,000</u>	0.8%
(handicrafts, general labour)	4,000	
(rural handicraft)	15,000	
<u>Tertiary sector</u>	<u>23,400</u>	1.2%
private sector (salary)	9,700	
public " "	8,700	
state employees	4,000	
capital investors	1,000	
		<hr/> 100%

70. These figures give an idea of the actual participation of the rural people in the development plans of the three land-locked countries. A detailed analysis of the factors which have hindered the social and economic development of the three countries up to now, is therefore called for.

Natural population movements

71. For decades, a great number of young people has been moving southwards to the coast in order to find higher income, and also to escape from the seasonal unemployment. The migration, which is a provisional one, in most of the cases, has a marked seasonal feature and should be distinguished from nomadism. Migration implied a movement in pursuit of self-betterment and directed to occupations of higher productivity, while nomadism is a shifting from one place to another without a change in occupation —mostly cattle-raising. As it stands today, the population of the land-locked areas is numerous enough to provide for a permanent movement of emigration, both seasonal and permanent.

72. Migration is in fact internal as well as inter-national. This migration has been affected ^{1/} "by a variety of influences of essentially modern urban centres, the opening up of centres of cash crop agriculture or mineral exploitation, the increase of population pressure in rural areas, inter-regional differences in rate of economic development and in local availability of labour, and the sub-division of economically active Africans into traditional agriculturists, persons permanently separated from the traditional agricultural economy, and persons domiciled in rural areas but temporarily employed outside African agriculture either in other sectors of the domestic economy or around." In the three countries, the causes of migration are both economic and non-economic with the former predominating. Usually the adult males migrate, leaving the women and children to cultivate the land and support those remaining. This is accentuated by the increasing need of families for money with which to pay taxes and buy the products of modern civilization; and by the fact that money income, although absolutely low, usually is much higher in industry and in urban centres than is the cash value of the produce that the traditional agriculturist family can raise. Non-economic factors to be mentioned are the desire to exchange kinship obligations, poverty, and fear, as much as tribal traditions for the entertainment, the prestige and advantages to be in urban centres. The migration of southern Mali workers to Senegal, before 1958, involved a small percentage of the country's population and consisted of social labour. (Navetans, or instance, coming from the "cercles" of Kays and Bamako.)

^{1/} United Nations, Economic Survey of Africa since 1950, pp.41-42.

This migration has changed to the Ivory Coast. From Niger it is reported that some workers from the western part of the country are working in Ghana on a temporary basis. Regularly 50,000 young people move to Ivory Coast and Ghana, and come back later to the country with substantial savings but also with new social habits.

73. The migration movement reaches its apex in Upper Volta, where 100,000 leave regularly for three to six months and come back to Upper Volta for the cropping season; 260,000 migrate for one to five years, mostly to Ghana, and 100,000 at least are definitely settled there permanently. They are attracted by higher salaries combined with cheaper imported goods as well as by the prospects of freeing themselves from traditional social burdens. This is due to the poor condition of the soil, limited amount of good land for cultivation and extremely rapid population growth.

74. This new emigration must be distinguished from traditional migrations which have existed for centuries. Most Fula are quasi-nomads following their herds in seasonal migration, motivated by the search for water and the Hausa and "Dioula" travel all the time for the purpose of trade, especially across the Niger - Nigeria border, with far-reaching social and economic consequences.

75. In order to control the migration, the Upper Volta government in 1960 set up two recruiting centres and the Ivory Coast government overtook to reimburse their expenses; but the living conditions of the emigrees are disturbing. The movement of the rural population to the cities of the area is also creating social and economic problems due to the fact that workers living in the urban areas are expected to support the extended families, and are fond of changing to their rural institutions in spite of the difficulty of maintaining them within the framework of an urban set-up.

Economic and financial aspects

76. If it is accepted that each migrating worker to Ivory Coast, Senegal or Mali, may return home with 10,000 CFA francs, an injection of around 1 billion CFA francs is made every season by 100,000 workers into the Upper Volta economy. In addition it is calculated that about 420 million CFA francs, enter the Upper Volta from Ghana on the basis of £12 per worker.

77. The total is then around 1.5 billions CFA francs, which is quite an appreciable amount as a great number of families can live on it. Migration therefore contributes to reduce unemployment and periods of inactivity. It contributes also partly to an increase in the purchasing power of the Upper Volta worker.

78. However, it carries quite a number of disadvantages: first of all, only about $1/4 - 1/5$ of the total earnings are brought back home, which means that 4.5 to 6 billions CFA francs are spent abroad. Secondly, emigration represents a great reduction of the labour forces; thirdly, the greatest rate of tuberculosis in Upper Volta is attributed to the families of migrants. Consequences are therefore economic and social. Furthermore, it is not necessary to take into account the other questionable impacts on the families themselves.

Labour force

79. The actual active population is relatively sufficient to ensure an economic growth of the countries concerned, if consideration is given to size of the land occupied by the families. Actually in Mali, the farmer allocates 80 to 150 days a year to the crops, while in Niger and Upper Volta 80 days are used. It is not necessary to insist on the availability of the labour itself, but the problem rather lies in the technical degree of efficiency already reached by this labour. In the absence of specific studies, either based on observation or surveys we can only comment that training facilities for workers at different levels is lacking and that this presents major problems to the land-locked countries.

Levels of living conditions

80. The situation. The level of living conditions is naturally linked to the natural resources available, the economic resources of the people, their cultural and social background and the degree of their adaptability to a more modern way of life. The natural resources of the region concerned are not of the type that makes for the spectacular development like in Libya, Israel, Ivory-Coast, Mexico or Venezuela (almost no mining, no such commodities as coffee, cocoa, rubber, palm oil) but they give it

inhabitants a fairly high degree of self-sufficiency, the main asset being grain and cattle. In Mali and Niger the agricultural production has been increasing steadily although at a limited rate, while some statu-quo has been observed in Upper Volta.

81. In Mali, although the average urban income is said to be 3 to 5 times as high as the rural income, in two important fields, food and housing, the standards of living in the rural areas are relatively satisfactory. The main problems for food remains the matter of closing the gap between two harvests, due to poverty and lack of storage facilities. So, in spite of the availability of food, all populations of the sub-region have nutritional problems due, in great part, to beliefs and customs. The life of infants is endangered by a premature shift to adult diet. Milk is only appreciated by the Sahelian nomads, who live on milk and dates.

82. It has also been noted that urbanization has resulted in a poorer diet as traditional items become less easily available while the contact with foreigners creates a desire for prestige items, such as bread, sugar and alcoholic drinks that have little or no nutritional value.

83. In the rural areas, as the farmer and the herdsman live on their own production, it results that, in Mali for instance, the latter has a diet relatively richer in proteins, especially of animal origin, in vitamins and minerals, quite sufficient in calories but the diet highly deficient in the "soudure" period.

84. The calories availability is greater among the sedentary people than among the nomads. Table 3, gives an idea of the food situation for the year 1959.

TABLE 3
Mali: Food situation for the year 1959
(Population: 4,200,000)

	Quantity available (1000 tons)	Availabilities (kg/year)	Grs.	Availabilities per person and per day		
				Calories	Proteins	Lipids
Sorgho	300	71.4	195.7	671	19.8	6.5
Millet	368	87.6	240.1	836	28.1	11.3
Beer of millet	67	16.0	43.7	15	0.1	-
Maize	55	13.1	35.9	128	3.4	1.5
Rice	73	17.4	47.6	170	3.6	0.9
Ponio	19	4.5	12.4	37	0.6	0.4
Wheat flour	1.70	0.4	1.1	4	0.2	-
Manioc	150	35.7	98.0	107	0.8	0.2
Sweet potatoe	60	14.3	39.1	38	0.4	0.1
Igname	10	2.4	6.5	6	0.1	-
Sugar	99.94	4.7	13.0	50	-	-
Groundnuts	22.40	5.3	14.6	57	2.7	4.5
Baobab	20	4.8	13.0	37	1.9	3.0
Niebe	10	2.4	6.5	22	1.4	0.1
Karite butter	10	2.4	6.5	57	-	6.5
Oil	1.40	0.3	0.9	8	-	0.9
Green vegetables	50	11.9	32.6	9	0.6	0.1
Leaves	20	4.8	13.0	3	0.3	-
Fruits	30	7.1	19.6	8	0.1	0.1
Cattle	13.76	3.3	9.0	15	1.4	1.0
Sheep	15.80	3.8	10.3	12	1.3	0.7
Pigs	0.65	0.2	0.4	1	-	0.1
Chickens	6	1.4	3.9	5	0.5	0.3
Fresh fish	12.50	3.0	8.2	4	0.7	0.1
Dry fish	7	1.7	4.6	14	2.9	0.2
Smoke fish	1	0.2	0.7	2	0.3	0.1
Cow milk	120	28.6	78.3	53	2.7	3.1
Sheep milk	15	3.6	9.8	10	0.6	0.6
Goat milk	15	3.6	9.8	7	0.4	0.4
Concentrated milk	1	0.2	0.7	2	0.1	0.1
Powder milk	1	0.2	0.7	3	0.3	-
Cheese	0.10	0.02	0.1	-	-	-
Eggs	2.80	0.7	1.8	3	0.2	0.2
Total				2,394	75.5	43.0

Vegetable proteins - 64.1
Animal proteins - 11.4

Source: Enquête de la FAO sur l'Afrique 1962. République du Mali

85. Due to the fact that in the cities the average per capita income is evaluated to 15,000 CFA francs and in the rural area, to 6 - 10,000 CFA francs, it is easy to see the reflection on the level of living between the two sectors and particularly into the nutrition level. The nomadic people do not suffer from protein deficiencies as they have some quantity of milk and cereals. They are also able, through the marketing of milk and animals, to buy additional foods from the farmers.

86. The diet is quite rich in animal proteins, vitamins and minerals. Sometimes, at the "soudure" period, it can be deficient in calories and fats. During the period the families use a lot of the legumes and grains growing in the area such as "cenchrus cathartics, panicum laetum, paspalum, scrobiculatum, oriiza, etc."

87. The sedentary people use mostly millet, sorgho, rice, maize and fonio with their diet which provides them with the essential calory and protein needs. To this can be added okra, tomatoes, onions, baobab, kapok, beans, sesame, ground nuts, and smoked fish. Some fruits, such as spondias, mombin, diosypios prespilliformis, guavas and mangoes can be added.

88. To take care of the seasonal deficiencies in the foods, the Mali government created the "Office des Céréales" in 1960.

89. To conclude, the availability for foods is explained in Table 3.

90. In Niger, according to Table 4, it can be seen that local consumption in 1961, for instance, used a great part of the agricultural production.

TABLE 4
Niger: Food situation for the year 1961

Products	Harvest planted	Harvest (tons)	Consumption
Millet	1,611,000	787,600	782,600
Sorgho	340,950	256,130	222,130
Sorgho associated with millet	11,500	26,000	-
Niebe associated with millet	414,400	65,042	51,042
Vouandzou	22,280	7,838	
Rice	9,299	9,420	
Maize	3,022	2,655	
Manioc	15,766	122,453	
Onions	1,007	25,585	15,585
Pepper	165	215	
Potatoes	220	963	
Sugar cane	1,870	20,000	
Wheat	295	352	
Groundnuts	344,045	154,058	
Cotton	7,213	1,824	
Tobacco	462	209	
Total	2,373,667	1,456,698	

Source: Economic et Plan de Developpement du Niger, 1961, p. 10.

91. In Niger, as observed before, the food situation is quite similar, although the limitation in water is most acute. The following data give a proof that the total food production is still taking care of the growing needs of the population as 77 per cent of the total crop production is locally consumed.

92. Consideration should be given to the determination of an economically viable unit for small farmers, as most of the families in the region live more or less on the production of about one hectare. The transfer of agricultural labour to an area of greater opportunities will become desirable, and the labour productivity could be increased through rural development techniques starting from improvement of soil and buildings will put these countries in a position to lead progressively to a complete

reconstruction of obsolete rural and agricultural structures.

93. In Upper Volta, the possibilities of increasing food production are much more limited than in the other countries due to the physical conditions and the population growth. Basically diet is based on cereals. In the north, people use mostly millet and milk, in the centre, sorgho, millet and legumes. In the west and the south, sorgho, rice, and maize. In general the diet is rich in glycidis, poor in lipids and protecting elements chiefly into the mossi area, highly characterized by vitamins and minerals deficiencies.

94. In the south-west areas, food is plentiful. In other areas, from June to August, there is a shortage. (see table 5)

TABLE 5

Upper Volta: Food situation for the year 1962

Types of food	Quantity available in tons	Availability per person (kg/year)	Grs.	Availabilities per person and per day		
				Calories	Protits	Lipids
Millet	150,000	40.5	111.1	386.6	13.0	5.2
Sorgho	344,000	93.0	254.7	873.6	25.7	8.4
Beer	219,000	59.2	162.2	56.8	0.5	-
Paddy rice	27,000	7.3	20.0	48.2	0.9	0.1
Maize	69,000	18.6	51.1	181.9	4.9	2.2
Fonio	8,700	2.4	6.4	21.8	0.6	0.2
Wheat flour	800	0.2	0.6	2.1	0.1	-
Sugar	1,800	0.5	1.3	7.0	-	-
Igname	44,000	11.9	32.6	29.3	0.7	0.1
Sweet potatoes	25,000	6.8	18.5	17.9	0.2	0.1
Manioc	25,000	6.8	18.5	20.2	0.2	-
Taro	4,000	1.1	3.0	2.6	-	-
Beans niebe	56,000	15.1	41.5	141.9	9.7	0.7
Voaudzou	15,000	4.1	11.1	40.5	2.0	0.7
Groundnuts	35,000	9.5	23.9	100.5	4.7	8.0
Cotton	4,200	1.1	3.1	11.6	1.8	0.2
Sesame	1,800	0.5	1.3	7.5	0.2	0.7
Baobab	20,000	5.4	14.8	42.0	2.1	3.4
Karite butter	8,000	2.2	5.9	52.2	-	5.9
Green vegetables	50,000	13.5	37.0	8.0	0.5	-
Leaves	20,000	5.4	14.8	3.7	0.3	-
Fruits	20,000	5.4	14.8	6.1	0.1	0.1
Meat	17,000	4.8	13.0	33.3	2.3	2.6
Fishes	3,500	0.9	2.6	1.2	0.2	-
Cow milk	60,000	16.2	44.4	30.2	1.6	1.7
Goat milk	37,000	10.0	27.4	20.0	1.0	1.2
Imported cattle foodstuffs	210	0.05	0.1	-	-	-
Total				2146.7	72.4	41.5
Plant protits -	68.2					
Animal protits -	4.2					

Source: Enquête de la FAO sur l'Afrique 1962, p. 58.

Objectives of production

95. In Mali, the objectives of production have been laid out as follows:

Cereals: The production of millet is planned to be raised from 800,000 tons to 1,080,000 tons of which an increase of 66 per cent could be absorbed by local consumption. The production of rice is planned to rise from 182,000 tons to 322,000 tons, with the assumption that local consumption will absorb 33 per cent of the increase.

96. For the other products the situation and the prospects are as follows:

	<u>Actual production</u>	<u>Prospects</u>	<u>Areas of action</u>
Wheat	1,700 tons	14,000 tons	Gao-Tombouctou
Ponio	10,000 tons	20,000 tons	
Manioc	150,000	160,000	
Fruits & vegetables	100,000 tons	200,000 tons	(Centre Baguimeda - Office Niger)
Groundnuts	125,000 tons	200,000 tons	
Cotton (grain)	9,000	55,000	(Office Niger - principally 30,000)

97. In Niger, the government has taken measures to increase the agricultural and animal production. For instance ground nut production is to be encouraged to reach 120,000 tons by 1970.

Consequently measures have been taken for supporting the price in the local market as incentive to greater production. Also, the C.F.D.T. has been requested to increase the cotton production so as to reach 3,000 tons of cotton (seed) or 1,000 tons cotton fiber as a measure which tends to diversify the agricultural production.

98. Regarding the livestock production, steps have been taken to increase the number of wells through the assistance of FIDES. The export of livestock or meat is quite encouraging towards Nigeria, where the internal market is expanding reasonably. A society of mixed economy has been created in 1960, which has received the benefit of monopoly for meat export.

TABLE 6

CFA francs -thousand

1963	Total production	in thousand of tons		Value unit per kilog.	Commercial value
		consumed	commercialized		
Mil	971	706	265	15	3,970
Sorgho	352	278	74	12	888
Niébé	80	46	34	15	510
Ground nut seeds	-	-	-	-	-
Manioc	136	88	48	17	816
Rice	13	7.6	5.4	50	220
Cotton	-	-	-	-	-
Sugar cane	31	21	10	10	100
Wheat	1	0.44	0.55	50	27
Corn	2.24	1.74	0.50	31	16
Potatoes	24	12.5	11.5	16	184
Onions	23.4	8.2	15.2	18	274
Tobacco	0.3	0.24	0.05	120	6
Pepper	-	-	-	-	-
Ground nut in shell	220	-	-	-	-
Ground nut decorticated	-	42	114	23	2,622
Cotton seeds	6.39	0.58	-	-	-

99. In Upper Volta, the government has taken steps in order to promote the adoption of better techniques of agricultural and animal production through the conservation of the soil, the building of earth dams for irrigation purposes in the valleys, the reclamation of marshy areas and the extension of rural animation to 1,500 villages. Emphasis has been put on higher production of ground nuts, cotton, karité, rice, millet, corn, sisal and sesame, and particularly 16,000 hectares of land will be made available for agriculture in the areas of Ouahiguya. The improvement of animal population, which has been evaluated at 24 billion CFA francs has also been considered so as to assure a greater yearly increase than the present 8,000 tons of meat.

CHAPTER II

GENERAL ECONOMIC CONDITIONS

Implications of national accounts

100. National account estimates are based on the "French" system of National accounts, rather than the OEEC/UN Standardized system, in Mali, Niger and Upper Volta. While no attempt will be made to elaborate on the pros and cons of each system, it suffices to mention that the former system has some unfortunate limitations as a basis for the formulation of economic development plans.

101. Firstly, it does not provide "an instrument for the immediate derivation of economically significant aggregates (GNP., NI., etc.) which economic analysis and development planning require for the recording and measurement of changes in the economy." ^{1/} Available aggregates in the "French" system of National accounts should, thus, be distinguished from their counterparts in the Standardized system, and Secondly, the "French" system is based on a domestic concept whereas the Standardized system is based on a national one. The domestic concept implies a territorial definition of the "resident" which makes no distinction between "national" and "foreign" individuals or enterprises. Economic activities are recorded in the domestic accounts regardless of their origin or duration. It is, therefore, difficult to assess the national economic conditions per se since they are overshadowed by the outside world.

102. In addition to the basic problems outlined above it should be mentioned that national accounts have not been made regularly on an annual basis nor have they been estimated for a relatively long time in the past. Most National accounts estimates have been made for the years 1956 and 1959. Without a time series of national aggregates it is difficult to determine the changes and evolution of the economies of these countries.

^{1/} Ady, P. and Courcier, M. Systems of National accounts in Africa, OEEC, Paris, December 1960, p.43.

103. It should also be noted that the Fourth Conference of African Statisticians organized by ECA has recommended the use of the intermediate system until the UN System of National Accounts is revised.^{1/}

The preparation of an articulated system of National accounts on annual basis should be given high priority in the three countries in order to provide a measurement of economic development and a guide line for economic planning.

Comparative Analysis

104. The economy of each of the three countries (Mali, Niger and Upper Volta) is still at an early stage of development. Prevailing economic conditions can be readily manifested by the use of the following economic indicators which are presented in Table 1.

A- Gross Domestic Product is estimated at 66.5 billion CFA Francs in Mali; 59.0 billion CFA Francs in Niger, and 42.7 billion CFA Francs in Upper Volta. The level of the GDP is too low to ensure an adequate standard of living for the population.

B- Per Capita GDP is only 19,000 CFA Francs (US\$76.00) in Mali, 18,300 CFA Francs (US\$73.00) in Niger and 10,000 CFA Francs (US\$40.00) in Upper Volta. Due to maldistribution of income it is believed that the rural population, which constitutes the majority, realizes a much lower income than the per capita income.

C- Place of Agriculture in the Economy. Agricultural production accounts for more than 60 per cent of the total output of each of the three countries. Although agriculture occupies a predominant place in the economies of these countries, it is still mostly of a traditional type. Agricultural productivity is very low and cultivators usually have no substantial surplus which could be exchanged for non-farm commodities. The role of agriculture in the development of the economy is, therefore, very limited since the interaction between the various sectors of the economy is nominal.

^{1/} See ECA, Report of the Fourth Conference of African Statisticians, November 1965, p. 23.

TABLE 1

Economic Indicators
Mali, Niger and Upper Volta

Country	GDP Billion CFA Francs	Per capita GDP CFA Francs	Subsistence Production as per cent of Total output	Agricultural Production as per cent of total output
Mali	66.5	19,000	60	64.8
Niger	59.0	18,300	50	64.3
Upper Volta	42.7	10,000	90	68.5

D- Predominance of Subsistence Production. Subsistence production accounts for 90 per cent of the total output in Upper Volta compared with 60 per cent in Mali and 50 per cent in Niger. Production for the market is relatively insignificant in Upper Volta and relatively more important in Mali and Niger. The commercialization as well as the modernization of the agricultural sector in each of the three countries are necessary conditions for economic development.

Country Analysis

The Republic of Mali

105. A- Gross Domestic Product: Social accounts were made in Mali for the years 1956 and 1959.^{1/} No recent estimates have been prepared in spite of their extreme usefulness in obtaining an up-to-date picture of the economy and in providing a basis for economic planning. While an attempt will be made to analyze the social accounts for 1959, it should be mentioned that they have limited relevance to current conditions and they should only serve to indicate orders of magnitude.

Gross domestic product was estimated at 66.5 billion CFA and gross national product at 55.1 billion CFA in 1959. The difference of more than 11 billion CFA was probably income accrued to non-Malian residents.

^{1/} See: Banque Centrale des Etats de l'Afrique de l'Ouest, Comptes Economiques du Mali, 1956, Paris, 1960, and Republique du Mali, Comptes Economiques du Mali, 1959.

In the absence of a time series of social accounts it is impossible to make an estimate of the rate of growth of the economy. However, according to an aggregate estimate by the United Nations, gross domestic product amounted to US\$332 million or 79.5 billion CFA in 1961.^{1/} This implies an average annual rate of growth of about 9 per cent during the period 1959-1961. This high figure might be due to various factors including weather conditions which affected agricultural output and changes in price level. The real rate of growth should be lower since there is no evidence that production rose substantially nor the productive capacity expanded correspondingly during this short period.

106. B- Per Capita Gross Domestic Product had been rising in the Republic of Mali. On the basis of UN estimates it amounted to about 17,000 CFA in 1953 compared with 18,000 CFA and 19,000 in 1958 and 1961 respectively.^{2/} However, average income of the majority of the population (which is rural) should be considerably lower than the national average income due mainly to predominance of subsistence agricultural production, low productivity and high per capita income of the non-farm population.

The pattern of consumption may also throw some light on the discrepancies in income distribution. The urban population, 6 per cent of the total, consumed about 21 per cent of the total consumption in 1959. On the other hand, the rural population accounted for 94 per cent of the total population and consumed 79 per cent of the total consumption.

107. C- Industrial Origin of Gross Domestic Product. The bulk of the GDP is derived from the agricultural sector. Agriculture was and still is the mainstay of the economy. It accounted for 58 per cent and for 64.8 per cent of the total national output in 1956 and 1959 respectively, as indicated in the following Table 2. The figures for the two years, however, are not comparable as 1956 refers to Mali (ex-French Soudan) and Senegal combined.

^{1/} See: Nations Unies, op. cit. One US dollar was equivalent to 239 CFA Francs.

^{2/} Ibid.

TABLE 2

Mali: Industrial Origin of Gross Domestic Product, 1959^{1/}

Sector	1 9 5 9	
	Value Billion CFA	% of total
Agriculture	35.7	64.8
Industry & handicraft	6.9	12.5
Services	12.5	22.7
Total	55.1	100.0

A more detailed classification of gross domestic product at market prices is indicated in Table 3. The traditional sector (mostly traditional agriculture) accounted for 64.6 per cent of the GDP in 1959. Public enterprises (also predominantly agricultural including the Office du Niger) accounted for 4.3 per cent of the GDP. The second most important sector after traditional agriculture was that of foreign enterprises, which produced 15.7 per cent of the GDP. Private indigenous enterprises (mainly transport and commerce) accounted for 14.8 per cent while the administration and housing accounted for rest or 0.6 per cent of the GDP.

TABLE 3

Mali: Gross Domestic Product at Market Prices by Sector, 1959

Sector	Value	
	Million CFA	% of total
Traditional sector	39.0	64.6
Public enterprises	2.6	4.3
Foreign enterprises	9.5	15.7
Indigenous enterprises	8.9	14.8
Housing	0.1	0.2
Administration	0.2	0.4
Total	60.3	100.0

Source: Comptes Economiques du Mali 1959.

^{1/} Compiled from Comptes Economiques du Mali 1956, p.35 and 1959 p. 15a op.cit.

The Republic of Niger

108. A- Gross Domestic Product: Detailed estimates of social accounts in the Republic of Niger have recently been prepared for the years 1959-1962.^{1/} Gross domestic product amounted to 47.6, 50, 54.7 and 59 billion CFA in the years 1959, 1960, 1961 and 1962 respectively at 1960 constant prices as indicated in the following Table 4.

TABLE 4
Amounts and Indexes of Gross Domestic Product
Republic of Niger, 1959-1962^{2/}

	1960 = 100		(Billion CFA)	
GDP	1959	1960	1961	1962
Amount	47.6	50	54.7	59
Index	95.2	100	109.4	118

Gross domestic product increased at a rate of 7.2 per cent during the period 1959-1962 compared with a higher rate of growth of 8.7 per cent during the period 1960-1962. However, gross domestic product at market prices amounted to 47.9 billion CFA in 1959 compared with 54.1 billion CFA in 1961. The rate of increase during this period was only 6.3 per cent. All the above mentioned rates of growth were considerably higher than the rate of 4 per cent asserted in the intermediate economic plan. It should be emphasized that this high rate of economic growth was mainly due to favourable weather conditions which resulted in higher agricultural output in 1961. Non-agricultural sectors - which are still relatively unimportant in the economy of Niger - increased at a lower rate. The overall rate of growth, thus, does not give a true perspective of the imbalance in the economic development of the country. The relative importance as well as the rate of growth of the agricultural and the non-agricultural sectors for the period 1959-1961 are indicated in Table 5.

^{1/} See: République du Niger, Comptes économiques 1959, by André Chadeau and Comptes économiques 1961 by Adel Al-Akel published in 1961 and in 1963 respectively.

^{2/} Banque de Développement de la République du Niger, Exercice 1963, p. 15.

TABLE 5

Value of Output and Rate of Growth
Agricultural and Non-Agricultural Sectors
Republic of Niger, 1959-1961^{1/}
(Value in billion 1960 constant francs)

Year	<u>Agricultural Sector</u>			<u>Non-Agricultural Sectors</u>			<u>Total Output</u>	
	Value of Output	Index	% of total output	Value of output	Index	% of total output	Value	Index
1959	26.4	100	63.0	15.5	100	37.0	41.9	100
1960	28.2	106.8	63.4	16.3	105.2	36.6	44.5	106.2
1961	31.0	117.4	64.0	17.4	112.3	36.0	48.4	115.5

^{1/} Compiled from: République du Niger, Comptes Economiques 1961, p. 39.

The agricultural sector not only occupies a predominant place in the economy of Niger but its relative importance may also be rising. Its contribution increased from 63.0 per cent in 1959 to 64.0 per cent in 1961 of the national output, as indicated in the above table. While this change in the structure of output is contrary to what is normally expected in the process of economic development it is still demonstrative of the imbalance in the growth of the economy.

Moreover, the rate of growth of the agricultural sector especially from 1960 to 1961, exceeded that of the non-agricultural sectors as well as that of the economy. Taking 1959 as a basis the index of agricultural output rose to 117.4 and that of non-agricultural output rose to 112.3, while the index of total national output increased to 115.5 in 1961. While the increase in agricultural production is mainly due - as will be shown later - to the expansion of the cultivated area, the effect of climatic conditions upon fluctuation of yields probably accounts for the difference.

109. B- Per Capita Gross Domestic Product: As mentioned before, per capita income cannot be directly derived from the social accounts based on the "French" system and therefore only estimates of per capita gross domestic product are available. The latter should be considered only as an order of magnitude for many reasons including statistical inaccuracy especially with respect to demographic statistics; income maldistribution and inclusion of income of foreign individuals and enterprises in the domestic income

According to available estimates per capita gross domestic product amounted to about 15, 500 CFA in 1959 and to about 18,300 CFA in 1961. Although a slight increase is shown for this period, it was lower than that estimated for 1953 by the United Nations.^{1/} Total per capita gross domestic product in current US dollars for the years 1953, 1958 and 1961 are shown in Table 6.

TABLE 6
Total and Per Capita Gross Domestic Product
Niger, 1953, 1958 and 1961^{1/}

Year	Units of National Currency per US \$	GDP Million dollars	Per Capita Gross Domestic Product Dollars
1953	...	150	67
1958	239	170	64
1961	243	167	57

^{1/} Source: United Nations: Yearbook of National Accounts Statistics 1963, New York, 1964.

GDP

While per capita/amounted to US\$67 in 1953 it was only US\$64 and US\$57 in 1958 and 1961 respectively. The level of per capita GDP was not only low but was also declining. This problem is further aggravated by the pattern of income distribution due to discrepancies between rural and urban incomes and between lower and upper groups' incomes.

Per capita rural income may be only a third or a fourth of the urban income. According to estimates of the Ministry of Rural Economy a traditional cultivator of an above average size holding of one hectare of groundnuts attains an income of about 6,000 CFA. Considering that the working period per year varies from 80 to 130 days then he receives 46 to 75 CFA per day. Most of the cultivators, however, produce for subsistence or produce cash crops on holdings of less than one hectare and their income, therefore, should be much lower than 6,000 CFA. Few cultivators, of course, apply improved farming practices and realize higher income. Hired labourers do not probably receive higher income in terms of wages, otherwise cultivators would prefer to move into the labour class and thus provide an opportunity for the emergence of landlordism.

^{1/} See: Nations Unies. Annuaire de Statistiques des comptabilités Nat. 1963

This serious problem of low and declining level of per capita income is caused by a low level of productivity especially in the agricultural sector. To increase per capita income, measures should be taken to raise the level of productivity. Although such measures are elaborated upon elsewhere in this report, it suffices to mention here that they include measures pertaining to the improvement of technical and economic aspects of agriculture such as the adoption of modern farming techniques; the commercialization of agriculture and the better utilization of resources as well as the amelioration of the institutional framework of agricultural production with respect to land tenure; agricultural credit, marketing, education and extension systems.

110. C- Gross Domestic Product of Industrial Origin: Agriculture, including livestock and fishery, is the major source of economic activities and income in Niger. Crop, animal and fishery production accounted for 83.7 per cent of the gross domestic output in 1959. ^{1/} Commerce, transport and services accounted for 13.5 per cent while industries including handicrafts accounted for 2.8 per cent of the gross domestic output in the same year.

A more detailed classification of gross domestic product by industrial origin for 1961 is indicated in Table 7. Agriculture occupies a predominant place in the economy. The value of its output amounted to about 33.1 billion CFA francs or 64.3 per cent of the GDP in 1961. Furthermore, it furnished the base for food industries, textiles, skins, handicrafts, transport, commerce, public construction and similar other economic activities. While this classification differs from the previous one done in 1959, both of them unmistakably disclose the importance of agriculture in terms of its contribution to production and income.

^{1/} Comptes Economiques, 1959, Op. Cit. p.9

Other relatively less important sectors of the economy were public administration, commerce and construction which contributed 8.5; 6.7 and 6.3 per cent of the GDP respectively.

TABLE 7

Industrial Origin of Gross Domestic Product, Niger 1961^{1/}

	Value	
	Billion CFA francs	% of total
Crop production	19.1	37.1
Livestock production	11.2	21.7
Forestry production	2.5	4.9
Fishery production	0.3	0.6
<u>Total agricultural production</u>	<u>33.1</u>	<u>64.3</u>
Mining	0.09	0.02
Manufacturing	2.4	4.7
Construction	3.2	6.3
Electricity and water	0.2	0.4
Transportation and communication	0.9	1.7
Wholesale and retail trade	3.4	6.7
Banking and insurance	0.2	0.4
Ownership of dwellings	1.7	3.2
Public administration	4.4	8.5
Services	<u>1.9</u>	<u>3.8</u>
Total:	51.5	100.—

^{1/} Comptes Economiques, 1961, Op. Cit. p.25

Priority has, therefore, to be given to agricultural development, especially with respect to the allocation of adequate amount of agricultural investment

The Republic of Upper Volta

A. Gross Domestic Product

111. Estimates of GDP for the period 1954 - 1959 are indicated in Table 8.

TABLE 8

Gross domestic Product in Constant 1959 Francs

Upper Volta 1954 - 1959^{1/}

Year	GDP Billion CFA
1954	35.9
1955	37.6
1956	40.7
1957	40.8
1958	40.7
1959	42.7

Source: Banque Centrale des Etats de l'Afrique de l'Ouest: Données Actuelles de l'Economie Voltaïque, Note d'Information No.89, Décembre 1962.

^{1/} United Nations: Yearbook of National Accounts Statistics op.cit.

Gross domestic product amounted to 42.7 billion CFA in 1959 compared with 35.9 billion CFA in 1954. The implied rate of increase of GDP during this period was, thus, about 3.4 per cent per annum. Social accounts in recent years, especially after independence, have not been made. Comparative rates of growth as well as changes in the structure of economy cannot therefore be determined on a sound basis for pre- and post-independence periods. The United Nations, however, estimated the GDP at 111, 146 and 161 million dollars in 1961 respectively as shown in Table 9.

TABLE 9

Gross Domestic Product Upper Volta 1953-1961 ^{1/}

Year	Units on National currency per US \$	GDP million dollars
1953	-----	111
1958	267	146
1961	336	161

The rate of growth was about 5.4 per cent during the period 1953-58 compared with that of about 3.2 per cent during the period 1958-1961. The comparison, however, is misleading because the rate of growth of 3.4 per cent during the period 1954-1959 was compared on the basis of 1959 constant prices while the latter rates ^{of} growth were computed on the basis of current prices. In addition, the value of national currency was lower in 1961 than in 1958 in UN estimates of GDP.

^{1/} United Nations: Yearbook of National Accounts Statistics op.cit.

B. Per Capita Gross Domestic Product

112. Per capita gross domestic product is lowest of the three countries under study. It amounted to about 10,000 CFA in 1959. The level of per capita GDP has not been rising but may perhaps have been declining in recent years on the basis of available data. Per capita income of the majority of the population which is rural should be substantially lower than per capita income of the total population. It is not likely that it exceeds 5,000 CFA if productivity and size of holdings are taken into consideration.

C. Industrial Origin of Gross Domestic Product

113. Agricultural production, including livestock and fishery, is the most significant component of national output. Its value was 25.2 billion CFA or 68.5 per cent of the value of total national output in 1959 as indicated in Table 10. The second most important sector of the economy was that of services including transportation, banking and trade. The value of output of this sector amounted to 7 billion CFA francs or 19 per cent of the value of total output in 1959. Output of small-scale industries handicrafts and construction was valued at 4.6 billion CFA francs or 12.5 per cent of the total output.

TABLE 10

Industrial Origin of Gross Domestic Production

Upper Volta 1959^{1/}

Sector	Value billion CFA francs	% of total
<u>Primary</u>		
(Agriculture, livestock and fisheries)	25.2	68.5
<u>Secondary</u>		
(Small-scale industries, handicrafts and construction)	4.6	12.5
<u>Tertiary (Services)</u>	<u>7.0</u>	<u>19.0</u>
	36.8	100

The Juxtaposition of Market and Subsistence Economy

114. Agriculture —as indicated earlier— occupies a predominant place in the economies of Niger, Mali and Upper Volta. It accounts for more than 60 per cent of the GDP of each of the three countries. In spite of its prominent place in the economy of these countries in terms of production, income, population, resources, foreign trade and public finance, agriculture is neither commercialized nor modernized nor efficient.

^{1/} Republique de Haute Volta, Projet de Plan Quinquennal (1963-1967)
Tome I, p.14

It is characterized by being mostly subsistence, traditional and inefficient.

115. While these features are due to impact of past economic, social and technical conditions it should be pointed out that they are not insurmountable. Measures have to be undertaken, therefore, to alter those features which would lead to the modernization and commercialization of agriculture and, thus, to the removal of obstacles hindering economic development.

Most of the agricultural production is for subsistence yet there is no marked distinction between subsistence and commercialized production in terms of size of holdings; forms of tenure; techniques of farming (except for improved seeds in case of the latter level of productivity; and level of revenue whether cash or imputed. Cultivators growing cash crops are not, therefore, more advanced nor have they better economic opportunities than subsistence producers. In fact, there is no specialization in subsistence or market agriculture. Subsistence production is usually given priority in planting over cash crops. The former must be ensured first. The latter depends on the availability of time and labour as well as favourable weather conditions.

116. In a recent FAO/ECA meeting on the Transition from Subsistence to Market Agriculture in Africa the following classification of producers at different stages in the transition from subsistence to market agriculture was adopted. ^{1/}

- (i) Producers whose entire production is for own consumption
- (ii) Emergent producers who have made a little headway in the market economy but whose sales are still less than their own consumption

^{1/} FAO/ECA Expert Meeting on Government Measures to Promote the Transition from Subsistence to Market Agriculture in Africa, Addis Ababa, April 1964.

- (iii) Commercial farmers, whose sales regularly exceed their own consumption.

117. Agricultural producers in three countries fall in categories (i) and (ii) mentioned above. Government measures for the modernization of market agriculture as well as the transition from subsistence to market agriculture are indispensable if economic development is to be attained. The FAO/ECA meeting on government measures to promote the transition recommended the following relevant measures:

Priorities for action by African governments

118. During its discussions of the need for an accelerated movement into market agriculture through government measures aimed at both individual producers and large-scale projects, the meeting had advanced a wide range of views and proposals concerning the need for both concentration and some spreading of available resources, the need for more basic studies, the advantages and disadvantages of large-scale schemes and mechanization, and many other fields. It appeared that governments might well expect some clearer indications of the meeting's views on major priorities, as they could not do everything at once in the light of the shortage of resources.

At the same time it was realized that Africa had some 60 countries and territories at various levels of economic development and with a wide range of conditions. It would therefore be neither realistic nor useful to propose one precise scale of priorities, or an ideal allocation of the national budget setting a specific share for agriculture as a whole and a breakdown by departments or fields of action.

The meeting succeeded however, in identifying some key approaches which it felt should receive attention without delay, or which should receive a big share of the available capital skills and current expenditures. It was also able to identify a number of more specific measures which seemed to be generally necessary if marketed production was to increase at a sufficient rate.

The most important policy approaches included:

(a) The establishment of as comprehensive a national development plan as available information permitted, linking all sectors of the economy into a coherent whole so that policies and action within each sector, including agriculture, would be directed towards a consistent set of objectives rather than being haphazard and possibly contradictory. This would require appropriate administrative structures, including:

- (i) a national planning organization;
- (ii) a high level agricultural priorities assessment committee, composed of senior agriculturalists, to advise on agricultural policy and ensure that agriculture was given its due place in the national economy;
- (iii) an economic and technical unit in the Ministry of Agriculture to initiate, analyse and appraise policy measures and projects and conduct studies and surveys in the rural sector, with provision for adequate liaison with the national planning organization;
- (iv) supporting services to assist marketing, credit, price stabilization, extension, technical research, etc.

To secure from agriculture the increases in marketed supplies needed to meet the growing and changing demand should be a goal in the national development plan. The meeting emphasized that the above services were skill intensive, calling largely for current rather than capital expenditure.

(b) Major attention to the government services responsible for research, extension and credit. These closely interrelated, skill-intensive services did not require much capital but fell under the current expenditure part of the budget. Extension was considered to be most in need of attention in most African countries. It was stated during the meeting that the training of low-level extension workers was a specific bottleneck in many countries in the transition to market agriculture by large numbers of producers.

(c) The establishment of a national manpower budget, leading to an integrated recruiting and training programme for the wide variety of professionally and technically skilled workers required throughout the economy. High priority should be given as indicated under (a) and (b) above to the urgent provision of agricultural economists, technicians, research and extension workers. Training programmes again called largely for skill and current expenditure.

(d) Recognition by governments of the fact emphasized in (a), (b) and (c) above that these and many other prerequisites for the successful development of market agriculture were skill intensive and called for current expenditure rather than fixed capital. It was pointed out that the national budget was frequently controlled by Ministries of Finance who usually considered fixed capital investment to be the best means for promoting economic growth. Financial controllers usually classified current expenditures as "administration" and aimed at keeping them down to a certain percentage of the budget. Many of the needed developments in agriculture called for essential services which should be recognized as development expenditures and not as administrative overheads. Aid-giving agencies should be invited to note this requirement and to consider sympathetically requests for more aid for current development expenditures.

(e) Careful scrutiny by governments of the share of their scarce capital and foreign exchange resources to be allocated to large-scale agricultural schemes. While such schemes often provided a quick road to import substitution and could rapidly increase marketable supplies of food and raw materials, it might be in the best interests of general economic growth to give priority in the allocation of capital and foreign exchange to manufacturing industry, including industries based on the processing of agricultural products. There were alternative ways of expanding agriculture by reinforcing government services to assist labour and land-intensive small scale producers and thus increase the productivity of already committed resources. The creation of a favourable atmosphere could attract private foreign capital and skills to establish plantations. There were dangers in large ill-considered imports of, e.g. tractors for mechanization projects of doubtful success.

(f) Measures to raise the status of agricultural employment, to improve conditions of rural life, and to enlist the support of farmers would retain and attract more progressive and efficient types both to the land and to government agricultural services, and so raise productivity and marketed supplies. The removal was advocated of discrimination in salaries, status, and training opportunities stated to operate in some countries against agriculture, together with measures to foster small rural industries to give alternative employment to farmers. Judicious use of farm subsidies and the establishment of clear production goals at the local level were among measures proposed.

(g) A wide-based government programme of studies and surveys, enlisting the assistance of universities and aid-giving countries and agencies. This should include careful examination of already existing material that was often overlooked. Areas for investigation and types of surveys and studies proposed included:

- (i) how taxation and land tenure reforms could be used by governments to direct agriculture into commercial channels;
- (ii) the rate and extent of private capital formation in agriculture;
- (iii) the growth of demand for food and agricultural products;
- (iv) the motivation of farmers and pastoralists at different stages in the transition to market agriculture;
- (v) pre-investment surveys and pilot schemes;
- (vi) project analysis and formulation;
- (vii) the main problems and factors in raising agricultural productivity.

In addition to these major priority approaches emphasis was placed on a considerable number of government measures of a more specific nature, including:

- (a) provision of roads and other infrastructure;

- (b) improved marketing facilities and services;
- (c) reform of land tenure and other rural structures;
- (d) soil conservation and measures to raise fertility;
- (e) rural industrialization;
- (f) supply of fertilizers and other physical inputs to raise yields;
- (g) measures to diversify production and introduce mixed farming;
- (h) organization and support of co-operatives;
- (i) rural education, rural welfare and community development;
- (j) nutrition education services.

Some of these called for injection of capital while others were of a service character.

119. In Mali subsistence production accounts for about 60 per cent of the gross domestic product. The proportion of subsistence production is highest with respect to food crops, especially millet. The traditional sector is not segregated from the modern one since there is no specialization among cultivators in the production of subsistence and cash crops. Some attempts have been made to modernize part of the agricultural sector, the most important of which is the Office du Niger which was commenced in 1929 and started its effective operation in about 1947. However, the reclaimed area in the Office du Niger is only about 50,000 hectares out of a total area of about one million hectares which could be brought under cultivation. Limited attempts are also made to improve yields through group farming, distribution of needs, settlement schemes, extension and training.

120. In Niger about half of the gross domestic output went through marketing channels in 1961. Trade, transport and services accounted for half the marketed products while agriculture, handicrafts and small industries accounted for the rest. In the absence of a secondary sector the multiplier effect of such monetary transaction on the rest of the economy is not substantial.

Marketed agricultural products accounted for about 24.4 and 33 per cent of the total agricultural production in 1959 and 1961 respectively. However, the rate of commercialization varies with various individual crops. The rate is lowest with regard to cereals and highest with respect to export crops. Rates of commercialization of various crops are indicated in Table 11.

TABLE 11

Total and Marketed Agricultural Products, Niger 1961

Product	Total amount 1,000 tons	Marketed	
		Amount 1,000 tons	% of total
Cereals	1,070	197	18.4
Root crops	208	29	13.9
Fruits and vegetables	27	10	37.1
Sugar cane	32.3	10.0	32.9
Groundnuts	152	100	65.7
Cotton	3.4	3.4	100.0

121. In Upper Volta more than 90 per cent of crop production is for subsistence. If livestock and its products are included subsistence production would account for about 60 per cent of the total value of agricultural output. The area devoted to subsistence production amounts to about 1.8 million hectares or about 90 per cent of the total cultivated area. Moreover, there are hardly any wage earners.

It should also be mentioned that the portion of agricultural output which is marketed has not been increasing in recent years. This is mainly due to population growth and to the low level of productivity. Serious efforts have to be made to modernize and commercialize agriculture.

Foreign Trade and Payments

122. An accurate and meaningful analysis of foreign trade between the three countries under study and the outside world is handicapped (or is virtually impossible to undertake) by inadequacy and inconsistency of available relevant information. First there are many sources of estimates. Secondly, cattle and agricultural products exported to neighbouring countries are incompletely recorded. Thirdly, imports are registered on CIF basis to the borders of the countries and final trade with overseas is partly accounted for. Fourthly, data on balance of payments are inadequately published or disguised.

123. Foreign trade data should be considered as orders of magnitude until measures are taken to establish an improved system of relevant statistics.

124. It is possible, however, to indicate the general characteristics and pattern of foreign trade of the three countries as follows:

- i. While these countries rely heavily on the outside world with respect to trade, foreign aid, and financing of economic development, the ratio of the value and/or quantity of total or net external trade to their gross domestic product is very low. The latter ratio is actually negative. Increased exports to provide foreign earnings are essential for economic development as well as the achievement of some degree of economic independence with respect to the outside world.

- ii. Exports are mostly composed of non-processed food items as can be seen from the structure of exports indicated in Table 12.

TABLE 12
Percentage of Export Items to Total Exports^{1/}

Country	F o o d		N o n - F o o d			Total
	Non-processed	Processed	Non-processed	Processed	Others	
Upper Volta	91	1	1	1	6	100
Niger	79	13	4	2	2	100
Mali	51	30	5	8	6	100

^{1/} FAO : West African Pilot Study of Agricultural Development 1960- 1975
Volume II, p.158

Non-processed food items accounted for 91, 79 and 51 per cent of total exports in 1960-61 of Upper Volta, Niger and Mali respectively. Efforts have to be made to increase the proportion of processed exports if the value of total exports is to be enhanced.

iii. The balance of trade of each of the three countries is unfavourable. The deficit in the balance of trade has also been increasing in recent years. This is due mainly to the rise in imports without a corresponding rise in exports. The latter are actually stagnant. Another important factor for this deficit is the unfavourable terms of trade.

125. Measures to stimulate as well as to attain a favourable or less unfavourable balance of trade should be designed to cope with both the import and export aspects of the problem. From the imports side it is noticed that a substantial part of imports consists of food items especially flour, canned food, sugar, fats, oils, beverages and similar items. These items are consumed mostly in urban centers. The demand of urban centers for such consumers' goods of an agricultural origin is, thus, not directed to the local rural sector but rather to the rural sectors of the outside world. The interdependence of sectors within each country which is needed for the acceleration of economic development is, therefore, rather feeble.

If such demand is re-directed towards the local rural sector, the latter would be provided with a market as well as an incentive to provide such consumer's goods which are presently imported from abroad. Furthermore, imports include some manufactured goods such as shoes, textiles, paper, soap, matches and similar other items which could be manufactured locally. Measures should be taken to establish industries for the production of such items on an economic basis. These industries could be established on a local or a regional scale.

126. On the exports side the potentialities for increased production and trade are sizeable. Exports should be increased and diversified to the extent that presently utilized and potentially available resources permit. Producers, however, have to be provided with incentives, technical assistance, credit, or organized markets, and similar other technical economic and institutional factors which are partially accessible to cash or export crop producers. There are tremendous potentialities for export of livestock products if measures are taken to improve production and marketing. New crops, such as sugar cane, can be introduced. Existing crops such as cotton, fruits and vegetables, can be expanded. All these measures should tend to bring about a more effective interdependence between the various sectors of the economy which is a prerequisite for economic development.

127. In Mali total imports amounted to 8.8, 11.3, 8.5 and 9 billion Malian francs in 1961, 1962, 1963 and 1964 respectively.^{1/} In 1962 imports were exceptionally high due to the purchase of transportation equipment and material.

128. Main items of imports are textiles; sugar and confectionery; vehicles; mechanical and electrical machinery; iron and steel; and pharmaceuticals. These items accounted for more than two thirds of total exports during the period 1961-1964. Imports from the French zone, especially France, accounted for 83, 50, 52 and 44 per cent of the total imports in 1961, 1962, 1963 and 1964 respectively.

^{1/} See Bulletin de l'Afrique Noire, No.370, 5 mai 1965, p.7486

Exports of Mali may be classified into two groups, i.e. normal and traditional exports. Normal exports consist mainly of groundnuts, cotton, rice, hides and skins, and meat. Traditional exports consist of live-stock and dried fish. Exports of the former amounted to about 2.5 and 3.1 billion Malian francs while that of the latter amounted to 4.4 and 5.3 billion Malian francs in 1962 and 1963 respectively. Total exports amounted to 6.9 and 8.4 billion Malian francs in 1962 and 1963 respectively. The deficit in the balance of trade, therefore, amounted to 4.4 and 0.1 billion Malian francs in 1962 and 1963 respectively. However, it is believed that the deficit in the balance of trade is higher than what the statistics seem to indicate. The balance of payments is also unfavourable. Accurate estimates of the deficit in the balance of payment are not available.

129. In Niger imports have been increasing while exports have been stagnant in recent years. The quantity and value of exports and imports as well as the balance of trade are indicated in Table 13.

TABLE 13

Foreign Trade, Niger 1956 - 1962^{1/}

	E x p o r t s		I m p o r t s		Balance of trade
	Quantity 1000 tons	Value billion CFA Fr	Quantity 1000 tons	Value billion CFA francs	
1956	95.5	3.4	27.4	1.6	+ 1.8
1957	75.1	2.6	36.7	1.9	+ 0.7
1958	104.6	3.8	36.1	2.2	+ 1.6
1959	73.9	2.9	26.6	1.8	+ 1.1
1960	65.8	3.1	48.4	3.2	- 0.1
1961	88.7	3.8	74.2	4.2	- 0.4
1962	110.0	4.4	101.1	6.8	- 2.4

1/ Source: Compiled from (1) République du Niger, Economie et Plan de Développement, mai 1962 (for the period 1956-1960) (2) République du Niger, Commerce extérieur 1961 and (3) Ibid. 1962

Exports increased by about 40 per cent while imports more than doubled during the period 1960-1962. During the period 1956-1962 the increase in exports was about 30 per cent compared with more than 400 per cent with respect to imports.

Main items of exports are livestock and groundnuts. They account for about 90 per cent of total exports. Main items of imports are textiles; sugar; foodstuff and beverages; cars and trucks; machinery; petroleum products and cement. Exports to France account for more than 60 per cent of total exports. Nigeria is the second important market especially with respect to livestock. More than 50 per cent of the imports are from France.

The deficit in the balance of trade increased from 0.1 to 0.4 to 2.4 billion CFA francs in 1960, 1961 and 1962 respectively. The deficit in the balance of payments is believed to be still higher than that of the balance of trade.

130. In Upper Volta the structure and trend of its foreign trade are similar to those of Niger. Imports have increased more rapidly than exports in recent years. During the period 1960-1963 exports increased by about 80 per cent while imports increased by more than 450 per cent. The gap between the rate of increase of imports and exports is even wider if a longer period is taken into consideration. During the period 1958-1963 the value of exports increased by about 66 per cent, while imports increased by about 409 per cent. The ratio of the rate of increase of exports to imports is thus 1 to 6.2. The quantity and value of imports and exports as well as the balance of trade are indicated in Table 14.

TABLE 14

Foreign Trade Upper Volta 1958-63 ^{1/}

Year	Exports		Imports		Balance of Trade
	Quantity 1000 tons	Value Million CFA francs	Quantity 1000 tons	Value Million CFA francs	
1958	16.9	1,800	17.1	1,799	+001
1959	32.5	1,121	20.3	2,071	+950
1960	32.8	1,640	33.7	2,077	+387
1961	28.6	0,882	121.7	7,004	-6.122
1962	41.2	3,637	150.3	8,936	-5.299
1963	40.4	2,999	180.0	9,152	-6.153

^{1/} Compiled from Bulletin de l'Afrique Noire, No.344, 21 octobre 1964

Since 1961 the balance of trade has been unfavourable. The deficit in the balance of trade amounted to about 6.2 billion CFA francs in 1963. This deficit is not only due to the rise in imports without a corresponding rise in exports, but it is also due to the unfavourable terms of trade which occurred since 1962 as indicated in Table 15.

TABLE 15

Terms of Trade, Upper Volta, 1958-1963

Year	Per Unit Exports	Value Imports
1958	107	105
1959	34	102
1960	50	60
1961	31	58
1962	88	59
1963	74	51

131. Livestock accounts for more than 50 per cent of total exports. Other items are fish, groundnuts, karite (shea nuts or shea nut butter) cotton and gold. Main importing countries are Ghana, France and Ivory Coast which imported more than 80 per cent of total exports in 1963.

132. Main items of imports are consumption goods; foodstuffs, beverage and tobacco. Manufactured and intermediate goods account only for about thirds of total imports. Imports from France amounted to 61.1, 51.9 and 49.4 per cent of total imports in 1961, 1962 and 1963 respectively.

Characteristics and Role of Investments

133. Estimates of gross investments per head indicate that it amounts to less than 1,000 CFA francs in Niger and ranges between 1,000 to 2,000 CFA francs in Mali and Upper Volta. ^{1/} However, gross investment per head seems to be higher in Mali than in Upper Volta.

134. In Mali investments have the following characteristics:

- (a) Foreign sources provided the funds for investment especially before independence;
- (b) most of the investment and especially in the agricultural sector is of a public nature;
- (c) investment in agriculture --except in the modern sector such as in the Office du Niger-- is relatively low and consists mostly of human capital;
- (d) most investment --especially before independence-- is allocated to infrastructures and
- (e) after independence and the embarkment of the country on a socialist policy, public investment has gained more significance.

135. Before independence funds for public as well as most private investments were provided from France through the mechanism of the "Investment Fund for Economic and Social Development", i.e. "Fonds d'Investissement pour le Développement Economique et Social (FIDES)" and the "Fonds d'Aide et de Coopération (FAC)" in conjunction with the "Fonds Européen de Développement (FED)".

^{1/} See Bulletin de l'Afrique Noire, No.276, 24 April 1963, p.5632

136. During the period 1947-1957 two plans were implemented; the first plan was for 1947-1952 and the second plan was for 1952-1957. The first plan was financed mainly by funds from FIDES. Total investment amounted to about 4 billion CFA francs distributed as follows: about one billion for direct investments in production and the rest to about three billion for infrastructure and social services.

The second plan of 1953-1957 was also financed almost entirely by FIDES and from loans from "La Caisse Centrale de la France d'Outre-Mer CCFOM". Local sources supplied about 20 per cent of the total investments, which amounted to about 11 billion CFA francs and which were distributed about equally between the rural sector and the economic and social infrastructures.

137. In 1959 total investments amounted to about 4.7 billion CFA francs or about 7 per cent of GDP according to social accounts estimates. These investments were made in billion CFA francs, by the following sectors: Public administration and enterprises (3.2); Foreign private enterprises (0.7); African enterprises (0.5); Households (0.2) and traditional sector (0.1). The structure of investments —indicated above— demonstrates the insignificance of investments in the traditional sector —which supports the majority of population— and the predominance of public investments which account for about 69 per cent of the total investments.

138. After independence Mali financed certain projects; concluded economic agreements with France, USA and USSR, and had an independent currency by the creation of Malian Franc in July 1962. Among the projects which were launched up to 1962 were: a national printing organization, a public library, a national corporation for exportation of hide and skin, a national corporation for exportation of oils and a processing and canning corporation.

139. A five-year plan for economic and social development was approved covering the period 1961 - 1965. Total investments required for the implementation of the plan are estimated at about 80 billion Malian Francs. The plan encompasses projects for economic and social infrastructure, for the establishment of industry and for rural development.

As there are no data available on the execution of the plan, it is rather difficult to evaluate its impact on the economy. It should be noted however that the volume of investment is envisaged to generate a growth rate of increase of about 8 per cent per annum but this, of course, depends on the structure of investment, which will be disclosed in the chapter pertaining to economic planning.

140. In Niger the main features of investment are:

- (a) it is predominantly public investment
- (b) most of investment is allocated to infrastructure
- (c) agriculture investment is inadequate
- (d) foreign aid is the main source of investment

Total investment for the 1961-1963 and 1964 plans are indicated in Table 16 according to its uses and sources.

TABLE 16

Uses and Sources of Investments

Niger, 1961-63 and 1964 Million CFA francs

Uses	1961 - 1963				1964	
	Estimated	% of total	Available	% of total	Estimated	% of total
Studies	1,174	5.2	1,237	4.4	258	2.4
Infrastructure	14,104	62.3	19,049	67.5	5,642	52.0
Production	7,346	32.5	7,915	28.1	4,960	45.7
(of which agri- culture)	(3,699)		(3,169)		(2,475)	
Total	22,624	100.0	28,201	100.0	10,860	100.0
<u>Sources</u>						
Public	15,818	69.9	17,492	62.0	9,380	86.4
Private	6,806	30.1	10,709	38.0	1,480	13.6
Total	22,624	100.0	28,201	100.0	10,860	100.0

Total investment for the intermediary economic plan of 1961-1963 was estimated at 22.6 billion CFA francs while funds obtained for financing the plan amounted to 28.2 billion CFA francs. It should be noted that the amount actually spent on the execution of various projects during that period was 18.9 billion CFA francs, which was far below the estimated or available amount of investment. Financial means did not, thus, constitute an obstacle towards the implementation of the plan. Other factors such as lack of technical personnel, lack of transport and communication facilities, the long time required to construct infrastructure which do not yield direct monetary income and expenditure on research projects were responsible for a low level of achievements. As for the 1964 plan it should be noted that funds required for its implementation were estimated at 10.8 billion CFA francs, according to available information, however, actual investments amounted only to about 2 billion CFA francs.

141. Public investment accounted for 62 per cent of total available investment during the period 1961-1963 compared with 86.4 per cent for 1964. Since most investment was allocated to infrastructure it can be safely stated that most of public investment was also allocated to infrastructure. Agriculture which accounted for 64.3 per cent of gross domestic product in 1961 only received about 3.2 billion CFA francs or 11 per cent of total available investment during the period 1961-1963. Actual investment in agriculture, however, amounted to only 1.6 billion CFA francs during the same period or about half billion CFA francs per annum. This means that agriculture investment amounts to less than one per cent of the gross domestic product which was estimated at 59 billion CFA francs in 1962. Taking into consideration that private investment in agriculture consists almost entirely of human capital it can easily be concluded that total investment in agriculture is hardly adequate and should be substantially increased. Private investment should also be encouraged through institutional measures mentioned elsewhere in this report.

142. Outside sources of financing and especially foreign aid contributed about 14.3 and 7.4 billion CFA francs during the period 1961-1963 and 1964 respectively.

Total actual investment averaged about 6.3 billion CFA francs per annum during the period 1961-1963 or about 9.4 per cent of the gross domestic product in 1962. Outside sources of finance provided about 4.8 billion CFA francs or about 7.2 per cent of the gross domestic product during the same period. While outside sources of finance had contributed most of the investment for the 1961-1963 plan it is not hard to visualize the possibility for Niger to increase its contribution from its internal resources to the financing of its economic development by providing, say, 5 to 10 per cent of the gross domestic product of this purpose. Fiscal and financial measures have to be undertaken to increase governmental revenues as well as the financial resources of the country.

143. In Upper Volta the rate and structure of investments are more similar to those in Niger rather than they are in Mali. Actually investment conditions are more unfavourable than in the other two countries. This is due to (a) a low rate of investment per capita which ranges from 1,000 to 2,000 CFA francs,^{1/} (b) the lack of investments in the predominant agricultural sector, (c) the almost complete dependence on foreign aid --especially from France-- for financing economic development, which is an indicator of inadequate local financial resources, (d) the allocation of most investment to be needed but yet not directly productive social and economic infrastructure and (e) the lack of a comprehensive economic development plan which could serve as a basis for balanced economic growth.

144. During the period 1948- 1959 FIDES extended about 10 billion CFA francs of which more than 75 per cent were spent on economic and social infrastructure and the rest on studies, irrigation facilities and rural training. From 1959 to 1963 FAC provided about 4.1 billion CFA francs of which about 33 per cent was spent in the rural sector including forestry, fishery, livestock, dams, rural training and crop production; 40 per cent on economic and social infrastructure and 27 per cent on general studies and research. FED extended about 6.4 billion CFA/^{francs} during the same period which was almost entirely spent on infrastructure especially construction of facilities for agricultural irrigation.

^{1/} See Bulletin de l'Afrique noire, No.274, 24 avril 1963

Bilateral and international aid to Upper Volta for the period 1957-1963 are indicated in Table 17.

TABLE 17

Bilateral and International Aid, Upper Volta 1957-63

million US dollars							
Source	1957	1958	1959	1960	1961	1962	1963
Total aid	10.3	12.1	24.7	22.0	38.2	23.1	18.8
France	10.3	12.1	23.5	21.9	16.9	10.0	13.5
Others ^{1/}	0	0	1.2	0.1	21.3 ^{2/}	13.1	5.3

^{1/} Includes Ghana, Germany, US and UN and its specialized agencies

^{2/} Ghana extended loans and customs advances of 11.2 million dollars

145. French aid was partially spent on ex-Ministries of France and the provision of French technical assistance personnel. The rest was allocated to various projects which were not co-ordinated in an over-all economic plan since a five year plan for 1963-1967 was rejected because it was inconsistent with the country's available financial and technical resources. A plan for 1965-1970 is under preparation by the Planning Commission of the Ministry of National Economy.

146. It is estimated that investments in agricultural production (excluding livestock, forestry and fishery) amounted to 1.4 billion CFA francs during a ten-year period from 1953 to 1963. ^{1/} This means an annual investment in agriculture of 140 million CFA francs or less than one half of one per cent of the gross domestic product. Considering that investment in livestock is confined to veterinary services and that investments in forestry and fishery are very limited, it is clear that total public agricultural investments are hardly adequate.

^{1/} See Lejeune, Rapport de Synthese, Ouagadougou, 8 juin 1964 (mimeographed)

147. Private investment in agriculture is practically non-existent save for human capital. The agricultural sector on the other hand does not provide opportunity for employment of cash wage labourers which means that agricultural surplus --and therefore investment-- is very limited. Agricultural investment has to be raised substantially and allocated judiciously if productivity is to increase and economic development is to be accelerated.

CHAPTER III

THE PROBLEMS OF POWER

148. Energy being one of the decisive factors in the development even of small-scale agricultural industry, we shall describe the situation in the three countries, and the problems connected therewith.

For several years past, production and consumption have increased significantly, showing the following rates of growth:

From 1959 to 1962 we find these figures of growth:

Niger	116.7 per cent
Upper Volta	133.3 per cent
Mali	46.2 per cent

149. The high rate of expansion in these little industrialized countries is explained by the recent installation of additional electrical generators, production having been extremely low hitherto.

150. Nevertheless, it should be noted that the development of power is only partially attributable to the recently established processing industries. Utilization by the service industries (air conditioning, public lighting, domestic consumption), which account for nearly 20 per cent of present overall consumption, especially in Niger.

151. The employment of electrical power in the countryside, and even by the existing small-scale agricultural industries is restrained to a certain extent by:

The long distances involved and their effect upon transport.

A relatively high scale of charges. Consumption prices in these three countries are the highest in the whole of West Africa (see following tables).

152. The reason is that diesel engines are used to drive the generators and the cost of hydro-carbons is high.

Agriculture production

153. The structure of the output in the region shows that agriculture accounts for approximately 60 per cent of the total output of the region. The agricultural output per inhabitant in the same region is found to be 3 times lower than industrial countries. Due to the population growth in the region which continues to quicken on a result of a rapid fall in mortality rate, the governments have assigned to their population an objective in percapita incomes of 4 per cent as specified in the UN General Assembly Resolution in UN Development Decade (Resolution 1710 XVI), but this depends on a great extent to an expansion of agricultural and livestock production, to go together in the industrial development. This point has been extensively studied in a large number of publications by the FAO ^{1/} so the present description could limit itself to the main lines of action adopted by the governments and to consideration which are important for rapid agricultural growth in the same region.

154. The significance of agriculture to the region economy is to be emphasized, as it employs 60 to 90 per cent of its population and produces 55 to 60 per cent of the governmental product. Agriculture exports account for more than 5 per cent of the exports and, as it represents the largest sector of the region economy, its development has deep implication on the growth of the economy. The development of this sector is a pre-requisite for the development of the others because agriculture influences directly or indirectly the potential development of exports and also the need for enlarged food exports.

155. It is necessary to remind that agricultural development comprises three important facets:

- " (a) to feed the population in the subsistence sectors increasing at about the same rate as total population.
- (b) to reduce adequate marketable surpluses to feed the urban population, which is growing at two or three times the national rate; and

^{1/} FAO Africa Survey - Report of possibilities of African Rural Development in relation to Economic and Social Growth (Rome 1962)

- (c) to carry out a structural transformation of agricultural output appropriate to future growth of demand for food products as economic development proceeds."

156. To achieve this, consideration is to be given to the obstacles which are hindering the agricultural or annual development in the region and which can be summarized as follows:

- The share of the subsistence sector in agricultural output is high;
- the shifting cultivation and the predominance of long fallows are widespread;
- the use of the plough and draft animals is limited;
- the extension soil erosion and downward looking;
- the aridity in many places, diseases and pests of crops and livestock are serious problems.

157. Nevertheless, it has been observed a growth in the agriculture and livestock production which unfortunately is not sufficient yet to meet the requirements of the three countries in their efforts for social and economic development.

158. The following analysis of the agriculture and livestock situation in the regions is designed mainly to show the sectors where action has to be taken, if the objectives contained in the UN Resolution 1710, as mentioned before are to be achieved. Furthermore, we may recall that, speaking at the Weizman Research Institute in Israël on 1 August 1960, Mr. W.A. Lewis said: ^{1/}

" if the ambition is to grow as rapidly as the countries of Europe and North America have grown during the past century, the desired growth rate is about 2 per cent per head per annum. Allowing for population growth, this means that in most new states national output should grow by about 4 per cent per annum. Higher rates than this are stated as objectives in some development plans, but 4 per cent is so difficult to obtain that it is really quite an ambitious target.

^{1/} Mr. W.A. Lewis "Problèmes des temps nouveaux" No.661, Jan.1961

AGRICULTURAL PRODUCTION AND ITS PROBLEMS

159. Agriculture, which represents the main economic activity, produces approximately the same types of crop in the three countries.

Study of the structure and development of production

160. The crops may be divided into two categories:

On the one hand, food crops such as millet, sorghum, yams, cassava, etc.

On the other hand, industrial or export crops such as groundnuts, cotton karité and sesame.

In these countries there is the same narrow range of crops.

161. It may be noted from observation of the quantities involved in the case of both food and industrial crops, that only one crop, or at the most two, is of any importance.

162. Among the range of food crops, only millet and sorghum qualify, and in the range of industrial crops, only ground nuts.

Export crops

163. Export crops have been introduced recently or, at any rate, have been expanding only for a few years.

164. Under the pressure of colonial conditions, these crops gradually took the lead over food crops. This is amply proved by the rate of their progress, as shown in the following tables. (Tables 1, 2, 3)

TABLE 1
Main crops production

Countries	Millet	Sorghum	Cowpeas	Groundnuts	Wheat	Sweet potatoes	Onions	Tobac-oo	Rice	Cotton	Cassava	Maize	Pep-ers	Sugar cane	Sesame	Fonio	Bambara groundnuts	Yams	Karité	Total
Niger 1963	971	352	80	220	0.8	24	23	0.3	13	6	136	2	0.6	31	-	-	-	-	-	1860
Upper Volta 1962	266	508	96	113	-	31	-	1	45	13	7	78	-	-	6	2	62	40	-	1268
Mali 1962	940		5	125	1	60	-	7	190	20	180	18	-	-	-	20	-	10	150	1726

Source:

Upper Volta : Rapport Annuel, Direction des Services Agricoles, 1961, 1962 et Outre-Mer 1958; et Annuaire Statistique de l'AOF 1950 à 1954, Vol.5, Tome I.

Niger: Rapport Annuel, année 1963, Service de l'Agriculture

Mali : Annuaire Statistique l'AOF - Annuaire Statistique 1963 Mali, Donnée Economique, Ministère de l'Economie

TABLE 2

Industrial crops	1948	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963
GROUND NUTS														
Niger	61	64	74	129	111	140	131	193	168	104	150	152	205	
Upper Volta	52	56	62	56	50			45	50		95	110	113	220
Mali	88	64	74	128	108	112	111	126	123	120	125	110	125	
COTTON														
Niger		2	2	2	1		0.4	0.8	2	2	1	3	5	6
Upper Volta												5.6	13	
Mali		1.5	1.7	2.5	1.1					9		9	10	20
													(mts)	
													150	
KARITE														
Niger														
Upper Volta											15			
Mali														
TOBACCO														
Niger														
Upper Volta		34	28	30	35					0.4	0.2	0.4	0.3	0.3
Mali		1.8	1.8	1.8								0.8	1	
													7	
SUGAR CANE														
Niger														
Upper Volta														
Mali													33	31
KAPOK														
Niger														
Upper Volta														
Mali														
SESAME														
Niger														
Upper Volta		3.6	3.5	2.6	3.5							1.9	5.7	

TABLE 3
Development of the main food crops (1,000 tons)

C r o p	1948-52	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963
<u>Millet</u>														
Niger														
Upper Volta		259	188	193	372	480	485	620	621	673	718	776	934	971
Mali 1/		660	750	720	196			57		161	293	195	266	
					684					760			800	940
<u>Sorghum</u>														
Niger		680	829	399	640	307	364	300	260	273	222	275	320	352
Upper Volta		373	341	227	350					425	550	411	508	
Mali														
<u>Rice</u>														
Niger	3	4	2	4	4	5	4	5	5	4	7	10	11	13
Upper Volta	11	9	13	15				17	29	29	32	30	45	
Mali	148	182	137	180	121			176		124	143	190	190	
<u>Cassava</u>														
Niger		26	25	63	94	119	87	72	88	81	106	125	117	136
Upper Volta					20			23					7	
Mali		180	180	200	200								180	
<u>Maize</u>														
Niger	2	3	2	1	1	2	3	3	3	4	3	2	2	2
Upper Volta	88				54			57	70	70	92	75	78	
Mali	60	65	65	65	65			62			50	58	18	72
1/ Mali :	1939	1945	1945	1959										
Millet and sorghum	590	590	590											
Paddy	117	129	182											

Note:

Some large discrepancies in the estimates from one year to another may be attributed to climatic variations; nevertheless, some (especially in the case of Niger) are the result of inappropriate statistical observations.

Ground nuts, the oldest established crop, have experienced vicissitudes since the last war. Owing to the lack of outlets, production has dwindled, impoverishing the producers.

Cotton, the most recent of the export crops, has made considerable progress.

165. Fortunately, karité grows everywhere naturally, in the form of trees. Although, on the whole, export crops show a relatively satisfactory growth in the long term view it must nevertheless be stressed that from one year to another (see tables) there may be a heavy fall in production as a result of bad or unseasonal weather.

Food crops (see same tables)

166. These are dominated by millet, sorghum and fonio. Tubers such as yams, cassava, etc., also constitute a valuable nutritional supplement. Rice (paddy) is assuming ever greater importance. Vegetables are scarce, if not totally lacking. They are to be found in some low and humid areas. So far, they have not been accepted sufficiently as diet elements.

167. On the whole, there is marked growth in the long term view. The rate of growth, however, of these crops is distinctly lower than that recorded for industrial crops (see the preceding table of indices, and that of the rates of growth).

168. Therefore, this aspect of food crops faced with a relatively rapid population growth 2 to 2.4 per cent may excite a certain measure of anxiety, especially in Upper Volta.

169. The available supplies of cereals per inhabitant are: Niger 437 kgs ^{1/}
Upper Volta 199 kgs; Mali 267 kgs.

^{1/} The figure appears exaggerated.

Conclusion and suggested solution

A. Industrial and export crops

170. Export crops remain a necessity, and explain the progressive shift to a monetary economy through their marketing and contribute towards the emergence from the stage of a traditional subsistence economy.

Nevertheless, except for cotton, the only export crops are some oilseeds. This is all the more dangerous, as the price of oilseeds is falling to some extent in foreign markets. The traditional purchasing countries are resorting more and more to substitutes: animal fats, other vegetable oils, etc.

It is the single-crop farming of ground nuts, and the fall in prices of the commodity, that obliges Senegal to diversify its crops and give priority to food crops. This should serve as an example to other countries in their diversification policies and in their choice of crops.

Nearly all the food crops and cash crops are seasonal and too much subject to rainfall hazards, which may cause falls in production of as much as 25 per cent, so that it would be advisable to introduce irrigated farming to a larger and larger extent wherever controllable sources of water are available. Estimates show many opportunities, particularly in Mali and Niger.

Cotton is a good example of an industrial crop in the three countries and is expanding under the impulse of the CFDT (Compagnie Française des Textiles).

The development of various forms of export crops reduces the effects of the fluctuations in the price of this or that commodity on the income of producers, and makes it possible to a certain extent to compensate for the losses suffered as a result of price falls, and of the imminent abolition of preferential tariffs, accorded by the former metropolitan power.

171. Industrialization in the three countries. This question cannot, at least at the present stage, be seriously tackled except through the expansion of industrial crops. For such crops ensure the acquisition of capital equipment, and allows a beginning to be made with industrialization through their local processing. In this connexion, the case of oil mills and soap factories using ground nuts in Senegal and the installations in other West African countries, is instructive. In the third place, the necessary investments for the establishment of agricultural processing industries are generally speaking much lower than those necessary for other industries (engineering, mining, etc.) and lie more within the scope of investments of domestic origin.

Such an increase in unit value, combined with the traditional cottage industry methods of processing agricultural products (preparation of karité kernels, archaic types of sugar mills, oilseed presses, local cotton spinning, etc.) will progressively reduce trade in unprocessed products, which is a predominant element in the economy of these countries.

In this connexion, the first Mali Plan provides a good example: out of a total of 25,500 million francs of productive investment, we find 4,000 million allocated to processing industries and 16,000 million to agriculture.

B. Food crops

172. We have seen that their expansion has been slight. It should be emphasized that these traditional crops have not benefitted to the same degree as the others from the advantages of the popularization of farming methods and techniques, of rural development and financial aid, both from local departments and from foreign agencies.

The areas of rural improvement relegate these crops to a position of relatively secondary importance.

173. Now the only way in which these countries can meet the requirements of populations in a phase of full expansion is to intensify cultivation of food crops. Local food requirements cannot be covered by ever-larger imports at prices that are too high in relation to the purchasing power of the rural masses. The introduction of market gardening and vegetable crops and their development in all low-lying areas (there are plenty of these!) will not only provide an additional source of food supplies from the quantitative point of view but will also provide a solution to malnutrition. This aspect has often been emphasized and Dumont stated, when speaking of Mali: "... it is relatively easy, with a little well-directed labour, to make good the most serious deficiencies in nutrition.... if each Malian peasant had his own family garden on the banks of those tributary streams that abound throughout the country, or irrigated by a ground water table that was sufficiently close at hand, and likewise an orchard in the neighbourhood of his village, he would have enough mineral salts and vitamins for all his family."

174. It should be recalled that any surpluses of these crops would prepare the way for, and allow the establishment of, fruit and vegetable preserving plants.

175. Finally, although development policy makes every kind of demand, a special effort should be made, particularly in Upper Volta, to promote food crops, at least during the first years of development. For in these mainly agricultural economies, in which there is still a scarcity of mechanical power; in which animal power is seldom harnessed; and in which virtually the whole of production remains and will remain for some time yet mainly dependent upon human energy, the primary objective will be to multiply this power tenfold in order to attain maximum output and productivity in the existing circumstances of farming, in other words in order to provide sufficient food of good quality for agricultural producers (the problems of undernourishment and malnutrition).

176. This course appears all the more strongly to be recommended in the cases of Niger, Mali and Upper Volta, by reason of the fact that their products derived from stock-raising and fisheries will be sufficient, as we shall see, to meet to a large extent the requirements of the commercial sector of their economies.

177. The fact that insufficient emphasis was placed on food crops, in conjunction with other factors, explains the setbacks experienced in the First and Second Indian Plans, as far as agricultural policy was concerned.

A number of successes recorded in the sphere of planning are attributable to the intensification of food crops.

LIVESTOCK PRODUCTION AND ITS PROBLEMS

178. Livestock production is the primary source of wealth of the three countries, in terms of both quantity and value. It is from the livestock of Upper Volta, Niger and Mali that supplies of meat for most countries on the west coast of Africa are to a large extent derived.

179. Nevertheless, despite a considerable improvement in estimates of the cattle populationⁱⁿ/each of these countries, the figures advanced present discrepancies which can sometimes show 100 per cent variation according to whether the census was carried out by the administrative departments or the technical stockbreeding services. The figures provided by the latter were much the more plausible.

180. Assistance in this field might, in the first instance, be in the form of a statistical survey of stock-breeding, common to the three countries ^{1/} particularly as no systematic survey has been carried out up to the present in these countries and that the World Agricultural Survey of 1960 was confined to a study of crops only. The assessments made by the stockbreeding services are in some cases under-estimated, but the figures provided are close enough to reality as far as the volume of livestock production is concerned.

^{1/} The survey to prove effective should cover at least Chad and Nigeria as well.

We reproduce them in the following tables (4 and 5)

TABLE 4

Countries	<u>Estimated numbers of livestock</u>					<u>1962</u>
	Bovines	Sheep and Goats ^{1/}	Horses	Donkeys	Camels	Pigs
Niger	3,500,000	7,100,000	130,000	304,000	396,000	-
Upper Volta	1,840,000	2,730,000	61,000	132,000	3,000	89,000
Mali	4,244,000	8,469,000	137,000	350,000	256,000	18,000

^{1/} Sheep 2,100,000; Goats 5 million

Source: Annuaire statistique 1962, and service de l'élevage
(Rapport Annuel 1962) Rapport Annuel 1960 et 1962
Direction des Services de l'Elevage et des Industries Animales.
Service élevage.

TABLE 5

Type of animal	<u>Annual increase in livestock</u>		
	Niger %	Upper Volta %	Mali %
Bovines	9.5	9	10
Sheep	25		
Goats	35)	30	25
Horses	9	10	10
Donkeys	10	10	10
Camels	10	10	10
Pigs	-	75	80

Sources : (French text)

Analysis shows that the average number of livestock per inhabitant is as follows:

Niger : 1.2 bovines and 3.6 bovines - sheep - goats
Upper Volta: 0.41 " " 1.0 " " "
Mali : 0.96 " " 2.9 " " "

If these rates are calculated per nomadic or semi-nomadic inhabitant in Niger for example, we arrive at the following averages:

4.5 bovines and 14.6 head of 'bovines - sheep - goats.'

This makes apparent considerable possibilities of meat production,^{1/} far exceeding those of many agriculturally developed countries.

The population of horses, donkeys and camels, which are not in principle intended for slaughter, occupies an important place.

There are hardly any pigs. Upper Volta, which has the largest pig population, falls short of the figure of 100,000 head. The development of pig-breeding would be difficult, as it runs contrary to the Moslem religion, especially in Mali and Niger.

181. In the three countries, livestock expansion is in full spate numerically. The average gross increase in the three countries is as follows:

10 per cent for bovines

25 to 30 per cent for sheep and goats

10 per cent for camels, donkeys and horses

These rates, which are not low, leave room for hope on the score of developing livestock resources to keep pace with the population upsurge, export requirements and the possibility of a large increase in local consumption.

CONCLUSIONS AND SOLUTIONS

182. Although the primary problem in agriculture was to increase output, in this instance the main problem will be improving the quality of the livestock (and thus also their weight) and their economic utilization.

^{1/} We shall see in the chapter entitled Trade - production and consumption on own account, that consumption is relatively restricted.

Despite the large drop in the epizootic diseases, much remains to be done in the health field.

Improvement of quality through crossing with imported breeds must be intensified. There we face a very special problem, which calls for assistance that is no less **special** and technical. We will leave this to one side.

Nevertheless, it may be stressed here and now that certain general measures of an economic nature aimed at rationalizing cattle-farming must be taken.

The combination of livestock breeding and agricultural cultivation must be recalled, and in this instance the chief aim is to induce the stockbreeder at least to cultivate crops for animal fodder. Pasture is becoming increasingly scarce with the growth of herds and with extensive cultivation.

Reproduction of the transhumance distances through the application of a hydro-pastoral policy (drilling for water and arrangement of watering points) with the participation of the stock raisers in terms of human investment and even of livestock investment if necessary.

Regulations to delimit areas of grazing land. In this connexion, the example of the method used for the "forêts classées" (forest reserves) might be of help.

Elimination of valueless stock through taxation. Here, it would be sufficient to apply the criterion of age in the fiscal regulations governing livestock.

A policy of price encouragement, especially for the selection of animals to be slaughtered for export.

A **judicious** choice of location for centres of animal slaughter and of trade transactions involving livestock. Many centres, even zootechnical centres, are far from the major livestock raising areas.

Stricter control of marketing, in order to reduce the profit margins of middlemen. This item will be dealt more fully later.

Establishment of rural centres for extension supervisory staff for young nomads in the nomadic territories on the model of the centres for training agricultural instructors.

NB. It goes without saying that an increase in the dairy production, which is at the present time very poor, will depend upon improvement in the feeding of livestock and in the sanitary conditions prevailing : with an annual maximum yield of 200 litres per cow in lactation per year, we arrive at approximately the following figures (for milk of all grades):

-Niger	4 million hectolitres per year
-Upper Volta	670,000 - 700,000 hectolitres per year
-Mali	5.5 million hectolitres per year.

Remarks: The reason why production has remained particularly low in Upper Volta lies in the fact that there are relatively less livestock than in the other two countries, as well as in the more pronounced scarcity of grazing lands in terms both of quality and area.)

MILK PRODUCTION AND MEAT SUPPLY

183. Two important aspects of animal production are represented in the land-locked countries by milk production and meat supply. The two activities are interrelated and the governments concerned, duly convinced of their utmost importance for the economic and social developpent of the countries have taken steps in order to bring about better use of livestock sub-products.

A. Milk production

184. In Mali, a survey has been conducted by an FAO consultant during the period of September to October 1962 under the auspices of the Freedom from Hunger Campaign and was endeavoured to determine possibilities:

- a) to supply the capital of Mali in sufficient milk quantities at a price accessible to the majority of the population;
- b) to utilize and develop the local milk production.

In order to reach these objectives the report has recommended:

- (i) to create an Office of control of the milk production which is designed to take over the marketing aspects of the production and to stimulate both the production and the consumption.
- (ii) to instal at Bamako a milk plant able to treat every day 40,000 litres by collecting milk from 3 places. (Soluba, Stalan East of Bamako, Bankoumara) and to organize the production itself.

185. A further survey, sponsored by UNICEF confirmed the findings of the first one, and suggested to start the milk plant with a reduced amount of 10,000 litres a day. This team also recommended that an expert in Dairy production be assigned to the Mali Government and that two scholarships in Dairy production be offered to two Malian technicians in order to specialize in this field.

186. This is supposed to be a starting project, designated to be expanded over the country. A similar survey was conducted in Niger by FAO (April-May 1963) and in Upper Volta (October-November 1963) and have found a similarity of the problems and it has been recommended therefore the same action with naturally a degree on magnitude.

B. Meat supply

187. The governments of the land-locked countries are becoming increasingly aware of the problems encountered in the field of animal production and seem to realize that they should actively interfere into the process in view of breaking the traditional ways and channels of marketing of animal products. A survey has been consequently conducted by ECA in co-operation with FAO advisers of the Joint Division in 1964 in order to find about meat supply scheme which could be economically developed for the benefit of some countries of East Africa. As a special is on the way, the present document would be expected only to mention the main problems confronting the three countries in this aspect, as they have a significant importance upon the social and economic development of animal production in the region considered by the mission.

- (a) it can be stated that since memorial times livestock has been an exchange against non-local goods from the coastal areas which have been and still are meat deficit region;
- (b) it is recognized that nomadic livestock raises in the North are playing a major role into the process and are supplying a safe source of meat to the coastal areas.
- (c) most of the animals, if not the total number, are brought in hoof to the coast and therefore animals have lost about a great amount of their weight, when finally they reach the markets.

188. Many other aspects of the problem are quite similar for the three countries but for the simplification of their presentation, it may be necessary to look at the situation in each individual country.

Mali

189. From the survey conducted in the country as mentioned above, it is considered that "apart from fairly small shipments of refrigerated meat mainly by trucks to Abidjan, the internal marketing of livestock and meat as well as the export of livestock are largely performed along the traditional lines. The movements of livestock towards the places of slaughter in the country and for export towards the coastal countries, mainly Ghana and Ivory Coast-- are nearly on hoof. Great parts of the livestock are passing through Upper Volta where a certain number is railed to the Ivory Coast."

190. As in Niger, most of the livestock is escaping border control and this constitutes quite a loss to Mali revenue and foreign exchange. Therefore this has created, from the part of the government, a strong tendency to replace the exports of live animals by the exports of fresh meat. The problem regarding the marketing of the livestock and meat in Mali centers around the question whether the traditional system of export should be eliminated and replaced by the export of meat. If the decision is already taken by the Mali government in favour of export of meat; as it is impliedly understood in the agreement signed in 1965 between Ghana and Mali with a supply during the first year of 90,000 cwt of fresh meat 4,500 tons it is calculated that 85,000 zebu cattle, 45,000 fulan type and 70,000 goats would be needed. Therefore, to comply with the present plan, it looks like that such an agreement would "require as an essential prerequisite the complete naturalization of the whole livestock industry from production through export " Such a decision would certainly need an action on a predominant nomadic society and an economic environment where the ways and channels of trading are routed in age-old traditions.

Niger

191. In Niger, it is observed by the same mission that the neighbouring Nigeria is the main importer of Niger livestock. Figures are given in the table 6a. and 6b.

TABLE 6a.

Controlled export of livestock from Niger (round figures in thousands heads)										
	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959
Cattle	56.6	81.5	84.9	104.3	--	72.5	79.4	69.1	62.4	65.7
Sheep & goats	161.3	205.1	241.6	26.7		229	200.3	186.7	158.7	162

TABLE 6b.

	1960	1961	1962	1963
Cattle	57.8	52.9	62.5	59.0
Sheep and Goats	122.1	110.8	104.2	115.2

192. If most of the fresh meat is presently shipped to Abidjan, which is one of the most important meat importer of the West African Coast it may be necessary to mention that part of the animals slaughtered in the central provinces is exported in the form of smoked and dried meats.

193. The mission reported also "apart from the export of fresh meat to coastal cities, which is recent development including the application of modern procedures, like the transport by air and the use of refrigerator, the internal marketing of livestock and dried meat is almost entirely performed in the traditional way."

Upper Volta

194. It has been observed that the internal marketing of livestock and meat is at present largely performed along the traditional lines. However the government had made attempts to establish regulations regarding the exports and presently 1,000 tons of meat are exported to the Ivory Coast namely by refrigerator rail wagons.

195. As a pre-condition to further extension of meat export, the government- has built the slaughter houses in Ouagadougou and Bobo-dioulasso and has planned the building of the other units.

196. The export of livestock , mainly towards Ghana and the Ivory Coast is on hoof to Ghana and for about half of the total to the Ivory Coast on rail.

197. A considerable part of Mali export livestock and a relatively small proportion from Niger livestock export are crossing Upper Volta territory on their way to the countries of final destination, such as Ghana and the Ivory Coast.

198. According to the Upper Volta statistics, which are quite accurate in that respect, 63,000 cattle heads passed through the country in 1963 of which 90 per cent from Mali and 10 per cent from Niger.

199. Any policy regarding livestock is of utmost interest for the whole West Africa and Upper Volta in that respect has an important role to play as it is proved in the following table 7.

TABLE 7 (1,000 heads)

Total transit of livestock through Upper Volta by countries of origin								
	1960		1961		1962		1963	
	Mali	Niger	Mali	Niger	Mali	Niger	Mali	Niger
Cattle	36.7	3.8	42.0	5.2	53.0	8.0	56.2	7.1
Sheep and Goats	56.9	7.6	45.5	11.3	28.8	16.7	26.2	18.6

FORESTS AND FISHERIES

200. We shall not discuss forest products and will confine ourselves only to the remark that we are dealing with savannah and steppe country where the vegetation is sparse. There is no timber suitable for industrial purposes, and only a little wood available for domestic use.

201. The real problem that exists is that of afforestation, or in other words the systematic replanting of trees in certain degraded areas. This is a delicate problem and requires a study of cost and profitability. Some specialists consider that re-afforestation should be carried out mainly according to the inhabitants' requirements and close to populated areas.

Fisheries

202. Fresh-water fishing by traditional methods is practised in the numerous lakes, streams and rivers. It plays an especially important part in the economy of Mali.

203. After stock breeding and ground nuts, fishery products constitute the third most important export of Mali. Fisheries do not for the time being have any great importance for Niger, and still less for Upper Volta, but the circumstances are different for Mali.

204. Fishing, more than agriculture and stock-breeding, guarantees a relatively high average income, especially in Mali where we find a population of nearly 115,000 to 120,000 persons living from fisheries. In Upper Volta fisheries remain a secondary activity because hydrographic conditions are far less favourable. Nevertheless, it is estimated that with its 71 stretches of water with a total surface area of 12,250 m² pisciculture could be developed to produce a yield in the neighbourhood of 500 kgs of fish per hectare per year.

205. This would constitute an important source of proteins, contributing towards balancing the population's diet. At present, estimated catches in the three countries are as follows:

Niger	4,500 - 5,000 tons per year
Upper Volta	3,500 tons per year
Mali	53,000 tons per year

206. Some estimates for Mali are as high as 80,000 tons and are quite plausible. The major problems connected with fisheries, particularly in Mali, where it is a basic activity are as follows:

- The traditional, archaic methods employed in fishing;
- the big losses occurring during the course of treatment and marketing which may attain as much as between one-third and half of the total weight of production, which thus corresponds with a monetary loss of several thousand millions (2 to 3) for the Mali economy;
- The complicated marketing chains.
- Processing and packaging.

For additional information, the reader is referred to the studies carried out by INSEE: "Le poisson dans l'Ouest Africain", by SEDES, "Le traitement et la commercialisation de poisson dans le delta central du Niger".

THE STRUCTURES OF AGRARIAN UNITS-FARMING CONDITIONS
AND PROFITABILITY

207. At the very beginning, we pointed out that family units and units of production were often confused and that the family remained the primary organized social unit and likewise the primary unit of production. The family, which is essentially agricultural, comprises the following average numbers in Niger, Upper Volta and Mali respectively:

4.1, 5-6, and 5-6 persons (a natural family).

For the average agricultural holding in these three countries there are 4 - 5 agriculturally active persons. (Generally, this corresponds with the large "extended family").

Distribution of land (see tables)

208. We find the following amounts of land available to each member of the active agricultural population:

Niger (1962- 1963) cultivable area = 1.02 hectare

Area farmed = 0.20 hectares

Upper Volta (1962). Cultivable area = 3.81 hectares ^{1/}

Area farmed = 0.73 hectares

Mali (1964). Cultivable areas = 1.53 - 1.84 (here we have made two possible estimates and the Office du Niger is included)

Area farmed = 0.92 hectares

1/ The 3.8 hectares in Upper Volta include the forest area (2.3 million hectares of forest in all) and fallow land (3 million hectares of fallow land; here, more than elsewhere, it is essential to let the land lie fallow because of the poor state of the soil.) If the forest area is not counted and reclaimable land included (1.25 million hectares in the south), the average will be 1.9 hectares of cultivable land. This is the figure which should be considered acceptable.

TABLE 8

Distribution of land

Countries	Total area (1,000 sq.km)	Cultivable area (1,000 hectares)	Area farmed (1,000 hectares)
Niger	1267	1500	300 ?
Upper Volta	274	9797	1870
Mali	1201	2500 to 3000	1500

Sources : Niger : Comptes Economiques 1961, République du Niger.

Upper Volta : Données actuelles de l'Economie Voltaïque 1962.

Mali : Estimate based on various sources.

NB. These figures must be considered as giving only an indication --as the notion of "cultivable land" and the means of possessing a figure of this kind are relative.

209. These figures demonstrate that there is no "land hunger" despite extensive cultivation. As far as Mali and Niger are concerned, the available cultivable area per active member of the agricultural population using traditional methods is at least as great as the land actually farmed.

210. Nevertheless, the case of Upper Volta, although not as grave as is sometimes thought is serious: there, in fact, we find an available cultivable area of 0.36 hectares per active member of the agricultural population including fallow land. In this country also the available area is lower than 0.30 hectares in some districts. And the lack of fertility aggravated by the shortness of the fallow period, presents difficulties for the development of farming. Here the intensive method becomes necessary.

Dimension of holdings

211. In the three countries, agricultural units are of relatively small dimensions. In Niger we find nearly 376,000 ^{1/} agricultural holdings, of which the average area lies between 4 and 5.5 hectares. Only an infinitesimal number of holdings attain the figure of 7 hectares. Precise information for the Upper Volta is lacking, but it can be affirmed that the averages are much smaller, for the reason already quoted.

212. In Mali, the distribution was as follows in 1960: 280,000 holdings, with an average number of 5.3 agricultural workers. Here we find some large-scale holdings, which may extend to 20 or 30 hectares. However, they account for scarcely more than 2 per cent. Most holdings (72 per cent) are hardly more than 5 hectares each, and 19 per cent of the holdings are between 5 and 10 hectares.

213. A study of the distribution of the population and of the size of agricultural holdings, combined with the fact emphasized at the beginning namely the absence of absolute appropriation and the fact that each peasant is entitled to have a plot of land at his disposal, shows that there is really no compelling agrarian reform problem. At the very most, mention may be made of speculation with highly fertile land in some valleys. The essential requirement is rather a proper regulation of land tenure.

Agricultural yields

214. Taken as a whole these are poor. Although we find marked variations from one area to another, the averages are sufficiently representative of the holdings in the three countries as a whole. (See table 9)

215. Millet has a maximum yield between 750 and 800 kgs per hectare. Sorghum may attain a yield of 1200 kgs per hectare in certain areas of Niger. Ground nuts fluctuate between 450 and 900 kgs per hectare. Nevertheless, averages for this crop in Upper Volta are low (317 kgs per hectare).

^{1/} This figure appears all the more exaggerated when it is compared with that of Mali. It is certain that the agricultural census of Niger is blemished by excessive errors, so that we must treat these figures with much caution.

TABLE 9
Crops and yields

Country	Millet	Sorghum	Cow-peas	Ground-nuts	Wheat	Sweet-potatoes	Onions	Tobacco	Rice	Cotton	Cassava	Maize	Papaya	Sugar cane	Sesame	Fonio	Pois de terre	Sorghum combined with millet	Bambara groundnuts
NIGER																			
Maximum } 1963	750	1200	250	950	1500	20000	30000	600	2500	620	15000	1200	1000	50000	-	-	-	400	900
Minimum } 1963	80	500	80	300	800	6000	8000	300	500	150	5000	400	400	9000	-	-	-	300	100
Average } 1963	508	725	144.3	538.6	1195	12750	18055	361.5	1072	291	8318	671	784.6	14859	-	-	-	343	575
UPPER VOLTA																			
Maximum } 1962	410	800	300	500	-	3115	-	500	720	300	-	800	-	-	260	400	402	-	-
Minimum } 1962	220	130	130	317	-	1140	-	72	460	99	-	300	-	-	60	250	145	-	-
Average } 1962	307	400	226	452	-	2085	-	286	576	216	-	553	-	-	183	318	249	-	-
MALI																			
Maximum } 1960	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Minimum } 1960	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Average } 1960	660	660	-	600	-	-	-	-	1056	150	-	780	-	-	-	-	-	740	-

Source:

NIGER Annual Statistical Report 1963, Department of Agriculture

UPPER VOLTA Annual report for 1962. Directorate of the Department of Agriculture

MALI Economic Study of the Banque centrale des états de l'Afrique de l'Ouest. Report on the Economic and Social Development Plan of the Republic of Mali.

216. Rice yield vary between 500 and 1,000 kgs per hectare. On the land of the Office du Niger they may rise to 2,500 kgs per hectare. The extreme limits for cotton yields are about 200 minimum and 600 maximum (for irrigated farming).

The largest average yields are those for root crops like sweet potatoes (13,000) and cassava (8,000).

In the case of onions, nearly 18,000 kgs per hectare may be obtained. Sugar cane, a minor crop, can yield an average of 15,000 kilos per hectare.

217. The yields that we have discussed apply especially to the traditional crops, with shifting cultivation. This explains why yields have improved little for decades. It should be noted that it is in Niger, where the acreage under cultivation is relatively lower, that we find the highest yields. Indeed, methods of cultivation there are more intensive. Nevertheless, it must be recognized that the questionable nature of certain statistical data on agriculture, as has already been stressed, makes it impossible to reach a categorical conclusion.

Farming methods and techniques

218. Crops, and especially food crops, are combined. Millet and sorghum are grown together throughout the three countries. Farming methods are still relatively rudimentary. The grub hoe and the "data" are employed. The plough is still little used. The problem of expansion is above all linked with the question of the peasant's purchasing power. Nevertheless, the well-to-do peasant of Mali and Upper Volta have more and more purchasing power.

219. Apart from these cases, simple agrarian implements, which are not dependent upon animal draught are employed.

The use of chemical fertilizers remains the privilege of less than 5 per cent of agriculturists. Nevertheless, in areas where there is abundant supervisory staff under the development services of Upper Volta, and in the case of some market gardeners in Niger, and also among those who generally speaking grow cotton (with FDDT) chemical fertilizers are increasingly used, in step with the growth in purchasing power.

220. The problems of fallow and of rotation of crops are bound up with that of extensive cultivation. A small proportion of agricultural holdings are left fallow. The period of rotation is frequently not respected, nor are the five to seven years necessary for lying fallow. In Upper Volta, the fallow period is frequently ignored, leading to an increasingly marked degradation of the soil.

Working time

221. This is imposed by the unfavourable climate: there are three months of rain, and the entire period of work in the fields scarcely exceeds six months. Between December and April, there is virtually no activity. Thereafter, we may find averages of from 7 to 8 hours per man day. With sorghum and rice, we may find 720 to 800 man-hours per hectare per year, or in other words nearly 125 to 130 man-days, on an average, per year.

222. The most demanding crops, that is to say, cotton, fonio and maize, scarcely exceed 2,000 man hours per year. In a few exceptional cases 2,500 man-hours have been recorded.

In other words, taking millet as an example, especially as it constitutes the basis of the diet and is the commonest crop in the three countries, we find a theoretical loss:

223. A fair average for work in the case of millet is 80 days per year; and for one person, this corresponds to an average production of 750 kgs, i.e. average yield. The production cost of 1 kg of millet is CFA francs 10.

224. Thus, the equivalent of 80 days work of an agricultural worker would be CFA francs 7,500 which corresponds more or less in the three countries with the poll tax (here is an idea regarding the fiscal function held by farmers!) During the inactive part of the year, we thus find a loss of 285 days corresponding with a value in millet of:

$$7,500 \times \frac{285}{80} = \text{CFA francs } 26,719.$$

225. Admittedly, we have not taken various factors into account: the association of crops, secondary activities, handicraft or other, etc. but this example, although theoretical, provides an indication of the order of magnitude and value of the long periods of inactivity recurring each year. It also sheds light on the manner in which the problems of manpower and employment should be approached in the rural environment in order to be meaningful.

Conclusions and suggested solutions

226. The level attained in the techniques of farming is still archaic, and explains to a large extent the low level of productivity. Some significant and inexpensive improvement could easily be introduced with some effort on the part of the peasant, orientated in the following direction: Association of agriculture and stock-breeding, to which we have already referred.

227. Even here, productivity is increased if a grub hoe is used in conjunction with a draught animal such as an ox or an ass. Although chemical fertilizers are beyond the reach of the majority of peasants, they can nevertheless produce vegetable compost if crop residues, green plants, droppings of livestock, etc. are buried.

228. When this procedure is rationally applied, fertility is encouraged to an appreciable extent, and conditions are created for more intensive cultivation.

229. The use of carts for transportation work in the fields would avoid the necessity of head postage, often over very long distances, and especially by women. This would likewise save muscular energy, which would thus be more readily available for tilling the soil.

230. As it is virtually impossible to alter the agricultural calendar, part of the long period of inactivities should be used for preparation and improvement of its land.

Similarly, during the same period the introduction of some cottage industries would be profitable.

THE VALUE OF AGRICULTURAL PRODUCTION - CONSUMPTION AND MARKETING

231. Despite the sustained advance recorded in the quantities marketed (a fact that may be deduced from the development of the service industries, and thus of the tertiary sector and consequently the gross domestic product), the place occupied by marketed agricultural production is still slight. Consumption of own production and domestic trade still occupy a very important position. And the trade balances of the three countries are still in deficit (see table 10)

232. The opportunities open for the marketing of agricultural products, the values ^{1/} of which we give in the following tables, are far from negligible.

^{1/} We have chosen, as far as possible, prices observed on the spot, or the averages of official production prices. Sometimes, we have used the same prices for the three countries as a whole. In one of the succeeding chapters, we shall give an idea of the complex structure of the production prices in these countries.

Quantities marketed abroad

233. In Niger, the situation is as follows: out of a crop production which we estimate as being worth 36,000 million (production value) of which 31,000 million is represented by food crops, approximately CFA francs 500 million is marketed mainly millet, sorghum, cow-peas and onions.

With the introduction of leguminous crops and tomatoes, there appear to be major possibilities for export. As far as industrial crops is concerned, from an approximate total value of 5,400 million we find that a large proportion is marketed, even if only ground nuts and cotton, to the approximate value of 2,800 million (FOB), are taken into consideration. This is the reason why the exports of crops in Niger represent nearly 45 per cent of total exports.

Livestock products and their derivatives (leather, skins, butter, etc.) account for the major proportion of exports, with a value of nearly 4,000 million.

Upper Volta

234. As was emphasized above, agricultural production remains insufficient, as a whole, to cover domestic needs. It is rather a question of importing than of exporting food. Tubers and grain products are consumed locally: "there is scarcely more than 600 to 700 grammes of grain and 120 grammes of vegetables available per inhabitant per day, which is barely acceptable." (Development Plan of Upper Volta).

Exports mainly comprise the surpluses of industrial crops such as ground nuts, karité, cotton, etc. and, in addition, livestock products. Exports of agricultural products amount to 338 millions in value or 14.5 per cent of total exports in 1963. In this connexion, it must, of course, be well understood that we are dealing here with trade that has been statistically verified.

A more important position is occupied by exports of livestock products and their derivatives: these are composed of live animals, hides and skins, with a small proportion of fish, and they amount to 1,137 million dollars in value, or nearly 49.4 per cent of total exports.

Mali

235. This country has a wide range of export products.

Out of a total agricultural production amounting to 35,000 million dollars, we find 3,200 million 'CIE) marketed, mainly rice, millet, mangoes, ground nuts (1,800 million), cotton, tobacco and kapok, or nearly 35 per cent of the total of exports, in other words, 5,940 million dollars.

Exports of livestock on the hoof and of meat make up most of the remainder. It should be noted that clandestine trade (especially of livestock) exceeds the figure of 1,000 million by a wide margin. This same phenomenon exists on the same scale likewise on the frontier between Niger and Nigeria.

Conclusions

236. There exist extremely promising potentialities for trade between the three countries and adjacent countries. Through a co-ordination of their prices policy and a rationalization of distribution chains, they would be able to improve the trading position in their favour. The countries which are their customers to the south have always benefitted from price distortions and from insufficient surveillance of the frontiers. The market which requires to be organized the most rapidly is that of livestock.

237. Sales of livestock on the hoof should be restricted to the minimum. Slaughtering enables high quality meat to be selected and exported, and also permits recuperation of derivatives which can be processed locally by cottage industry methods.

238. Stimulation of trade with North Africa, and in particular between Algeria on one hand and Niger and Mali on the other, should be continued: at Tamanrasset meat costs CFA francs 300 per kg. In short, the market for livestock products, fishery products (two-thirds of Mali's foreign trade is conducted with African countries) and of certain food products of the three countries considered, is provided by the adjacent countries, and demand in the latter is constantly increasing, whence it follows that there is an undoubted opportunity for exporting more to those countries.

TABLE 10

Volume and value of agricultural production

NIGER

Products	Volume		Unit price	Total values
INDUSTRIAL CROPS				5,432,500,000
Ground nuts	220,000	x	23,500	5,170,000,000
Tobacco	300	x	275,000	82,500,000
Cotton	6,000	x	30,000	180,000,000
Sugar cane	31,000	x	-	-
Sesame	-			
Karité				
FOOD CROPS				30,863,000,000
Millet	971,000	x	20,000	19,420,000,000
Sorghum	352,000	x	20,000	7,040,000,000
Cow-peas	80,000	x	15,000	1,200,000,000
Wheat	800	x	30,000	24,000,000
Sweet potatoes	24,000	x	14,000	336,000,000
Onions	23,000	x	10,000	230,000,000
Rice	13,000	x	31,000	403,000,000
Cassava	136,000	x	15,000	2,040,000,000
Maize	2,000	x	25,000	50,000,000
Peppers	600	x	200,000	120,000,000
Fonio				
"Pois de terre"				
Yams				
total				36,295,500,000

Volume and value of livestock

Products	Volume	Unit price	Total values
LIVESTOCK			
Bovines	3,500,000 x	8,500	29,750,000,000
Sheep	2,100,000 x	1,500	3,150,000,000
Goats	5,000,000 x	750	3,750,000,000
Horses	130,000 x	12,500	1,625,000,000
Donkeys	304,000 x	1,000	304,000,000
Camels	396,000 x	10,000	3,960,000,000
Poultry	5,000,000 x	25	125,000,000
Total			42,664,000,000
Fish	5,000,000	100	500,000,000

TABLE 11

Volume and value of agricultural production

UPPER VOLTA

Products	Volume		Unit price	Total values
EXPORT CROPS				3,446,500,000
Ground nuts	113,000	x	23,500	2,655,500,000
Tobacco	1,000	x	275,000	275,000,000
Cotton	13,000	x	30,000	390,000,000
Sugar cane	-	x	-	-
Sesame	6,000	x	21,000	126,000,000
FOOD CROPS				23,037,000,000
Millet	266,000	x	20,000	5,320,000,000
Sorghum	508,000	x	20,000	10,160,000,000
Cow peas	96,000	x	15,000	1,440,000,000
Wheat	-		-	-
Sweet potatoes	31,000	x	14,000	434,000,000
Onions	-		-	-
Rice	45,000	x	31,000	1,395,000,000
Cassava	7,000	x	15,000	105,000,000
Maize	78,000	x	25,000	1,950,000,000
Pepper	-		-	-
Fonio	2,000	x	27,500	550,000,000
"Pois de terre"	62,000	x	16,500	1,023,000,000
Yams	40,000	x	16,500	660,000,000
Total				26,483,500,000

Volume and value of livestock

Products	Volume	Unit Price	Total values
			<u>3,446,500,000</u>
LIVESTOCK			
Bovines	1,840,000	x 8,500	15,640,000,000
Sheep Goats	2,730,000	x 3,000	8,190,000,000
Horses	60,800	x 12,000	729,600,000
Donkeys	132,000	x 1,000	132,000,000
Camels	3,000	x 10,000	30,000,000
Poultry	200,000	x 50	10,000,000
		Total	<u>24,731,600,000</u>
Fish	3,500,000	x 100	350,000,000

TABLE 12

Volume and value of agricultural production

MALI

Products	Volume		Unit price	Total values
INDUSTRIAL CROPS				5,462,500,000
Ground nuts	125,000	x	23,500	2,937,500,000
Tobacco	7,000	x	275,000	1,925,000,000
Cotton	20,000	x	30,000	600,000,000
Sugar cane	-		-	-
Sesame	-		21,000	-
Karité	150,000		-	-
FOOD CROPS				29,500,000,000
Millet and sorghum	940,000	x	20,000	18,800,000,000
Cow-peas	5,000	x	15,000	75,000,000
Wheat	1,000	x	30,000	30,000,000
Sweet potatoes	60,000	x	14,000	840,000,000
Onions	-		-	-
Rice	190,000	x	31,000	5,890,000,000
Cassava	180,000	x	15,000	2,700,000,000
Maize	18,000	x	25,000	450,000,000
Pepper	-		-	-
Fonio	20,000	x	27,500	550,000,000
"Pois de terre"			16,500	-
Yams	10,000	x	16,500	165,000,000
Total				34,962,500,000

Volume and value of livestock

Products	Volume		Unit price	Total values
LIVESTOCK				
Bovines	4,243,864	x	12,400	52,623,913,600
Sheep Goats)	8,468,571	x	900	8,383,885,290
Horses	137,171	x	12,000	1,646,052,000
Donkeys	349,686	x	1,000	349,686,000
Camels	256,440	x	10,000	2,564,440,000
Poultry	10,078,000	x	50	503,900,000
			Total	66,079,876,290
Fish	53,000,000	x	100	5,300,000,000

PRICE STRUCTURES AND MARKETING PROBLEMS

239. Although the low level of production, poor productivity and the narrowness of the range of goods constitute difficult problems in the economic expansion of the three countries, the main brake on their general development is the level of prices for agricultural products and their marketing.

Price structures and marketing chains

240. If we consider the prices of the main food products and those of export products, the following facts may be observed:

For a given product, we find: an official or assigned production price or season price that is only partially applied; or a true price, or a system of true prices, imposed upon the peasants producing the goods. And in the particular case of industrial crops, we find that there is an official price, respected by the marketing agencies when the goods are exported.

241. Millet, for instance, is sold in the course of trading at 3 francs per kg by the peasants in Niger (rock-bottom production price).

It is re-purchased at 10 francs per kg by Copraniger, the storage and marketing agency.

242. During the periods of pre-harvest shortage, the millet may be resold back to the peasant (this time as consumer) at 30 francs per kg or more.

Let us take the example of ground nuts: here, the purchase price on production is sometimes 12, 14 or 20 francs according to the country and area. Ground nuts are sold at 50.5 francs on the foreign markets (on final delivery). Only cotton sold within the areas and through the channels controlled by the CFDT shows price variations that are not excessive (between 30 and 35 francs per kg). Elsewhere, there is a "freer" market in which prices fluctuate between wide margins.

243. It would be possible to quote a multitude of instances. And all combine to demonstrate that there are enormous gaps between true production prices, season prices and export prices, which often exceed world prices by reason of preferential agreements.
244. The opposite phenomenon likewise presents the same characteristics --in other words, imported manufactured products (which we shall not discuss) and foodstuff are all resold to the peasant at a price many times higher than their initial cost.
245. In one respect, that is to say in the case of the peasant as producer and seller, as well as in the other, that of the peasant as consumer and purchaser of manufactured articles or of agricultural products, especially during the periods of pre-harvest shortage, it is the peasant who bears the cost of all these trade transactions. And this reduces his investment potentialities. The explanation must be sought in the machinery of extended marketing chains with many middlemen.
246. On the one hand, we found the Dioula or small traders, who buy agricultural products from the peasants in the course of trading for their own personal account or as agent of exporting houses. So that, wherever the producers are not organized, or state control is not vigorously applied to prices, they build up stocks at prices varying between one-half and one-third of the official price...
247. Between the Dioula and the large merchants, and even joint agencies or state agencies, or stockists, there is room for further profit margins. In short, except in Mali, the workings of the commercial trading system, despite the enormous efforts made by the two other countries, have not lost their colonial structures.
248. And despite the increased scale of marketing agricultural products (see the tables for foreign trade) and the relative progress of production, the level of living of the peasant producers remains stagnant in the majority of cases or is even declining. It is the middlemen and the exporting companies that prosper.

249. Let us leave to one side an assessment of the profit margins of the middlemen, and let us see from the tables covering Niger that are reproduced below, the situation to which the farmer is reduced, partially owing to marketing: "It is acknowledged that in the distribution of overall income, two-thirds go to herders and only one-third goes to farmers" who constitute four-fifths of the total population.

TABLE 13

Distribution of stockbreeding income in CFA

1. Per mixed farmer or herder

Category	Population	Overall income	Personal income
Herders	700,000	7,400 mill.	10,500
Mixed farmers	2,200,000	3,600 "	1,600
Others, (towns and miscellaneous)	200,000	-	-
Total	3,100,000	11,000 mill.	12,100

2. Monetary income in thousand of millions

Overall income	Herders	Mixed farmers	Total
Non-monetary	2	1,5	3,5
Monetary	5,4	2,1	7,5
Total	7,4	3,6	11,0 millions

3. Personal income

Personal income	Herders	Mixed farmers	Overall
Non-monetary	2,800	700	3,500
Monetary	7,700	1,000	8,700
Overall income	10,500	1,700	12,200

Source: Rapport Annuel Statistique, Direction de l'Elevage et des industries animales, (Niger)

250. From the preceding table, which gives the proportion of the mixed farmer's income derived from stock-breeding, in other words for CFA francs 1,700 combined with the estimates previously made of income derived from agriculture, in other words for CFA francs 7,500 we thus obtain an average total annual income from agriculture of the order of CFA francs 9,200. And this figure is manifestly low.

Conclusions and solutions

251. The situation may be summed as follows: decolonization and rationalization of the domestic and foreign marketing chains for agricultural products. If the requisite measures were not taken and the market put in order through the progressive abolition of preferential tariffs, or in other words through alignment with world prices (especially in the case of ground nuts), and with middlemen anxious to maintain their profit margins, the peasant would be still further impoverished. The price stabilization and equalization funds are not yet sufficiently provided to face the eventualities of price and production falls. Rationalized marketing could, in the immediate future, raise the monetary income of the agriculturist by at least 0.25 per cent, and help to increase the general development of the country.

252. Admittedly, in the name of free competition and freedom of trade, it would be difficult to establish strict state control. Above all, there is also the consideration that the countries in question do not yet possess the necessary agencies (banks, collection departments, transport facilities, etc.) that would be adequate to ensure a monopoly in marketing; and the peasants are still unorganized.

253. Nevertheless, flexible State control or at least a strict control of commercial transactions is necessary. Solutions on the lines of the marketing boards in Ghana, which function quite well, might be envisaged.

254. The success, even though partial, achieved despite numerous difficulties, of the Malian experiment of marketing cereals and ground nuts through state controlled agencies, holds many lessons.
255. Analysis of the factors contributing the success, as well as of the difficulties encountered by the Office de Commercialisation Agricole of Senegal, would be of great use in establishing a department for the collection and handling of agricultural products.
256. It would be necessary to fix and control official prices and practical prices; to limit the extent to which middlemen might intervene; and to organize the peasants through the formation of producers' and purchasers' co-operatives. This last is a basic problem.
257. The role of higher grade supervisory staff for rural development and even political indoctrination in the training and education of the peasants might be of a positive nature.
258. Support for carriers' co-operatives would be desirable, as collection and transport over long distances is a somewhat difficult problem, which the State cannot deal with alone, etc.
259. The example of the peasants reinforced by supervisory personnel provided by the CFDT in all the territories, by the SATEC (Société d'encadrement rural) in Upper Volta and by the Office du Niger in Mali, and the co-operatives of Niger, prove the efficiency of a healthy prices policy. Indeed, the improvement in their conditions or life is not due solely to increased production, as the result of the introduction of new methods of cultivation, or to the relatively high price of cotton, but to the marked simplification of the sales chains for their products and by observance the official prices.

One measure that is urgent and even vital is a thorough going and systematic study of price structures, and of the distribution and collection systems, both for the import and export of products.

260. Major stock changes and interruptions in supply and the growing scarcity of certain market products are sometimes due, (as we have observed in the case of Mali) to the official fixing of some sales prices without sufficient preliminary study, taking into account transport factors and other charges. This is so much the case that some retailers preferred to discontinue trading in certain articles where the fixed sales prices were above the production cost of these goods. It was also owing to a distortion of purchase prices of production that some farmers on the Tahoua district of Niger prefer to cover hundreds of kilometres in order to sell their products to purchasers from the area of Maradi, who offer better prices.

261. Faced with the abolition in the very near future of some preferential tariffs, particularly those applicable to ground nuts, some economic policy-makers are considering the reduction, by however little (from CFA francs 1 to 2), of the purchase price on production.

However cogent the reasons may be for pursuing a policy of price alignment, we consider that a measure of this nature would have a heavy impact upon the level of living of the peasant producers, which is already too low.

262. Any measure of restriction should rather be applied to the numerous operations of middlemen, which intervene between the price of production which is theoretically about CFA francs 21 (in fact, the peasant is obliged to sell at an average price that is very often much lower) and the price on final delivery which is CFA francs 50.5, or in other words nearly double.

263. Therefore the effects of any policy of price alignment should, in the first instance, affect the profit margins of agencies responsible for storage, transport, insurance and freight, and taxation, etc.

A contribution by the statistical offices and departments for economic surveys of ECA, relating to price structures, would be welcome.

TABLE 14

Table showing the scale of charges for electrical energy ^{1/}

UPPER VOLTA : (Ouagadougou)

(a) For low-power consumers:

Charge per kw installed	3,577	CFA francs
Price per kwh	22.59	" "

(b) For industries where the power is higher than 200 kw:

Annual charge per kw installed	3,577	CFA francs
Price per Kwh	18.83	" "

NIGER (Niamey)

(a) Fore industries of low or average power:

Annual charge per kw installed	3,354	CFA francs
Price per Kwh	25.89	" "

(b) For industries with power above 200 kwh:

Charge per kw installed	3,354	CFA francs
Price per kwh	22.36	" "

^{1/} These prices refer to high-tension supply during normal hours or full load, that is to say that the peak hours and hours of low consumption are excluded.

The Kva has been converted to Kw by means of the co-efficient $\frac{8}{10}$ where necessary.

MALI : (Bamako)

264. No systematic decreasing scale of charges. In certain cases, reductions of price are applied.

Annual charge per kw installed (dual scale) CFA francs 5,760

Price per kwh 24 24

In order to form a complete picture of costs of energy in these countries, we must integrate the price of the installed capacity kw and the price for energy consumed (Kwh) ^{1/}

We thus obtain a theoretical production cost per high tension kwh of:

Niger (Niamey) CFA francs 23.8

Upper Volta 20.3

Mali 26.4

It should be recalled that the price per litre of hydrocarbons varies between CFA francs 30 and 35 in these countries.

^{1/} We are using here the following hypothesis : one kw installed working 8 hours per day, 25 days per month and 2,400 hours per year. If p = price per kw installed per year, and p' the price per kwh consumed, we have:

$$P = \frac{p'}{2400} + P$$
 We have used the lowest prices and have not taken into account the costs of installation.

Land use

265. The analysis of the land use pattern in each of the three countries is obstructed by many obstacles and therefore its implication should be rather limited. Firstly, the analysis is based on FAO land classification which is published in Table I of the FAO Production Yearbooks. This classification seems to be irrelevant to agricultural conditions in tropical Africa. In the opinion of some writers "the information on most of Africa in the above mentioned table distorts and misleads to such an extent that the figures are literally worth less than nothing. The footnotes of the FAO tables give useful explanations but render the figures even less comparable." ^{1/}

Secondly, economic studies of land use have not been undertaken in the three countries. Such studies are necessary to determine the economic capabilities of various land classes and to be used as a guide for the optimum allocation of agricultural resources. Potential uses of arable land which is currently uncultivated may also be discovered by an economic study of land use.

Thirdly, it is difficult to determine from available information on broad land categories whether or not land in each category is put into its best use since the classification of land into various categories is based on technical rather than economic factors. Finally, due to conditions of African agriculture, it is difficult, in some cases, to make accurate estimates of land categories. Guestimation is, thus, resorted to in some cases such as in (a) area on which subsistence crops are grown, (b) area of fallow land, (c) area of forested land and "permanent meadow and pasture."

266. Broad categories of land use in the three inland countries are indicated in table 15. The main features of the land use patterns are:

- (a) the vastness of total land area which amount to about 127 million hectares in Niger, 120 million hectares in Mali and 27 million hectares in Upper Volta.
- (b) The relatively small proportion of cultivated land to total area. cultivated land accounts for 9 per cent of total area in each of Mali and Niger and for 31 per cent in the Upper Volta.

^{1/} See ECA Report of the ECA mission for the economic co-operation in Central Africa. Provisional version 9 July 1965 mimeographed.

TABLE 12

Land use pattern, Mali, Niger and Upper Volta ^{1/}
1,000 hectares

Country	Period	Total Area	Agricultural Area		Forested land	Other Areas	
			Arable land and land under permanent crops	Permanent meadows and pasture		Unused but potentially productive	Built-on area wasteland and other
Mali	1960	120,402	11,000 ^{2/}	30,000	4,400	39,000	36,002
Niger	1961	126,700	11,066 ^{3/}	41,634	10,000	15,000	48,400
Upper Volta	1962	27,400	8,547 ^{4/}	13,755	2,296	1,250	1,452
				<u>Percentage</u>			
Mali	1960	100	9	25	4	32	30
Niger	1961	100	9	33	8	12	38
Upper Volta	1962	100	31	50	9	5	5

^{1/} Compiled from FAO Production Yearbook, 1963 and other sources

^{2/} Of which 9.2 million hectares are fallow land

^{3/} Of which 8.5 million hectares are fallow land

^{4/} Of which 6.7 million hectares are fallow land.

(c) The large amount of unused but potentially cultivated land which amounts to 39,15 and 1.3 million hectares in Mali, Niger and Upper Volta **respectively**. Even the relatively small amount of this land in Upper Volta is enough to enable the cultivators to almost double the size of their present holdings.

(d) The large amount of fallow land which accounts for 80 to 90 per cent of the cultivated area depending on ~~the~~ length of the fallow period. If fallow land could be reduced through the application of modern farm technology the potentiality for additional resource use would be substantial.

(e) The large amount of land occupied by "permanent meadows and pasture" which accounts for one fourth of land in Mali, more than one third of the land in Niger, and one half of the land in Upper Volta. Since the primary use of this substantial part of land resources is for livestock and livestock products, it is significant to expect that the latter would contribute proportionally to agricultural income. This, is not true. The total value of livestock production constitute a relatively small portion of total agricultural income.

267 This calls for the improvement of inputs (mainly permanent meadows and pasture) as well as the output (i.e. livestock production) if rational use of resources is to be realized. But more basically an economic study of land use should be given priority if optimum allocation of resources is to be achieved and maximum output is to be obtained.

Classification of arable land

268. Arable land may be defined as that part of total land area which is cultivated at present or can be brought under cultivation in the future. It has been mentioned above that the portion of cultivated land to total area is relatively small in the three countries. It amounts to 9,9 and 31 per cent of total area in Mali, Niger and Upper Volta. However, potentially productive land accounts to 32,12 and 5 per cent of total area in Mali, Niger and Upper Volta. Total arable land would thus, amount to 41,21 and 36 per cent of total area in Mali, Niger and Upper Volta. These estimates, however, are very crude and should be taken with some reservation. Firstly, there has been no land classification which identify arable from non-arable land. Such land classification would indicate land classes within the category "arable land" on the basis of their income producing capacity under certain social, economic, political and physical conditions. Secondly, the supply of land depends --among other things-- on the state of technology as well as the cost-price relationships. If modern technology is applied to ensure, say, an adequate supply of water or to raise soil productivity or to introduce new varieties of crops the supply of land would in effect be increased. Similarly if the cost-price relationship is favourable more land could be brought under cultivation because it would, then, be profitable to farm additional land even if it is of inferior quality.

269. A cultivator, at present, with few months work and with little or no material inputs can secure his food requirement for a whole year. Every eligible individual can find a piece of land to cultivate. Under the above mentioned conditions it does not seem that there is a shortage of land except in some densely populated areas where the traditional system has broken down. The main problem is to identify available resources and improve their utilization. A land classification should be undertaken for this purpose.

Distribution of cultivated land among food and commercial crops

270. It has been mentioned above that a large portion of cultivated land is occupied by "permanent meadows and pasture". Although few efforts are made to improve the productivity of such land it still may be considered in an economic sense as being utilized and thus the primary use of land would be for grazing. The second important purpose for which land is being allocated is for the production of food crops --especially millet-- which are produced for subsistence. Commercial crops --mainly ground nuts and cotton-- only occupy a relatively small portion of land. The implication of this pattern of distribution of cultivated land among various uses is that land allocated to commercial production can be substantially increased if food output can be obtained from a smaller area and thus releasing additional area to commercial production. Land under crops amounts to about 1.8, 3.2 and 1.8 million hectares in Mali, Niger and Upper Volta respectively. Millet and sorghum occupy about 75, 80 and 70 per cent of total cultivated area under crops. Commercial crops are produced on about 10 per cent of the cultivated land in each of the three countries. Measures to raise agricultural productivity with respect to food crops --especially millet-- should be given priority since a large amount of land would then be made available for commercial production and the diversification of agricultural output.

Land - man ratios

271. The land-man ratio is an indicator of the theoretical amount of land resources which could be made available to each inhabitant of a given country if land was to be evenly distributed. Generally speaking the higher the land-man ratio the more a country is endowed with natural resources. This relationship, however, depends on many factors such as (a) rate of utilization of available arable land, (b) quality of land, (c) land distribution as it affects the size of holding, (d) the location of land as cost of infrastructure and transportation rates which may inhibit its utilization and (e) the state of farming technology as well as the rate of its application.

272. For these reasons the concept of land-man ratio, should be interpreted with some reservations.

TABLE 16

Land-man ratios

Mali, Niger and Upper Volta ^{1/}

Country	Population in millions	Land		Land-man ratio	
		Arable land and land under crops	Under crops only	In terms of arable and crop land	In terms of crop land only
In million hectares					
Mali	4.1	11.0	1.8	2.7:1	0.4:1
Niger	2.9	11.7	3.2	4.0:1	1.1:1
Upper Volta	4.4	8.5	1.8	1.9:1	0.4:1

^{1/} See table 15.

273. Land-man ratios in terms of arable land and land under crops as well as land under crops for Mali, Niger and Upper Volta are indicated in Table 16. The former ratio seems to be favourable and is even higher than that in the various other regions of the world, which are indicated in Table 17. The latter ratio for Niger is equal to that of North America and is higher than for Europe, Latin America, Near East and the Far East. For Mali and Upper Volta the ratio is higher than that of Europe and the Far East.

274. In the three countries, the favourable land-man ratio is affected by the following **adverse** conditions:

- (a) Only a small proportion of arable land is utilized. Fallow land amounts to 9.2, 8.5 and 6.7 million hectares in Mali, Niger and Upper Volta.
- (b) Land is of relatively poor quality and there is no serious effort to improve the quality of land by the application of modern technology.
- (c) Size of holding is uneconomical.
- (d) Land is located over long distances which necessitates heavy investments in infrastructures and result in high production and marketing costs.

TABLE 17

Land-man ratio

World regions ^{1/}

World region	Population in millions	Arable land and land under crops in million hectares	Land-man ratio
Europe	442.6	153	0.2:1
North America	205.3	227	1.1:1
Latin America	224.1	103	0.5:1
Near East	139.6	80	0.6:1
Far East	945.5	274	0.3:1
Africa	229.0	240	1.0:1
Oceania	16.0	34	2.1:1

^{1/} Computed from FAO Production Yearbook 1963.

275. The first three factors mentioned above can be coped with by designing measures for institutional changes and by providing incentives for the application of modern technology. The fourth factor can be ameliorated by concentrating investments on the more productive areas.

Cultivated land and land allocated to food and commercial crops per person engaged in agriculture

276. Land-man ratios with respect to total population have been estimated above. The rural population accounts for 90 to 95 per cent of total population in the three countries. It suffices to increase the land-man ratio estimated above by, say, 10 per cent to arrive at a rough average share of cultivated land per person in agriculture is indicated in Table 18.

TABLE 18

Cultivated land per person in agriculture

Mali, Niger and Upper Volta (hectares)

Country	In arable land and land under crops	Acres
Mali	3.1:1	0.44:1
Niger	4.5:1	1.3 :1
Upper Volta	2.1:1	0.44:1

277. The average share of the arable land and land under crops amounts to 3.1, 4.5 and 2.1 hectares in Mali, Niger and Upper Volta respectively. As most of this land is left fallow the average share of land under crops seems to be more indicative of the actual situation. The latter amounts to about 0.44 hectare in each of Mali and Upper Volta and 1.3 hectares in Niger. Commercial crops occupy --as mentioned before-- about 10 per cent of the crop area and the share per person in agriculture in land allocated to commercial crops can, thus be estimated.

278. The pattern of land distribution is more significant from the economic point of view than either the land-man ratio or the average share of cultivated land since the farmer affects the size of holding and thereby production efficiency as well as income distribution. However, as mentioned above, land seems to be almost evenly distributed with the result that the size of holding is too small to be economical. Practically speaking no large-scale farming exists in any of the three countries. Without an economic-size holdings it is difficult to produce for the market and to introduce modern farming techniques. Additional land for enlarging the size of holding could be made available by the reduction of fallow land as well as by the utilization of the part of arable land which is currently uncultivated. Other forms of modern farm organization such as co-operative and group farming can also be introduced to overcome the disadvantages of small scale. Moreover, public measures should be designed to initiate large-scale agricultural schemes in arable areas not yet cultivated. The form of ownership of such schemes depends on conditions in each country.

Agricultural productivity per man and per hectare

279. Agricultural productivity per man or per hectare is relatively low in each of the three countries. The former may be lower than the latter if the size of cultivated unit is less than one hectare as often is the case. With respect to productivity per man it should be noted that the cultivators, usually work three to four months a year.

280. It is this seasonal unemployment that has a more significant impact on the economy than the low productivity per man. If employment opportunities are created in the agricultural as well as the non agricultural sectors total output could be substantially increased even at the current level of productivity.

281. It has been mentioned before that the average income of rural cultivator is not likely to exceed 7,000, 6,000 and 5,000 CFA francs in Mali, Niger and Upper Volta. Cultivators who produce cash crops with improved methods realize, however, higher income than that of the traditional cultivator.

282. Output per hectare of basic food and commercial crops are shown in Table 19. Agricultural productivity per hectare is highest in Mali followed by Niger and Upper Volta in that order. If prices and size of holding are taken into consideration productivity per man would be equal to that mentioned above. It should be noted that (a) the level of productivity whether per man or per hectare is too low to allow for a surplus in income which could be invested in agricultural improvement and development and (b) it is more important to raise the productivity per hectare, i.e. intensification of agriculture, rather than to increase the productivity per man which could be achieved --other things being equal-- by horizontal expansion.

TABLE 19

Output per hectare ^{1/}

Mali, Niger and Upper Volta

Crop	Output per hectare (Kilogrammes)		
	Mali	Niger	Upper Volta
Millet	660	508	307
Maize	780	671	533
Ground nuts	600	539	452
Rice	1056	1072	576
Cotton	150	291	216

Industries and handicrafts

283. Industries and handicrafts occupy a relatively insignificant place in the economy of each of the three countries. They account for about 12.5 per cent of gross domestic product in each of Mali and Upper Volta and for only 4.7 per cent of gross domestic product in Niger as indicated in Table 20.

^{1/} See Fall's report, p.50

TABLE 20

Value and importance of output of industries and handicrafts

Mali, Niger and Upper Volta

Country	Year	Value of output million CFA francs	% of gross domestic product
Mali	1959	6.9	12.5
Niger	1961	2.4	4.7
Upper Volta	1959	4.6	12.5

284. Among the factors hindering industrial expansion are: a small local market; lack of raw materials; high transport cost of imported material and equipment and lack of technical skill.

285. Most of the important industries are concerned with the processing of agricultural products such as cotton, fats and oils, leather and food industries. Other non-agricultural industries include those for cement, furniture, and traditional farm tools.

286. Industries and handicrafts provide employment for only few thousands of the population in each of the three countries. The demand of the industrial sector for agricultural products is thus limited. Development plans include measures for industrial expansion. More emphasis should be placed on the processing of local raw materials as well as on the establishment of import substitution industries.

Consumption, savings and investments

287. According to available social accounts total consumption accounts for about 91 per cent of the gross domestic product in each of Mali and Niger. ^{1/} This means that savings account for 9 per cent in each of the two countries. No estimate is available for Upper Volta but it is believed that the rates of consumption and savings are almost similar to those in Mali and Niger. Consumption may even be relatively higher and savings may be lower in the case of Upper Volta due to the relatively low level of per capita income.

288. Savings, however, may actually be lower than it appears due to the unfavourable balances of trade and payments in each of the three investigated countries. This also means that investments are lower than 9 per cent of the gross domestic product.

289. Under the above mentioned conditions, it is necessary to rely on outside sources for financing economic development. Sustained economic growth would seem to be only feasible when investments account for, say, 20 per cent of the gross domestic product.

^{1/} See Comptes économiques of Mali and Niger Op.cit.

CHAPTER IV

THE STRUCTURE OF SOCIETY AND SOCIO-HUMAN ASPECTS OF PRODUCTION

290. The salient socio-economic feature of Mali, Niger and Upper Volta is the immensely important position occupied by agriculture. Among these peasant peoples, there is very little urbanization, and the vast majority of the approximately 4 to 6 per cent of the population living in towns still retain close links with agriculture and the land.

291. In production, the traditional sector still plays a predominant part both from the technical and from the economic points of view; and although the introduction of cash crops and of a monetary economy has had important repercussions in the socio-economic sphere, it has been virtually unaccompanied by any development in methods and techniques of cultivation, and has exercised only a limited influence on the general characteristics of agriculture, which has not yet become, and is a long way becoming a market agriculture.

292. Within the communities, subsistence economy still remains the rule, despite the indisputable progress and increasing influence of the monetary sector. This situation may partially explain the permanence of the social structures, traditions and customs of these agrarian societies, which are entirely oriented towards the land, but it is also their consequence. In any case, it accentuates the importance assumed by the social aspects of agricultural development.

293. Indeed, production still continues within the context of the old social structures and traditional systems, but at the same time under the influence and the pressure (with the psycho-sociological aspects that they imply) of the new economic forces introduced about 50 years ago by colonization, the impact of which has become still more pronounced since these countries achieved independence. The social problem implicit in development, if not perhaps the essential feature of all development problems consists in the meeting and the conflict between these two elements, the old and the new.

294. It was this fact which Mr. Courmo Barcougne, Minister of Finance and National Economy of the Republic of Niger, wished to emphasize when he received the ECA experts with the following words: " It is a good thing that ECA has sent a mission into the field. Not all problems can be solved by arithmetic. We must consider closely our traditions, our customs, the social organization of our populations and their psychology. This is of primary importance in order to grasp the problems and find their solution". He thus defined clearly one of the major aspects of the development problems of Niger (the same applies to Mali and Upper Volta), which cannot simply be stated in technical and economic terms (for there is always a solution to these problems, which in the last resort amounts to the problem of resources), but have a social aspect that is all the more important as it is made up of imponderable elements and subtleties. The fact that these words were uttered during the first official working discussion of the mission also gave them a symbolic character.

Some aspects of the social problem

295. The problems of Mali, Niger and Upper Volta are similar in that the social structures in the three countries are still mainly based upon the tribal system in that as a result there is far-reaching ethnic and social fragmentation and in that human integration on the national scale has not been achieved.

296. From one human group to another, the structures may and do vary and customs, beliefs and traditions change. And even if the main groups have common denominators, this multiplicity and diversity already constitute in themselves a problem of the first magnitude and importance. Furthermore, the three countries are located in the Sahelo-Sudanian zone, which has been the scene of considerable population movements --whether by migration, pacific infiltration or warlike conquest. And the "original" diversity has been rendered still more complicated by the mutual influence of some external groups on each other.

297. Finally, although less so in Upper Volta, the spread of Islam has played a considerable part as a factor bringing uniformity (if not unification) in the cultural and also the institutional fields. The various societies have, however, reacted differently to this influence towards uniformity, which, in a sense, has rendered more complex the process of historical evolution, and has sometimes served to accentuate social diversity.

298. A corresponding economic disintegration exists side by side with the absence of human integration. For one thing, in effect, each human group (the largest of these being generally localized at village level and not beyond) lives in a closed economy, preoccupied with the production of whatever is necessary for its consumption; trade with the other groups is on a small scale. The production units are restricted, and are, at the same time, units of consumption. The production-consumption process takes place almost entirely within the social unit. Furthermore, ethnic specialization aggravates this situation. Agriculture, stock-raising or fisheries are generally the occupations of well-defined ethnic groups. The Tuareg and Fula live as herders; Mossi, Bobo, Senoufo or Djermi cultivate the land; Bozo or Somono are fishermen, etc., and specialization has left its imprint upon their social structures, their customs and the agrarian structures of the areas that they occupy.

299. Whereas the trend should be towards economic integration and, in the first instance, towards the integration of agriculture and stock-raising, these two activities are, on the contrary, competitive, especially in the ecological transitional areas and in the mixed areas. Conflicts also arise between fishermen and farmers, for instance in the area of the Delta, at the time when the rice fields are put under water.

300. Carried along, sometimes despite themselves, by the movement of economic change, men are beginning to understand that these activities are not contradictory, but the reverse. Nomads settle down and become farmers or sometimes even fishermen, as in the case of the Fula of the Mopti area; "pure" farmers raise cattle, and all of them find in such activities, which are often new to them, an important additional source of income.

301. On the whole, however, the age-old antagonism between the human groups of stock raisers and cultivators of the land, the disgust inspired among certain of them at engaging in activities other than their traditional ones, continue to be apparent, less for economic than for historical and social reasons.

302. It may be imagined that in these historically closed societies, which have throughout the centuries lived under an enforced system of self-sufficiency, attachment to the traditional structures and values, which until quite recently represented their sole safeguard and security remains very deep; and that, to reiterate the words of the philosopher : "the burden of generations long dead weighs very heavily upon the minds of the living".

303. This permanence of structures and customs likewise presents a problem. It has often been said that tradition curbs development, and that is true in the majority of cases.⁶ For, precisely because of the nature of the socio-economic relationships within the human groups, any change in the economic sphere makes itself felt first and foremost through its social aspects, and thus as an assault upon traditional values, and therefore meets with incomprehension and mistrust.

304. This phenomenon is all the more serious as the development of cash crops and of the monetary economy, of new institutions such as taxation, have to some extent encroached upon these structures without anybody troubling for a very long time, to replace them with others. These breaches in the traditional structures, which all the devotion felt by the populations can do nothing to fill, coupled with their resistance to adapting themselves to the consequences of the new emerging forms of economy, create distortions and disturbances and raise still further problems, the most important of all. Adjustments, which are for the most part improvised, are applied owing to the pressure of the economic situation and are not always the best. The increasing magnitude of long-term seasonal migrations, or even of permanent migrations, which affect certain areas is one example of many.

305. In view of the prospects for harmonized development which the governments have fixed as their aim, a situation that is fraught with dangers cannot be left to evolve spontaneously, and it is necessary to consider the means of channelling this evolution and of finding new forms of social organization and the institutional bases that are designed to encourage the development of agriculture and, more generally, of the economy.

306. It is thus important to arrive at a just assessment of the mutual influence of the social and economic spheres, to give these problems their proper place and to devote the necessary attention to seeking their solution through a dynamic approach to the integrated development of the economy.

307. In the African agrarian societies, man and the land are the two poles of the system, inseparable, linked organically and spiritually one to another, the two main factors (if not the only factors) in all economic activity, at all events until the system is modified by alien influences.

308. Agrarian structures reflect social structures, they are so to speak their projection up on the earth, to the extent that the two cannot be disentangled. Where the former are affected, so are the latter; and both structures have always evolved on parallel courses.

309. It is not the purpose of this paper to recapitulate the historical background of this evolution, nor to describe the social structures, which have been the subject of numerous competent studies.

Certain essential features, only will be recalled in order to emphasize the importance of the land tenure problem in greater detail.

Generally speaking, the structures are based on links of kinship, and human groups, even the widest of them, claim a common ancestor.

310. The awareness of kinship (and its consequences) evidently becomes ever more clear-cut as one passes from the tribe by the various intermediate stages to the "extended family", which is the basic molecule of the whole structure. Families of the same parental group or of the same clan are usually grouped locally in villages, but it is rare for a social unit to extend beyond that level.

311. The "extended family," the basic social cell, is at the same time, as has been indicated, the basic economic unit; and it is at that level that the production process is carried out and that economic decisions are taken. The head of the family is simultaneously in charge of production.

312. This fragmentation of the centres of economic initiative, (when it is remembered that there are between 5,000 and 7,000 villages, according to the country concerned), and the difficulties presented by any change in the situation are not the least of the obstacles that will be encountered in the preparation of a development plan.

313. Doubtless, the different social groups which interlock with each other, from the family to the tribe, can be organized upon a wider scale. The Sahelo-Sudanian zone is the area of the great African empires, but other historical factors enter into consideration here. What we find, however, before us is the grouping of various elements under a political or politico-religious authority rather than the socio-political manifestation of a different type of economic organization. Whether in the centralized Mossi kingdom, or in the groups of Lobi and their kinfolk, where there is practically no political organization or chiefdom above the "extended family" level (which is reflected in the sparse number of villages, and in the low density of housing), it is always the latter that is at the basis of the system.

314. In the presence of the "extended family" the individual counts for little or nothing, except in that he constitutes an element of the group, contributing to its subsistence and continuity.

315. This explains the egalitarian character that these societies often have and the importance accorded to the redistribution of wealth or of the means of production, which cannot in theory, be accumulated by any individual.

316. This egalitarian structure, however, in which the hierarchy has a politico-religious character, and not an economic character based on wealth, has often, especially in the areas embracing Islam, been masked, modified and partially recast by other social relationships, which have become established in the course of historical evolution.

317. Such include the relationship of conquerors to conquered, the former having often been originally nomadic herdsmen, and the latter farmers; the relationship of masters to slaves in the Tuareg or Fulah societies, still enduring or being attenuated and modified after the abolition, if not the disappearance, of slavery; the position of the artisan castes (blacksmith, potters, weavers, etc.), which occupy a marginal position vis-à-vis the social organization, as they have no part in the allocation of land, and play a role apart in the chain of production and consumption.

318. Different again from those who cultivate the soil are the societies of herdsmen, Fulah and Tuareg, which have a markedly hierarchical structure, especially the latter, where systems involving social divisions are based on wealth, in other words on the number of animals possessed, and where there is a whole hierarchy of castes between the warlike nobility and the slaves. The latter represent a special problem, as do their relationships with the farmers and their own gradual absorption into agriculture.

319. To all this must be added the influence, already mentioned, of the monetary economy and of the recently introduced cash crops, which have helped to shake the ancient structures and which are tending more and more to shatter tribal and family solidarity, and to detach the individual from his group.

320. Centrifugal tendencies and the strength of cohesion enjoined by custom come into conflict; such conflict may be overt or tacit, but it is for the most part reflected in the resistance which the social group shows in accepting and even more in adopting the technical or institutional innovations that are proposed for its benefit.

321. These problems, being part of the more general problem of development, seem hitherto to have been under-estimated. Not that they have not been considered --on the contrary! Research in the socio-human field has not been lacking; very copious literature exists on the subject, and every day new works are published. These works, however, are for the most part concerned with the field of pure research.

322. Moreover, the economic and technical studies, whether regional or sectorial, that are carried out in furtherance of a well-defined development project, generally accord too brief a mention to socio-human questions, and take too little account of man, who must nevertheless be the moving force in development, but who can also hinder it.

323. The result of this absence of liaison, and this imbalance in research, is that, despite the profusion of existing documents, the social factors of development are never entirely accorded their proper place in development plans, that human problems are not seen in all their implications and that the solutions proposed are not always as fully integrated as they should be with the general scheme of development.

324. Today, it is for the planner rather than for the sociologist to study the human problems as an integral part of the general economic problem, and to find a solution that is adequate and in conformity with the economic objectives that have been fixed. What is it in the traditional structures, the social organization and prevailing customs that represents a brake on economic development? What are, on the contrary, the positive elements in the structures and traditions (for they do exist, e.g. the very low degree of concentration in land tenure, customs such as that of group work, social solidarity, etc.), and how can they be utilized?

325. What are the types of economic (and social) stimuli that may lead the peasant to modify his judgement of the traditional values, to accept the new methods and techniques of cultivation which are suitable in his case, and thus to make him participate in building up the economy?

How, without friction, can new institutional structures be introduced that are suited to the requirements of development? All these represent so many questions, which deserve systematic study, to which persons in authority must apply themselves and for which an answer must be found.

326. So long as these problems are tackled in isolation, without connecting them with the problem of development, it will be possible to provide only fragmentary, incomplete and too often ineffective solutions.

327. The example of the land tenure systems, upon which social and economic questions hinge, and which is considered elsewhere, appears to assume particular importance in this respect.

The problem of land tenure

328. Man's productive work proceeds against the background of a system of land tenure characterized by the co-existence of the earlier customary law and of the constructive legislation introduced first by the colonial authorities and later by the independent governments.

329. This duality renders the land situation complicated and confused, with the result that the present system of land tenure is completely unsuited to the compelling requirements of development. It seems that hitherto the importance of the land tenure system and its impact on production, have been underestimated, if not neglected, in the three countries.

330. At the present time, the land tenure system in the three countries is a very serious curb on all development enterprises, so that its reform must be envisaged.

Customary land tenure law

331. The customary law of land tenure still prevails throughout virtually all the territories of the three countries, and the productive (agricultural) work of the inhabitants is carried out within that framework, in accordance with the relationships that the law prescribes between individuals, between individuals and communities and between communities and the land they occupy and cultivate. Whether or not this right has been recognized by the law (in what manner will be seen later), and whether or not it has been subjected to amendment, it remains the main basis upon which social relationships in traditional communities are, for the most part, founded.

332. The rights exercised over land are of a basically different nature from those in the West, and when they are considered, one must not rely upon the concepts and criteria of Western law.

333. Such laws, of land tenure, in which the conception of private property on the Roman model is one of the basic elements, can scarcely be used as a standard of comparison or guide, as even their terminology covers concepts that are completely non-existent in African customary law. Thus, it is appropriate to use terminology borrowed from Western law only with great circumspection, and in default of a better alternative, when an attempt is made to define the relationships whereby men are bound to the land or to each other, through the common links that bind them to the land.

334. As Mr. Boutillier emphasized in the document E/CN.14/SDP/5 of 17 September 1963, it must be considered that these links "form a network of complex relationships, whose implications are religious and political as well as social and economic"; and it must always be remembered that in African agrarian societies, land assumes such importance that the relationships of men to the land have not only conditioned a specific and particular law of land tenure, but have likewise determined the rules of life as a whole, as well as the social relationships and political institutions that prevail in these societies.

335. Mali, the Niger and the Upper Volta, all three of which are located in the Sahelo-Sudanian area, have in various periods of history been invaded and have witnessed numerous migrations, one of the consequences of which concerns us here, as it made the customary law regarding land still more complex. To the rights enjoyed by the original occupiers were added those of the conquerors or new arrivals, and this situation is still felt today. Whether we take the Mossi in the Upper Volta or the Tuareg tribes, or more generally the converts to Islam in Mali and the Niger (sometimes there has been consequent strong Koranic influence), the result has been an overlaying of the original customary land law with a new system.

336. The main characteristic of the customary land law is that private ownership of land, in the Roman law sense, does not generally exist.

337. Land is an asset owned by a community (tribe, clan, family, etc.), undivided. To borrow Western terminology, it might be said of land ownership that eminent domain rests with an entity, the community. This community right of eminent domain is generally symbolized by the presence of a "maitre de la terre" (life tenant), whose original religious and social roles became merged. There is a tendency for this institution to lose its importance.

338. As a direct consequence of the existence of a collective right to land, and the absence of private ownership, no individual can dispose freely of land, acquire land by purchase or prescription or, a fortiori, sell such land. What is common property is inalienable and indefeasible. The community itself, represented by its notables and its chiefs, cannot dispose of this patrimony, which belongs to all. To detach a part of it would amount to depriving a member of the community, living or still unborn, of the share in the enjoyment to which he is entitled.

339. For upon the community's right or eminent domain over property is superimposed what might be called (if Western terminology is retained) the right of enjoyment of families and individuals, to whom is allotted that proportion of collective territory necessary for their subsistence, in accordance with the procedures established by the system of customary law.

340. The family plays a predominant role in the society of the three countries, and constitutes the basic economic unit. The head of the family is the head of the holding. His dependants must, in the first instance, cultivate the family fields, the harvest of which is handed over to him, before they are allowed to cultivate their own land. In the same way as the village land chief manages the land of a village, the head of the family manages the land of which he has been given the enjoyment.

341. Thus, there exists a pyramid of rights that are superimposed upon the land: the rights of the community, which possesses the eminent domain,

the rights of "extended families", of households and of individuals who share among themselves parts of the "domaine utile" (land available for use)

342. To these rights, however, must also be added those of the former conquerors to whom reference has been made above. These conquerors, while declaring that the land, as conquered land, belonged to them, left it with the peasants and confined themselves to levying a tithe, in cash or in kind (Niger, Mali), in order to assert their rights. The tithe, an institution originating in the Koranic law, thus became part of the custom. Generally speaking, however, the conquerors whether Moslems or animists) also took into account the customs of the tribes that they had subjected, so that for example, they generally left the task of nominating the life tenant to the original occupiers from whose ranks he is always chosen. (This may be observed particularly in the Mossi country).

343. The methods by which land is distributed are closely linked with the systems of cultivation adopted, and also with the concern to provide each family group and each individual with sufficient land to sustain life.

344. Thus, at the outset land distribution assumed an egalitarian character, both as regards the amount of land received by each individual, and as regards its quality. A distinction is generally drawn between village fields (infield), which are easily maintained and kept under continuous cultivation; fields in the bush (outfield), situated on the outskirts of the village area, which lie fallow; and, in certain circumstances, other categories of land as well, which may exist according to the district (irrigable land, rice fields, pasture land, etc.)

345. It cannot be denied that this system maintained a social equilibrium, by guaranteeing each individual the means of subsistence; and it was well suited to the systems of cultivation and to the economic and technical level reached by agrarian societies.

346. Since the last few decades, however, new factors have appeared and altered the context in which the customary law is applied.

347. The advent of colonialism, besides political impact, brought in its train, in the economic sphere, the introduction of a market economy, the development of cash crops, and an abrupt rise in population growth.

348. One of the first results of maintaining the customary land systems, and extensive systems of cultivation, while population pressures were growing more acute, was to create a relative shortage of land, which made itself felt all the more acutely, as the communities were generally established in the most accessible, fertile and health areas. Restricted to land that they considered their own, these communities were obliged to share out the same acreage among an increasingly large number of individuals.

349. The results of this were as follows:

- (a) The fallow rotation of bush holdings has become shorter and shorter, causing degradation of the soil, which today constitutes a grave problem;
- (b) Land, while remaining inalienable in principle, has acquired value, and a trend towards individualization of holdings has rapidly become apparent. This tendency has been encouraged by the expansion of cash crops and by the peasant's need to have a monetary income in order to pay taxes introduced by the authorities, and to acquire those consumer goods whose need he feels increasingly;
- (c) This situation has been exploited for the benefit of socially influential individuals in the community, in other words the village chiefs, heads of families, village land chiefs and notables. Although they have not gone so far as to appropriate the land to themselves, which would be prohibited by custom, they have at least gained control of land, maintained their authority over such land and leased it out or caused it to be worked on their behalf;

- (d) The growing importance of cash crops which provide a monetary income that is more and more sought after, leads the heads of families to uphold firmly the practice of family holdings (the harvest of which is their due), and to concede the minimum possible number of individual plots to young married couples or young bachelors, thus preventing them from becoming economically independent. This economic despotism of the older generation within the family unit turns young people away from productive activities from which they derive no income, and forces them to emigrate to the centre of population or to other countries. It goes without saying that this leads to a reduction in yields and production at the very moment when these countries are confronted with the problems of increasing them;
- (e) The characteristic precariousness of tenure under the customary land system was no disadvantage under "normal" conditions, when land was not scarce and there was extensive shifting cultivation. If the quality of the land was the same, one site was as good as another. Yet, with the shortening of the fallow period, on the one hand, and the necessity of increasing output on the other, this precariousness is the chief factor curbing, if not completely halting any land improvement and investment, as no peasant can agree to spend money and work for the benefit of a hypothetical successor to occupancy of his plot of land;
- (f) This precariousness, which stems from the "traditional" customary law, is aggravated by that resulting from the growing scarceness of land. The practice of loaning or leasing land is on the increase. The higher the number of leases and loans (and the number is continually growing in step with population density) the more unstable will become the situation of the peasants, and the less they will be inclined to invest and to increase production. Maintenance of the customary law systems in the present economic conditions may not have resulted in modifying the structure of

The trend towards de facto individualization in general, and towards affirmation of the more or less established rights to the land of certain individuals, has not been accompanied (or followed) by the progress in farming techniques that has occurred in other countries. The crop systems have not developed, and have remained based on the practice of leaving the land fallow for a long period, and on the techniques of manual labour.

From this it follows that the structure and dimensions of the holdings (the latter being limited by the working capacity of the individual) have remained unchanged, as has yield. That situation is not without its serious aspect at this moment, in which the problems of development of agricultural production confront the three countries.

Yet it has been seen elsewhere that every effort aimed towards introducing more intensive agricultural methods is seriously impeded by the customary system of land tenure, which regulates almost the whole of land under cultivation. Therefore, the reshaping of this system must be regarded as an urgent necessity.

Can the constructive legislation introduced by the colonial authorities and the measures already taken by the independent governments, be seen as a starting point for a reform of this kind? That is the question which must be considered.

The contribution made by constructive legislation

350. Neither the colonial authorities nor the representatives of the new foreign interests in Africa could bring themselves to accept such a nebulous situation regarding land as they found in the countries after the colonial conquest. It was necessary for the physical establishment of the new comers to assume a legal character, and to have this guaranteed and resting on secure legal foundations. Without going into the details of the legislation introduced since the beginning of the century approximately, or into its development, the measures that still remain in force today may be summarized as follows:

- (a) Establishment of the land registration system, which by means of an appropriate procedure permits accession to exclusive ownership with full legal rights, where the property is registered and provided with a title deed in proper form, admissible in evidence before a court, and alienable;
- (b) Promulgation of legislation relating to state property;
- (c) De jure recognition of customary land rights, both individual and collective, and the possibility of transforming these into rights of full ownership by means of the registration procedure;
- (d) New measures designed either to limit certain customary rights or at least certain practices, as well as to extend the prerogatives of the State and its ability to intervene in land questions.

Registration

351. The registration system was introduced already in 1906 through a decree applicable to all the former French possessions in West Africa and Central Africa, subsequently replaced by a decree of 1932 that is still in force today.

352. Despite the advantages which registration brings to those who apply for it, it now affects also an infinitesimal proportion of the territories of the three countries, and the majority of title deeds cover urban sites. The peasants have completely ignored this procedure and virtually never use it. It does not appear that they are likely to alter their attitude in the near future, as this institution firstly conflicts with ancestral tradition in question of land and secondly it is an optional institution for which payment is required, and is generally beyond the means of the peasant.

353. However that may be, the general spread of registration is not calculated to solve the land problem in Africa. The issue of a title deed to property implying the possibility and right of alienation, may benefit only certain privileged persons, cause the peasants to run into debt

and concentrate property in a few hands (the latter tendency is already noticeable, although in other forms), and the establishment of large estates, which are just as prejudicial to the development of agriculture as the fragmentation of holdings, and which, moreover, might have the effect of dispossessing the peasants and aggravating unemployment and underemployment.

354. Contrary to what one might suppose, legislation affecting state property (in the strict sense) has been rather a factor of confusion than of clarification in the juridical situation of land, owing to the fact that a clear distinction has never been drawn in the former French colonies between what is private land (foncier) and what, strictly, is state property (domanial).

355. French legislators began by decreeing (ordinance of 15 November 1935 applicable to all the territories of the former French West Africa) that "territories that were vacant and without an occupier belonged to the State", without at the same time providing a clear definition of what was meant by land that "was vacant and without an occupier".

356. Now this concept is a concept of Western law, stemming precisely from the existence of a very well-defined law of ownership, in order to designate land that was not subject to such rights.

357. In Africa, the right of ownership in the Roman law sense does not exist, and the fact that certain lands are vacant, in other words, unoccupied, is of no intrinsic significance. A piece of land, whether it is cultivated or lying fallow, pasture land or game hunting territory, is virtually always subject to the authority of a community.

358. In the absence of a definition of land that is "vacant and without an occupier" in the legal text of 1935, the greatest confusion prevailed and it was impossible to draw a limit between what belonged to the state and what remained to the community, that is subject to the system of customary law.

359. A direct consequence of this confusion was that the Direction des Domaines was not only entitled to grant concessions to third parties on demesne lands of the State (domaine privé de l'état) but could even do the same concessions on land recognized as being the property of communities and subject to the rights of customary law.

360. There was thus a permanent, latent juridical conflict between the State as owner of ill-defined demesne lands, and the communities who considered themselves the owners of all land.

361. The colonial authorities themselves became conscious of this disquieting situation, and appeared to grasp the fact that, in order to promote better land use, it was necessary to define its status with greater precision, to recognize attribution to the communities of all the rights which they could hold, and to draw a clear distinction between what was demesne land of the State and what was not. Two decrees of May 1955 and July 1956 were promulgated in order to reorganize the system governing state property introduced by the ordinance of 1935.

These legal texts had the advantage of clarifying a number of facts:

- (a) They confirmed the customary rights of land tenure of the communities (without, however, defining their character or ensuring their consistence);
- (b) They provided a restrictive definition of demesne land of the State, and abolished the reversion of vacant land without an occupier to State ownership;
- (c) They afforded to holders of customary rights an opportunity of having these confirmed, and of obtaining a certificate of ownership (livret foncier) guaranteeing such rights, and of transforming them later through an appropriate procedure into the rights of full ownership (registration).

362. Although they did this much, the decrees of 1955 and 1956 allowed a certain measure of confusion to persist, as they nevertheless permitted the State to grant concessions on land that was subject to customary rights, although only on condition that the beneficiaries of such rights had freely renounced them.

363. Whether the states concerned have "nationalized" these decrees (like Niger), or whether they continue to recognize their validity although they were introduced by the former colonial power (like Upper Volta and Mali), it is these legal texts that represent the essence of constructive legislation in the sphere of demesne land of the State and, what is far more serious, of private land. Now these texts contain an implicit contradiction, in that on the one hand they confirm customary land rights and on the other hand permit the State to concede them to third parties, always with the proviso that the communities' agreement be obtained.

364. It should be made clear that it is not the principle of State intervention in land management as such that is in question, nor even that of the possible transfer to state ownership of certain land or of all land. What is a matter for concern is the confusion which exists between the State property and the patrimony of the communities, the prerogatives of the State and the rights of third parties, as well as the lack of precision concerning the validity of the customary law. This situation is prejudicial both to a policy of State intervention and also to possible initiatives taken by individuals with a view to land improvement.

365. In order to make possible full use of the land, which is a prerequisite of agricultural development, the following would be necessary:

- (a) That an end be put to the uncertainty concerning its legal status;
- (b) That all land be placed on the same legal basis;
- (c) That this legal basis be conceived in such a manner as to ensure security of tenure to agriculturists;

- (d) That the trend towards concentration, which is already becoming apparent, should be halted by abolishing the privileges enjoyed by certain classes;
- (e) That suitable measures be taken to shield the peasant from dispossession, in particular by prohibiting, or by limiting as far as proves feasible, the possibility of land being alienated.

366. A number of laws or regulations have already been passed by some governments in order to ensure security of tenure, or to impede others gaining control of the land, or to facilitate State intervention in their management.

- (a) In Niger, Act No. 62-7 of 12 March 1962 abolished the privileges acquired in connexion with Chieftdom Lands, and decreed that these lands should become the property of those cultivating them. Although this text covered only a small proportion of land, and dealt with "ownership" subject to customary law (leaving aside the contradiction implicit in the description), it represented an important advance, in view also of the fact that, unless it could be assigned to an agriculturist or in case of forfeiture, these Chieftdom Lands would be treated as demesne lands of the State, which the State would be entitled to redistribute, instead of their reverting to the community, in other words to the jurisdiction of the head of the community or the village land chief. Similarly, in Niger a bill was adopted to abolish the tithe.
- (b) In Upper Volta and Niger, legal texts confirming customary rights provide that individuals or communities, holding such rights may register them and thus acquire full ownership. Besides, however, the disadvantages already stressed above that are involved in the issue of an alienable title to property, this possible method of stabilizing rights does not suffice to clarify the legal situation of land, nor to establish tenure where the rights of a community are concerned.

Indeed, in Niger, in particular, the law provides that in this case " heads of families composing the community and all other notables that are members of that community are invited to determine in a convention enacted in the presence of the head of the administrative district, and recorded by the local law court of second instance, the method of occupation and administration that should govern real estate belonging to the community. " In other words, the land is recognized as being the property of the community, but its management will very probably remain governed by customary law (that is the point of the convention), which will, generally speaking, perpetuate within the framework of recognized community property, the situation of precarious tenure in which the peasants find themselves. Moreover, if this procedure were followed, it would not result in the establishment of a common legal basis applicable to all land, but in as many systems as there were conventions, each community being able to manage its land as it thought fit. As far as registered title deeds are concerned, the State will no longer be entitled to intervene in the management of land, nor to take the necessary measures to stabilize tenure.

- (c) In Upper Volta, a bill was adopted authorizing the government to set aside for the State a proportion of the land that had been the subject of special improvement, and to declare territories that were sparsely populated or far-removed from centres of population, to be state property. This law, although in places lacking in precision, is a first step towards solving the land problem, as it will allow exemption from the provisions of the customary law in cases either of intended investment on the land or of projects for rural settlement. Such exemption was a very difficult matter until this law appeared, in view of the fact that all land was considered to belong to communities, which could, at least in principle, oppose the settlement of outsiders.

(d) As far as Mali is concerned, no new law has been introduced with a view to reforming the land situation, with the exception of an ordinance of 1959 which had, in practice, the effect of transforming occupancy permits (which were mainly applicable to urban sites) into rights of ownership, and which had no impact upon the general problem of land. Laws dating from the colonial period have not been abrogated, and are, in principle, still in force. Nevertheless, the State intervenes whenever it thinks fit by de facto measures. In practice, all land except land for which a registered title deed exists, is considered as State property. Up to the present, in view of the authority that the Government enjoys and the pressure that it can exercise, this de facto situation has been allowed to continue. It is certain however, that a government or government department would be unable to proceed and to manage in a proper manner its own patrimony and that of its citizens by generally resorting to arbitrary action. A proper legal basis is necessary for every action taken.

Whether under liberal system or, on the contrary, a policy of state control, and whether the politico-economic approach lead towards individualization of ownership or towards the nationalization of land, it is absolutely necessary, just as much in Mali as in Niger or in Upper Volta, to regularize the legal situation of land once for all, and to codify the law.

367. In view of the economic situation of the three countries, and of the condition of the rural areas, of the simultaneous existence of the systems of customary law and that of positive rights, of the compelling demands of the development on which the three countries have set their sights and of the absolute priority accorded by them to agriculture, land reform should be carried out and take into account the following factors:

- a. The necessity of bringing to an end the confusion existing between state property and community land and of drawing a very clear distinction between these two categories. A similar consideration would be that of bringing to an end the confusion which reigns at the administrative level.

The State as owner of its demesne lands acts in the capacity of a private proprietor, and not as an agency of state direction and trustee for the population. The State Lands Department should therefore have jurisdiction only over demesne lands of the State to the exclusion of all others. Problems concerning other categories of land (registered or customary) should be entrusted to specialized departments or to special jurisdiction (as occurs elsewhere) or ordinary law jurisdiction, distinct and independent from the lands department.

The fact that one and the same department, the lands department, should be responsible for demesne lands of the State, for land registration and for security of land ownership, and for land under the customary law system is proof of the confusion that reigns in land questions, for which it is at the same time one of the reasons.

- b. Efforts should not be confined to recognizing customary land rights, but should also be made to transform them and, at the same time, to render uniform and codify such rights. Whether this transformation should be a radical one, and end in the abolition of customary rights, as appears to be the intention in Mali, or whether the process is carried out by stages taking into consideration such elements as may prove of value in the customary system, is a question of the political rather than the legal approach. In either case, however, the transformation should tend to have the following aims:

- (i) To define clearly the rights of communities and perhaps also to limit them to their real requirements, so as to make available to the State land on which the work or rural settlement could be undertaken. This might result in a better utilization of the soil, and slow down the degradation process;

- (ii) To institute a common legal basis by the promulgation of a single status covering all community land;
- (iii) To give security of tenure to the peasants, so as to encourage agricultural investment;
- (iv) To protect this tenure, in particular by prohibition of the right of alienation, or at least of its limitation. (The problem ceases to exist in cases where there is general or even partial, nationalization of land, as for example with the Office du Niger, where the peasants are assured of permanent occupation of the land, with the provision that they do not cease to cultivate it.)

368. Although the governments are perfectly well aware of the importance of land questions, no steps have been taken to study them thoroughly and to propose radical solutions for reform. Or else, the studies had been made with a very limited approach (land surveys).

369. It cannot be too strongly recommended to the governments that they should tackle these questions as soon as possible; in default of this, the land problem threatens to become either a bottleneck in agricultural development, or else governments may be led (which has already occurred) to overstep their own legal powers in order to solve the problem.

HEALTH PROBLEMS

370. In Mali, Niger and the Upper-Volta, the health situation poses problems of major importance. The main aspects of these health problems should be emphasized as well as their direct influence on development problems in the three countries. The following are the general characteristics of this situation:

(a) A very low level of health, by reason of the lack of hygiene, of certain deficiencies in nutrition, and of working and living conditions that are often very difficult. This situation particularly affects the children, whose mortality rate is very high;

(b) The existence of endemic diseases, which afflict a large proportion of the population and leave them in a state of physical debility. These diseases impede development enterprises, and oblige the Government to spend considerable sums of money on combating them;

(c) Periodical epidemic outbreaks of certain diseases, which find a fertile breeding ground and often do very severe damage;

(d) Notoriously inadequate means of dealing with such a situation, both as regards funds, equipment and staff.

371. One of the best indicators of the level of health and, more generally speaking, of the living standards of the populations of these countries is provided by the mortality rate, and in particular by the infant mortality, which is as follows:

	<u>Mortality rate</u>	<u>Infant mortality rate</u>
MALI	30 per cent <u>1/</u>	147 <u>2/</u>
NIGER	32 per cent <u>2/</u>	---
UPPER VOLTA	30.5 per cent <u>3/</u>	174 <u>3/</u>

372. These rates are among the highest at present found. The expectation of life in these countries is very low: 30 - 33 years. Approximately half of the population die before their thirtieth year. In the Upper Volta, 360 children out of 1,000 die before reaching the age of 5 years.

373. It is obvious that a situation like this places a very heavy burden on the economy of a country, and that enormous labour and production potentialities are wasted as a result of this terrifying proportion of human lives lost, without taking into consideration what that represents in terms of physical destitution and mental agony, and of reduction in the working capacity of those men who are fortunate enough to remain alive.

374. The vulnerable sections of the population comprise mainly expectant and nursing mothers, infants at the end of the suckling period and during weaning, and adolescents between the ages of 13 and 16. Broadly speaking, the period of danger lasts from March to July (pre-harvest shortage), most of all among sedentary farmers in the deltaic areas.

375. An infinite number of factors combine to create a situation of this kind: hygienic conditions, housing, nutrition, working conditions, etc. To these "basic" factors are added the continuous effects of endemic diseases and the intermittent, but very often fatal effects of epidemic outbreaks, which attack organisms that are debilitated and in a condition to offer only reduced resistance.

1/Annuaire statistique de la République du Mali (Statistical Yearbook of Mali)

2/Recent demographic levels and trends in Africa, E/CN.14/325 Part B and Perspectives décennales 1965 - 1974 de développement des services de santé du Niger, Nov. 1964.

3/La situation démographique en Haute Volta (Service de statistique 1960-61) (The Demographic Situation in the Upper Volta 1960 - 1961)

376. By reference to statistics, it is easy to find confirmation of the considerable proportion of persons suffering from the endemic diseases that are rife in Africa: malaria, trypanosomiasis, leprosy, the trepanematoses, various parasitoses, tuberculosis, etc.

377. Although trypanosomiasis is generally on the decline (for a number of years there seems to have been none at all in Niger), and although leprosy appears to have been stabilized, malaria afflicts almost everybody and antimalarial measures have produced only very limited results. As far as the various parasitoses are concerned, the situation may be summed up by the disturbing figures which were given to us by Inspector-General Richet, Permanent Secretary-General of the Organisation de Coordination et de Coopération pour la lutte contre les Grandes Endémies (OCCGE), for one of these diseases:

378. In the Upper-Volta, with 4 million inhabitants, 400,000 suffer from onchocerciasis; 40,000 are completely blind as a result of this parasitoses; 1 inhabitant out of every 10 is affected; and 1 out of every 100 is blind.

379. Tuberculosis as well poses a particular problem, being almost always an imported tuberculosis, and the consequence of a special economic problem. In the three countries, and particularly in the Upper Volta and Niger, a large number of young men go down to the coast (Ghana, Nigeria, the Ivory Coast, etc.) to look for work, especially during the dry season. They live under very difficult housing and nutritional conditions, and contract tuberculosis easily. When they return to their own country, they spread the disease far and wide. There is thus a continuous process of infection, of which the original focus lies outside the country; and the fact that those spreading the infection are mobile and difficult to discover does not in any way facilitate combating the disease.

380. In Mali, approximately 2 per cent of the population are infected, and Niger and the Upper Volta have about the same proportion. This infection, as the Minister for Health of Mali pointed out to us, has a very serious impact on the economy, both because of the number of persons whom it affects, and because of the very high cost of anti-tuberculosis measures.

381. In those general conditions, it should not cause astonishment that the epidemic diseases which periodically develop very often prove fatal.

Measles, which in the developed countries is a mild complaint and may cause 1 death in 10,000 cases ^{causes} 50 per cent mortality in the countries with which we are dealing as it is accompanied by broncho-pulmonary and intestinal complications.

382. Cerebro-spinal meningitis also periodically causes havoc. For these diseases, as for others, the remedies are sometimes simple, but the difficulty arises from the distances that usually separate the sick from the nearest doctor and from medicaments.

383. Systematic vaccination campaigns cost a great deal; but have produced spectacular results for example with measles in the Upper Volta; and their general use should be encouraged.

384. Action to improve the health situation should thus be taken at three levels:

(a) The general improvement of hygiene and of living conditions; medical examinations; maternal and child welfare; housing; better balanced nutrition; general raising of the level of living, which involves a series of problems in the economic and social spheres (increases in production, housing policy, mass education, etc.);

(b) Combating the major endemic diseases;

(c) Combating the epidemic diseases.

385. In view of the direct impact of the health situation on the economy of a country, planning in this field must be closely co-ordinated with general planning. This was realized by Niger and Mali and explains the ten-year health plans worked out in co-operation with bilateral technical assistance agencies and WHO. Every operation for improved use of resources and every development project should necessarily be accompanied by, or should include, health measures for the improvement of hygiene and the eradication of existing endemic diseases or, at the least, very serious efforts to restrict their spread. Nevertheless, an integrated operation of this kind is quite difficult to carry out.

386. To take but one example, a hydro-agricultural development to promote rice cultivation in the Tiao Valley at Loumana, in the Banfora region of the Upper Volta covered 1,600 hectares of land and cost 300 million CFA francs. From 1959, however, when work was completed, until the present time, only 600 hectares have been cultivated, because the population is abandoning the area, which is a centre of onchocerciasis.

387. According to Inspector-General Richet, although it is difficult to undertake the eradication of this parasitosis, it is relatively easy to confine it very strictly within well-circumscribed areas, because both the breeding grounds of the sand fly (the vector) and the method of combating it are known. Thanks to proper co-ordination between the health departments and the departments responsible for development planning it will from now on be possible to avoid loss of time and of huge sums of money (at the moment the cost of land improvement per hectare cultivated must be reckoned at Fr CFA500,000 instead of 186,000) as well as serious loss of potential production and earnings.

388. As the most fertile areas, especially the areas that can be irrigated, are also those which are most subject to endemic diseases such as malaria and trypanosomiasis and other parasitoses, one can appreciate the importance of health measures in the more general framework of development planning.

389. If, moreover, a calculation is made of all those persons infected with malaria, tuberculosis, leprosy and various parasitoses who are rendered either permanently or temporarily unfit for work and out of circulation for production purposes, it will be realized what effects the health situation can have in the economic sphere.

390. Unfortunately, Niger, Mali and the Upper Volta have only very inadequate means at their disposal to deal with this situation, and a great effort will be necessary to surmount the difficulties encountered. In the Upper Volta, the health budget represents 8.6 per cent of the national budget; in Niger and Mali, the figures are 9.1 and 10.5 per cent, respectively, but the corresponding absolute figures are very low compared with what is required.

391. The health infrastructure is very weak: there are 8 hospitals in Mali (with 2 in process of completion) providing about 2,000 beds (or 1 for every 2,250 inhabitants). Niger has 1,800 beds (0.6 for every 1,000 inhabitants). Each of the three countries possesses only a few hundred dispensaries and medical aid posts, whereas there are several thousand villages dispersed over enormous distances. Maternity hospitals, likewise, are very few in number.

392. As far as staff is concerned, this is notoriously insufficient in numbers. There are about 50 medical practitioners in the Upper Volta (1 for every 100,000 inhabitants), about 100 in Mali (1 for every 40,000 inhabitants) and a little more than 40 in Niger (one for every 64,000 inhabitants). Furthermore, the proportion of doctors is in reality much smaller in the countryside, as a large number of them are concentrated in the capitals. Almost all the practitioners are expatriates provided by technical assistance bodies. Niger has only 4 indigenous doctors and medical practitioners, Mali about 15, the Upper Volta 3 (of whom none are in practice); the other indigenous practitioners are "African doctors", who have failed to complete their studies at the University of Dakar. There are 46 of these in Mali and 12 in the Upper Volta. (These figures are included in the total strength of medical practitioners mentioned above.

393. Male nurses are likewise scarce (475 in Niger, and about 1,000 in Mali) and of very uneven training. In most cases, after two years of training, they are sent off into the bush, and are stationed in the most remote corners with the prerogatives and responsibilities of doctors (consultation, diagnosis, treatment, power to order transfers to hospital on health grounds, etc.), which is in flagrant conflict with their real qualifications.

394. In spite of this situation, the three countries have made very praiseworthy efforts to achieve the establishment of a health organization capable of reaching the maximum number of persons. Whether by the establishment of medical districts, of medical aid posts and dispensaries or by the organization of mobile medical units (the OMNES team in Niger), they have everywhere tried to make the most of the infrastructure and staff available.

395. The health system remains however, very defective, and a large proportion of the population cannot receive the necessary medical care without great difficulty. Moreover, medical examinations with a view to case-finding, prophylactic control and measures to eradicate the major endemic diseases, which imply the deployment of very considerable resources, are rendered very difficult by reason of this situation, but are nevertheless envisaged, with considerable moral courage, by Mali, and Niger in their ten-year plans and to a certain extent also by the Upper Volta.

396. Nevertheless, attention must be drawn to the very important part played in these three countries by the OCCGE (Organisation de Coordination et de Coopération pour la Lutte contre les Grandes Endémies) including seven French-speaking countries of West Africa.

This agency, which receives 50 per cent of its funds from French aid, contributes very effectively towards combating the main endemic diseases that are rife in West Africa, and has the effect of alleviating by its presence the heavy tasks confronting the indigenous health services in respect of both staff and infrastructure (and especially research agencies).

397. Without encroaching upon a province about which only specialists are competent to pronounce, it would nevertheless appear necessary to stress certain aspects of a possible health policy, particularly as regards its impact upon the whole range of problems connected with economic development.

398. Among the very numerous and heavy tasks that are incumbent upon the countries in order to improve the health situation, particular attention should, it seems to us, be paid to the following questions:

(a) Mass health education. This could be included within the framework of adult education programmes (and even school curricula). The application of a few elementary rules of hygiene, by the populations concerned, in matters of child care, nutrition, modernization and housing and preventative measures against certain diseases might considerably improve the health situation of the country. Co-ordination between the health departments and those responsible for education would be very valuable in this respect.

(b) Training of medical staff (medical practitioners and male nurses) also assumes vital importance, and the authorities of the three countries are perfectly aware of this. It would seem necessary, however, to stress the fact, upon which the Director of Health of the Republic of Niger also dwelt, that a large part of this training (especially for medical practitioners) should take place in Africa. This idea was taken up again by the Inter-regional Seminar on National Health Planning, Addis Ababa, 11 - 22 October 1965. As tropical diseases require a very different course of study from European diseases, and more generally from those of the temperate zones, it would be valuable to consider the possibility of establishing or strengthening African faculties of medicine designed to ensure the provision of high quality instruction, at least in medicine, if not in the basic sciences (biology, anatomy, etc.) which medical students would still be able to acquire in foreign faculties. In this connexion, and in view of the very high cost of higher education, especially medical training, an agreement should be concluded between the various African countries to divide the faculties between them and avoid wastage of funds and teaching staff.

(c) In the more general framework of planning, every development project, especially in agriculture, should be accompanied by measures for the environmental sanitation of the area concerned. While it may be difficult to undertake eradication or strict limitation of all the endemic diseases over the territory as a whole, it is easy to achieve this in restricted areas in which, if that were not done, it might not be possible to derive advantage from the investments agreed to for their improvement. On the economic plane health measures of this kind appear to us essential in order to achieve virtually full employment of the human potential available in a given area.

In these circumstances, co-ordination between the health departments, the planning departments and the agricultural departments is shown to be imperative.

(d) The problems raised by the health situation, and particularly the existence of major endemic diseases and epidemic outbreaks, respect no frontiers. Any action taken with a view to solving them, may achieve only limited results if it is not broad in scope. Co-ordination in this connexion at regional level would thus be very valuable. The example of the OCCGE (Organisation de Coordination et de Coopération pour la lutte contre les Grandes Endémies) provides excellent proof of this. The governments of the three countries, with the assistance of the international agencies concerned, where the need arises, should direct their efforts towards still further development of this co-ordination, which would have the effect of enhancing the value of the individual efforts of each country, and rendering them more effective.

401. Generally speaking, the characteristics of education in the three countries are these:

- (a) The level of school attendance is low;
- (b) The rate of "follow-through" is very low, as the number of pupils completing a full course of study is small in comparison with the number of pupils admitted. It may be noted, for instance, in Niger that for every 100 pupils entering primary school, only 18 obtain the CEP and that more than 40 do not continue beyond the third year of primary education.
- (c) The level of school attendance is very uneven according to the district; while in Niger it varies only between 4.6 per cent (travelling schools in the Tahoua area) and 16 per cent (Niamey town) with a fall of 2.5 per cent in the Ouallam district) it fluctuates between 2.5 per cent (Babo Dioulasso district) and peaks of 70 per cent (Banfora town) and 92 per cent (Degougou town) in the Upper Volta.

Obviously, it is in the countryside and especially in the livestock-roaring areas that the attendance rates are lowest.

- (d) The level of school attendance does not bear a direct relation to the percentage of the budget allotted to education nor to its absolute value. The largest budget (both relatively and absolutely) is that of the Upper Volta. It is likewise the Upper Volta which, with 3.3 per cent, devotes the largest proportion of the gross domestic product to education. Yet the Upper Volta has fewer pupils attending school than Mali, where the educational budget accounts for only 8.3 per cent of the general budget. This probably stems at least in part from the difference in educational "yield", and from the fact that in Mali fewer pupils break off their studies prematurely.

402. Mali, Niger and the Upper Volta have faced the problem, and have tried in varying degrees to reform education, so as to adapt it to the new situation that arose when independence was attained.

The situation as regards general education is summarized in the following table:

	% of the national budget ^{1/} allocated to education	The educa- tion budget as % of the GDP	% of children of school age attending school	CEPE [*]	Diplomas per year			
					Entry to 6th grade	BEPC	BE	Baccalaureat
NIGER	11	1,4	8,9 ^{2/}	757 ^{2/}	559 ^{2/}	174 ^{2/}	94 ^{2/}	18 ^{2/}
UPPER VOLTA	14,6	3,3	9,5	2260 ^{3/}	264 ^{4/}	this figure is missing		
MALI	8,3	1,9 ^{6/} 1,2 ^{7/}	11,4 ^{8/}	educational reform in 1809 ^{8/} Mali abolished the CEPE	418 ^{8/}	19 ^{8/}	64 ^{8/}	

Sources

- 1/ National budgets and documents on national accounts of the different countries.
- 2/ The position of education on 1 January 1964 published by the Ministry of National Education of the Republic of Niger.
- 3/ Figure for 1963. Report on the position in primary education (Ministry of National Education and Technical Instruction of the Upper Volta)
- 4/ Figure for 1963. Prospects for the development of extended secondary education in the Upper Volta (Ministry of National Education and Technical Instruction of the Upper Volta).
- 5/ Same as for footnote 4/ Number of pupils in classes ending in 1963.
- 6/ Figures calculated on the basis of the gross domestic product in 1959 given in the "Rapporteur sur le plan quinquennal de développement économique et social de la République du Mali"
- 7/ Figure calculated on the forecasts of the 1964 gross domestic product given by the "Rapporteur sur le plan quinquennal de développement économique et social de la République du Mali"
- 8/ Statistical Yearbook for 1963 of the Republic of Mali. (In 1964, the level of school attendance had reached 20 per cent, according to a statement made by the Minister of Education during the course of an interview granted to the ECA Study Group.

^{*} CEPE - Certificat d'études primaires et élémentaires
 BEPC - Brevet d'études premier cycle
 BE - Brevet élémentaire
 Baccalaureat - School-leaving certificate giving access to University and other forms of higher education.

) Certificates for
) primary education
) and the first years
) of secondary educa-
) tion.

403. Until very recently, the French system of education, pure and simple, was applied in the three countries. However, this form of education is selective, and is geared to types of training that are non-existent in these countries. Moreover, education was only considered as a factory to provide personnel for subordinate and lower-grade governmental and other posts but a factory of low productivity, as requirements were very limited.

404. Mali appears to have introduced the most far-reaching reforms both as regards structure, curriculum and educational aims.

Mali and the Upper Volta have attempted to take into account the tremendous part played by agriculture. Mali has made agricultural training compulsory in all educational establishments, except those in the towns. (This feature of the programme has not yet been implemented).

Beginning in 1961, the Upper Volta has instituted rural education running parallel with traditional education, and designed for children of between fourteen and sixteen years who have not attended school. The latter system has perhaps more in common with adult education (education of young adults) than with education pure and simple. At present there are 300 rural education centres.

405. In one instance as in the other, the important thing is to eliminate the contempt for agriculture and manual labour that is becoming apparent among those young people who have engaged in studies, and to train a new generation of agriculturalists prepared to understand and apply modern agricultural methods. From this point of view, Niger still appears to lag behind its two neighbours.

406. One of the bottlenecks in the development of teaching is that constituted by the lack of teachers. Thus successful efforts have been made in the three countries to train schoolmasters and endeavour to have less and less recourse to foreign aid. This training is carried out in teachers' training colleges and courses.

C o u n t r y	Number of establishments	Number on roll	Boys	Number on roll	Girls	Number on roll
MALI	3	1170	1	122	1	185
NIGER	3	388	1 (co-educational)	30		
UPPER VOLTA	5 (of which two are private)	991	1			

407. Mali also possesses an advanced teachers' training school for the training of secondary-school teachers (professeurs), (a Special Fund - UNESCO project), and Upper Volta has a training centre for country school masters. (The opening of a further centre is projected).

408. These efforts have borne fruit, as in the Upper Volta all the primary inspectorates are held by Upper Volta nationals, and there are 1,200 national primary-school teachers (instituteurs), which means virtually all of them.

In Mali, all the teachers up to the first stage of secondary education are Malian.

In Niger, the situation looks less encouraging, and demands on foreign technical assistance are greater.

409. A drive has also been made in technical education for the training of middle-level staff. Mali possesses a state supported secondary school (lycée) giving technical, industrial and commercial courses (300 pupils); there are also one apprentice training centre (130 pupils) and one Public Works school (125 pupils).

410. There are also two training centres for agricultural apprentices to train instructors (moniteurs), and two agricultural colleges training first-grade technicians (50 pupils, of whom 39 were Malian in 1963).

411. Niger also possesses a school of agriculture, but of relatively low educational level (BEPC recruitment), one school for veterinary assistants and a special Public Works course.

412. The three countries have administrative training establishments, which train government officials of all levels in Mali, and of category B and below in Niger and the Upper Volta.

413. As far as university training is concerned, this is strictly limited by the number of students attaining the baccalauréat each year. Advanced studies cannot be pursued in the countries themselves, where no universities exist.

414. Mali alone possesses an advanced teachers' training college and an administrative training establishment, which are in a position to admit holders of the Baccalauréat and give them a training of degree standard but in a limited number of disciplines. In this country, there likewise exists a project to establish an agricultural institute to train agricultural engineers. This project is already at a very advanced stage. For other higher studies, students from the three countries have to go abroad.

415. Finally, as far as the education of adults (of whom 98 per cent are illiterate) is concerned, the governments of the three countries have realized the importance of this problem, and have provided for and initiated literacy campaigns. The organization of an undertaking of this size is not easy, and up to the present only a few tens of thousands of people have been reached whereas hundreds of thousands or indeed millions are concerned. One of the serious problems involved in adult education is that of language. Whereas countries like Niger are inclined to impart literacy in the French tongue, Mali apparently wishes to use the languages of the country, which the population already know well and in which it seems that it may be easier to teach them.

416. It is the province of the educational specialists to propose the appropriate orientation of education and the means for its development.

417. Nevertheless, taking into consideration the general economic problems that confront these three countries, it seems possible to formulate some proposals in this field:

(a) Education is not a luxury to be reserved for a minority, nor should its dispensation to all be a target for the immediate future.

During the period in which these countries lag behind education must be considered as nothing more or less than one of the means of developing them. If 100 per cent school attendance is not an absolute necessity in the years ahead --in other words, if school attendance by a part of the population is sufficient to provide the necessary higher-level political, administrative and economic staff, teachers and the like-- it is useless to direct efforts and allocate senior staff and funds to education when these resources could, for the time being, be better employed developing other sectors that are more vital in the present state of affairs. Furthermore, it is, relatively speaking, easier to obtain teachers through foreign technical assistance than it is to obtain engineers or administrators.

(b) On the other hand, adult education seems to us to be of vital strategic importance, and especially that of young adults who have entered or are ready to enter production, and who have decades of working life before them. If they are given access to a minimal education, this may help the country to achieve very considerable progress in production. For that reason, it appears that governments can never devote enough effort or money to the achievement of this objective. In that connexion, the experiment conducted by the Upper Volta in rural education should be pondered, encouraged and developed if it proves to produce results.

(c) The governments should direct their attention towards improving the educational "yield" and avoiding as far as possible educational courses being prematurely abandoned. The cost of training a graduate would be reduced thereby, and for the same overall expenditure the number of graduates would be higher.

(d) The important thing is to provide education, not to provide it in model premises. It may be that too large sums are invested in building classrooms and schools, when makeshift installations would be amply sufficient, especially for primary and adult education. Some time ago, Cameroun conducted a major campaign to popularize "schools under the trees". Mali has decided to abolish the boarding school system in state-subsidized and other secondary schools (lycées and collèges) which should result in considerable savings.

If the educational process is to be developed, simple sheds constructed from local materials can accommodate class, which would require a number of months or perhaps years to start functioning if it were desired to await completion of a permanently constructed and completely equipped school.

Thus, by allocating at least a part of the money earmarked for buildings to running costs, it should be possible to improve education proper more rapidly.

(e) Educational planning should be integrated with general planning. In other words, in the present situation, education should not be regarded as an end in itself. Arrangements should be made so that when graduates of all levels complete their education, they immediately take up their places in production, because these will already have been earmarked and prepared, and the graduates will have been trained with the object of occupying them.

Mali appears to have based its educational activities on this principle. The Upper Volta has arranged for an assessment of the requirements for higher - level supervisory staff up to 1975, so as to organize, in the light of that assessment, education with particular emphasis upon extended secondary education.

Niger has also directed its attention to the problem in preparing the ten-year projections. It seems important that this path should be followed with persistence, rather than that efforts should be directed to achieving 100 per cent schooling at any price, which would be very expensive, the need for which is not immediately discernible and the possible consequences of which in the employment field are unpredictable.

SYSTEMS AND TECHNIQUES OF CULTIVATION

418. Systems of cultivation may be examined from the following various aspects:

A. The economic nature of the system, i.e. whether it is a capitalist or socialist system. In a capitalist society private ownership of individual farms is a basic feature. On the other hand in a socialist society cultivation is undertaken collectively without ownership of land. In the surveyed countries cultivation is usually done on an individual basis and the land belongs in most cases to the state. So the system of cultivation is a mixture of capitalism and socialism. It is believed that an emphasis on a specific economic doctrine may tend to stimulate production as well as accelerate economic development. To illustrate if the capitalist system is chosen, measures should be taken to provide security of tenure through individualization of land, and to provide incentives for the maximization of profits and income. If the socialist system is chosen then measures should be taken for the collectivization of farms, for price control, for central management and for similar other actions.

419. B. The nature of agricultural development, i.e. whether economic development is taking place through horizontal or vertical expansion. In the former increase in total agricultural output is obtained from cultivating additional area of land under the same techniques, efficiency and productivity. Increase in total output, under the latter system, is realized from the same area of land by adoption of more modern techniques and by raising efficiency. In the three surveyed countries agricultural expansion has been achieved mostly through horizontal expansion. It is believed that more emphasis should be given to vertical expansion since it requires less capital and lends itself to higher and quicker returns.

420. C. The stage of agricultural development, i.e. whether the system of cultivation is mainly characterized by (a) traditional system with respect to crop as well as livestock production or (b) transitional system where some production is marketed and improved techniques are adopted or (c) commercial agriculture where most of the production is marketed; large-scale and high mechanized farming is practised and resources are efficiently utilized and optimally allocated.

421. In the investigated region the traditional system is dominant. Under this system crop production is mainly for subsistence and techniques of production are primitive. There is hardly any application of improved seeds, pesticides, fertilizers, modern farm tools nor equipments nor any such concern for economic values. Cost of production consists mainly of unpaid family labour and output is for subsistence. Existence rather than profit maximization is the main concern of the cultivation. Food crops such as millet, sorghum and casaun are grown under these conditions. This system is also characterized by the practice of "shifting cultivation" or more precisely "land rotation" under which land is left fallow for a long period of time --from 5 to 15 years-- in order to restore soil fertility. Although the "land rotation" system implies an abundance of land and lack of population pressure it also means that only a fraction of arable land is cultivated. The extent of fallow land in this region has been disclosed previously in this respect.

422. Under the traditional system livestock raising is characterized by (a) unsettled or rather nomadic practices and (b) segregation from crop production. Under these conditions it is very difficult to improve the quality of livestock by breeding, selection and feeding; to control disease; and to organize the marketing of livestock and livestock products. The result is that while livestock utilize a substantial portion of the agricultural resources-- as has already been mentioned, --the results of such activities are inferior livestock products; diseased, mal-fed animals; loss of income due to marketing of livestock on the hoof which result in loss of weight and death of part of the cattle.

423. The traditional system with respect to crops and livestock has to be modernized. Livestock has to be raised on a settled basis and as an integral part of crop production. Initiatives have to be taken by the governments to introduce large-scale schemes which should serve both as a model and as a source of revenue.

424. The transitional system is mainly followed in the production of cash crops which are usually produced for exports such as cotton and ground nuts. The system is confined to about 10 per cent of the cultivated area of the region. Under this system, selected seeds are used, improved methods of farm techniques are adopted and fertilizer is applied. Yields are relatively high but cultivator's income is not substantially superior to that of the subsistence cultivator because cash crops are grown on small size holdings. It should be noted, however, that cultivators do not specialize in the production of either cash or subsistence crops but rather produce both types of crops and in most instances they give priority to food crops.

425. Commercial agriculture is not common in this region. Even in existing large-scale schemes such as the Office du Niger in Mali land is allotted in small size holdings to cultivators who produce subsistence crops as well as grow small plots of cash crops such as cotton and rice. The total area of the Office du Niger is estimated at about one million hectares of which only about 50,000 hectares are cultivated. The expansion of this project should prove to be a key factor in agricultural development in Mali as well as a demonstration of improved agriculture for the cultivators. The other two countries should select similar productive areas to establish large scale agricultural schemes.

CO-OPERATIVES CREDIT AND AGRICULTURAL EXTENSION

426. These three disciplines have as their chief object the mobilization and development of human potential.

427. The three countries which have been the subject of this survey all allocate high priority to a more efficient and productive integration of the farmers into economic development.

428. The policy adopted and the methods followed to achieve this aim vary from one country to another.

429. On the other hand, the methods for which provision is made in the different plans in each of countries for the promotion of co-operatives, the development of agricultural credit and the intensification of agricultural extension are relatively ineffectual compared to the priority which is given them on paper.

430. There is nowhere enough supervisory staff, but owing to both bilateral and multilateral technical assistance this gap is gradually being filled. It is however, often observed that young recruits are not always animated by the desirable spirit of loyalty and self-sacrifice.

431. Furthermore, it is not enough to train new supervisory staff. The Government must also have the means to offer them equitable remuneration and to equip them (offices, transport, demonstration material, etc.)

1. Agricultural co-operatives

432. In this field, in particular, the three countries in question have broken with the past. The former Sociétés de prévoyance (SP), and the Sociétés mutuelles de développement rural (SMDR) have been abolished or else greatly modified. More democratic bodies have been established which allow fuller participation to the members. This fundamental change was indispensable for the establishment of the co-operative movement, upon which the governments of these three countries are greatly relying to contribute to harmonious economic and social development on new healthier and more dynamic bases.

433. It must be admitted, however, that hardly anything has been done to train the co-operators that is to say those to whom new responsibilities are granted but who as yet know nothing, or almost nothing, about their duties and their privileges as members of co-operatives. Purchasing (agricultural equipment and necessities), selling (marketing) processing (manufacturing, preparation and improvement, etc.) and production are the chief aims and objectives of co-operatives in these countries.

434. In the Niger, the Société de prévoyance and the Sociétés mutuelles de développement rural as well as the Joint Fund of these organizations were dissolved by law 62-38 of 20 September 1962. The same date marked the creation of the Sociétés Rurales de Crédit et de Coopération (SRCC) under law 62-39, and of the Union Nigérienne de Crédit et de Coopération (UNCC), under law 62-37.

435. The UNCC is the agency responsible for the co-operative movement in the Niger. A number of co-operatives in addition to the SPs and the SMDRs were set up after 1953 and engaged in the most diverse activities: the supply of consumer goods; production, processing, preserving and sale of agricultural commodities; livestock-raising; fisheries; cottage industries; transport and building enterprises. All these organizations have either closed down or disintegrated.

436. There are more hopeful signs for the future owing to the activities of the UNCC and its experts. The following passage is quoted from the UNCC report:

"The following co-operative organizations were set up on 31 March 1964:

A. Société rurale de crédit et de coopération (SRCC) at
Tillabéri rice-growing area:

4 multi-purpose co-operative societies

4 co-operative credit societies

Niamey Société rurale de crédit et de coopération (SRCC)

market-gardening area:

- 1 marketing co-operative society
- 2 co-operative crédit societies

Société rurale de crédit et de coopération (SRCC) -SAY

ground-nut and cotton growing area:

- 4 pre-cooperative groups

Société rurale de crédit et de coopération (SRCC) Maradi

ground-nut growing area:

- 2 pre-cooperative groups
- 3 co-operative credit societies, including 1 of fishermen.

Société rurale de credit et de coopération (SRCC) Bouza

cotton-growing area:

- 1 pre-cooperative group

Société rurale de crédit et de coopération (SRCC) Madaoua

- 2 co-operative credit societies

Société rurale de crédit et de coopération (SRCC) Zinder

ground-nut growing area:

- 1 pre-cooperative group at Droum

market gardening area :

- 2 agricultural co-operative credit societies

cow-pea growing area:

- 1 pre-cooperative group.

Société rurale de crédit et de coopération (SRCC) Magaria

ground-nut growing area:

1 pre-cooperative group. "

437. It would be premature to judge these new co-operatives which, are for the most part in their initial stages.

438. At present, the UNCC employs 7 co-operative officers holding certificates from the Sikasso School in Mali and from the Centre national de la coopération (CNCA) at Paris and in a similar category to conducteurs d'agriculture (agricultural leaders). In addition, there are four encadreurs coopératifs, in a similar category to agricultural extension workers, two of whom hold certificates from the Sikasso School while the other two have attended a three months' course in Israël and who are responsible for carrying out tasks in the field, in particular that of promoting the co-operatives spirit in a fixed area. Eight other encadreurs coopératifs have been trained on the spot by an expert from the Bureau pour le développement de la production agricole outre-mer (BDPA)

439. This new organization was recommended by two experts, one from TAO and the other from ILO, who were called in for consultation by the Government of Chad at the end of 1961 and beginning of 1962. To assist in its establishment, the Government has available highly qualified officials, advised by experts supplied under French bilateral aid. An ILO expert is playing a capital role in the organization of co-operatives (primarily for consumer's but also for marketing) in rural areas.

It is evident that the number of real co-operators is very small at present.

440. The new organization appears to be well adapted to the requirements. Adequate technical assistance in the form of advisers is being given at present and will have to be maintained for some years.

441. The Niger requires more intensive foreign aid in the training, equipment and use of a much greater number of co-operative supervisory personnel. It is obvious that over a period which might be estimated at from 5 to 10 years the co-operatives will be able to undertake only a very modest share of the remuneration involved for this supervisory personnel, -- the share increasing as the commercial activities of the young co-operatives develop.

442. In the Upper Volta the co-operative movement is developing relatively well. Among the 40 agricultural co-operatives set up since 1957, 24 are running efficiently, 3 are running moderately well, 2 are newly established and the others are dormant. Out of 6 consumers co-operatives, 2 are running well, 2 are newly established and 2 are inoperative. Out of 6 multi-purpose co-operatives, 4 are running well and 2 are dormant. There exist another 10 co-operatives which are more or less connected with agriculture (fishermen, transport, furniture and building, clothing, meat), 5 of which are running well. The fishermen's co-operatives are the least satisfactory.

443. Mutual guarantee societies, of which 53 existed at the end of December 1963, function fairly well especially when properly managed by competent heads of agricultural sectors and when they have the interests of the co-operatives at heart. A considerable number of them are being replaced by co-operatives of the SATEC type (Société pour l'assistance technique et le crédit social).

444. SATEC has trained 384 village agricultural co-operatives in two years within the framework of a programme financed by FAC and costing CFA francs 153 million. These co-operatives have 4,887 members (all farmers who are heads of families), who have deposited a (registered) capital of CFA francs 6,512,900 and obtained loans in equipment (grub hoes, donkeys and carts), valued at CFA francs 59,070,865.

445. The CFDT ^{1/} has set up 19 co-operatives of the same type and supplied them with supervisory personnel. These co-operative of the SATEC type have the following aims: the implementation of rural development projects, the marketing of commodities, the supply of agriculture equipment and mutual credit and guarantee.

A similar programme has also been initiated by the IRHO ^{2/} in ground-nut growing areas.

446. The Direction du paysannat is responsible for the co-operatives and mutual credit associations. Its senior staff is limited: 2 inspectors are attached to its headquarters and 4 other inspectors and 3 co-operative officers make up the field service.

The objectives are as follows: 1 inspector for each département (5), 1 agent for each cerole (40).

447. With a view to preparing for the replacement of foreign development companies such as SATEC, CFDT, and IRHO, in the field of animation rurale, the plan makes provision for the establishment of a national rural development society which will carry out similar activities in one of the five départements.

448. It has not been possible to calculate the importance of the co-operatives in purchasing and marketing transactions for the country as a whole. A summary estimate makes it appear that the co-operatives do not participate in more than 5 per cent of these operations. This means that much still remains to be done in this sphere.

449. Since 1962, the Upper Volta has received assistance from three ILO experts in co-operatives. Their fields of activity were the following: the development of the co-operative movement, training for co-operatives, and training in accounting and auditing.

1/ Compagnie Française pour le Développement des Textiles.

2/ Institut de la Recherche pour les Huiles et les oléagineux.

450. Mali has selected the co-operative system for the organization and development of its agriculture.

"The village is the basic unit, the living cell within which the co-operative spirit is most clearly shown through the activities of everyday life."

451. The Groupements ruraux de production et de secours mutuels (GRPSM) are highly simplified, multi-purpose co-operatives. All the inhabitants of the village are co-operators, once the majority has approved this decision. Law 60-9ALRS of 8 June 1960 provides the legal basis for this action.

452. The Groupements ruraux associés (GRA) which are composed of from 8 to 10 GRPSMS are actually simple federations.

At the head is the Central office of co-operation. Provision has also been made for a higher council of co-operation.

There are already more than 4,000 GRPSMs in the villages of Mali, which number approximately 10,000.

Law 63-21 (ANRM of 25 January 1963) provides a legal basis for the co-operative movement.

453. Under the direction of the Governor of the area, the area delegate for co-operation is responsible for setting up and supervising co-operatives and GRPSMs.

454. The upper-level staff in charge of co-operatives consist of 5 former students of the Ecole supérieure internationale de la co-opération (Paris) and one former student of the Institut Afro-asiatique d'études syndicales et co-operatives at Tel Aviv. Middle-level staff include five persons holding diplomas from the Centre fédéral, Sikasso (Mali).

455. Consumers' co-operatives are also highly developed in the capital and, apparently, in some provincial towns. It is proposed to extend them to the GRPSMs. These co-operatives receive certain privileges from the Government for the distribution of necessities and of edible seeds in particular.

It was not possible to obtain numerical data, as a survey was in progress for a census of the GRPSMs, the number of their members and their registered capital.

2. Agricultural credit

456. While co-operative activity is the motive force sweeping the rural populations towards economic and social progress, credit provides the fuel.

457. However, in developing countries even more than in others "loans are granted only to the wealthy." The concept of credit is furthermore still not thoroughly understood by the farmers, who are at the stage of a subsistence economy. The measures taken in the three countries studied recent measures for the most part dating back two or three years take these factors into account. Loans are granted only to members of the co-operative credit societies, the GRPSMs and the SRCCs. The loans are distributed solely in the form of equipment (for animal draught, chiefly), ancillary material for agriculture or services. Both in the Niger and the Upper Volta, the repayment of loans is well organized. The beneficiaries of these loans are extremely well supervised in all three countries. The only recommendation proposed by the mission is that the credit institutions in the three countries concerned should be strengthened both in capital and personnel so that credit activities can be expanded in accordance with the requirements of development.

458. In the Niger, agricultural credit is provided by three agencies:

- (a) the Banque de développement rural du Niger (BDRN)
- (b) the Crédit du Niger
- (c) the UNCC.

Banque de développement rural du Niger (BDRN) specializes in commercial and industrial credit. The Crédit du Niger is more particularly concerned with social credit (loans on real property at medium- and long-term to individuals).

Agricultural credit proper, to farmer and co-operatives, falls within the province of UNCC.

459. Close links exist between BDRN and UNCC, as the chairman of the administrative board of UNCC is the President and General Manager of the BDRN. The UNCC to the rural development department, as the Director of Rural Development in the Ministry of Rural Economy is ex officio Director of the UNCC.

460. In addition to the financial resources intended for credit transactions, UNCC receives : 30 per cent of the resources of the Fonds de donation for the improvement of rural productivity, and 3 per cent of the budget of the circonscriptions, to cover its running expenses, which result mainly from activities of a social nature involving the education of the rural populations in co-operative methods by the co-operative officers and which is comparable to the duties entrusted to officers of the administrative departments such as those dealing with agriculture, livestock raising education, etc.

461. UNCC has available at present for its credit transactions a capital of CFA francs 157 million. Running expenses for the 1963- 1964 financial year amounted to CFA francs 50 million.

From its inception (1 January 1963) until 31 March 1964, the following loans were granted:

i. Loans to circonscriptions (seed and pre-harvest shortages)	37 loans	80,875,300
ii. Personal loans (animal draught) by SRCC	73 loans	671,100
(establishment and development of farms)	4 loans	604,000
iii. Loans to co-operative credit societies	8 loans	832,920
iv. Pre-cooperative groups and co-operative societies (campaign for the purchase of crops)	8 loans	18,347,475

462. In addition to a number of advisers who are staff members of the Directorate of the UNCC, this institution receives assistance from the BDPA for the training of encadreurs coopératifs at the Kolo agricultural centre, from FAO agricultural mechanization and from ILO for the establishment of co-operatives societies.

463. In the Upper Volta, agricultural credit is also well organized. Since the break-up of the SPs and SDRs in 1959, which ended with an irrecoverable loss of CFA francs 70 million, and since the establishment of the Banque nationale de développement (BND) on 25 May 1961, no agricultural credit is granted without technical assistance (supervised credit). Since 1962, owing to the activity of SATEC which provides technical assistance and guarantees the repayment of loans, agricultural credit has made great progress, as can be seen from the figures given below, taken from the progress report of the BND.

464. From its establishment in May 1961 until the end of 1963, loans granted for agriculture totalled CFA francs 358,116,000 accounting for 24.38 per cent of the bank's activities, which places agriculture second among the categories of loans, immediately after credit for real property (34.19 per cent).

465. For the last quarter of 1963, the position of agriculture was even stronger, with 39.15 per cent of the total amount of loans as against 41.32 per cent for real estate loans.

466. The breakdown of loans by areas shows that the Ouagadougou area receives 84.70 per cent of all loans. Companies receive 22.06 per cent and public bodies 51.80 per cent of all loans.

The breakdown of agricultural loans by category is as follows:

	Short-term			Medium-term			Long-term		
	Number	CFA francs	%	Number	CFA francs	%	Number	CFA francs	%
Pre-harvest shortages	3	-	-	-	-	-	-	-	-
Seasonal agricultural operations	3	40,055,000	91.41	2	304,400	2.74	-	-	-
Equipment	7	3,715,560	8.48	65	10,425,635	93.97	-	-	-
Planting	1	50,000	0.11	1	165,000	1.49	-	-	-
Buildings	-	-	-	1	200,000	1.80	1	3,000,000	100.00
Total	11	43,820,560	100.00	69	11,095,035	100.00	1	3,000,000	100.00

467. In relation to the total, loans for seasonal agricultural operations accounted for 69.69 per cent and those for equipment represented 24.42 per cent.

468. Beneficiaries of production loans are either individual farmers who have furnished adequate guarantees (they are rare, however) or farmers grouped in co-operatives or who have been guaranteed by a co-operative credit association.

469. The remarkable development of loans for equipment (an increase of 928 per cent by comparison with the 1961 financial year) is due to the work in animation rurale carried out by SATEC with aid supplied by FAC. This work aims to make farmers aware of their problems, to group them in small co-operatives, to teach them simple and inexpensive methods of increasing output and to make them purchase equipment at the lowest possible price so as to keep the amortization charges proportionate to the proceeds of farming.

470. The BND is trying to set up its own technical assistance service (supervision of credit) so as to reach areas not covered by SATEC, CFDT or IRHO. It will co-operate with the Directorate of Agricultural Services and the Direction du paysannat. It will have agricultural and credit officers.

471. At present the percentage of unpaid debts amounts to 3 per cent; it is the lowest in Africa. This success is due to the excellent work of the accounting and the collecting departments as well as to the Mossi people's sense of honouring their debts.

472. In Mali, the agencies responsible for agricultural credit have undergone thorough modification in the course of the last few years. They are at present in the midst of re-organization; a special committee is engaged in working out a new system of organization.

473. The Crédit du Soudan, a State company set up within the framework of the law of 30 April 1946, was replaced by the Banque populaire du Mali pour le développement (BPM), in 1960. This Bank which had a capital of 200 million Malian francs was incorporated in the Banque de la République du Mali (BRM) on 26 January 1963, by law No.63-27 ANRM.

474. A survey is in progress at present of all capital formed by the GRPSMs. It is intended to entrust these funds to area banks which will have greater autonomy and thus be more dynamic in the field of credit activity. The BRM will supervise these area banks.

3. Agricultural extension

475. The agricultural services of the colonial era were oriented primarily towards research and intended for those farmers who sought advice. Since independence, the trend has been towards a mobilization of latent productive forces as a whole. For this purpose it does not suffice to approach only those seeking advice, but it is also necessary to stimulate the interest of the farmers and to arouse the rural population. In two out of the three countries with which this study is particularly concerned the agricultural services have not been subject to any far-reaching alterations since the colonial era. However, since the need for a renewal made itself felt, this was carried out concurrently in the agricultural services with the technical assistance of various companies (IRAM, SATEC, CFDT, IRHO, etc) and financed by bilateral assistance. Mali alone has broken with the past and sought a new and more dynamic formula better adapted to the requirements of development.

476. In the Niger, the extension section of the Agriculture department of the Ministry of Rural Economy was set up very recently (6 months ago). The head of the department is hampered in his activity by the almost total lack of means. The question may be raised why this section was created since nothing else has been changed in the old structure of the agricultural services. In the Niger, supervision is diffuse. It is a presence rather than a contact.

There also exist 10 centres of close and more concentrated supervision with extension by means of animation rurale.

477. Agriculturally, the country is divided into 5 sectors, 28 sub-sectors and 115 districts. In theory, each district has the services of a moniteur or an assistant moniteur, each sub-sector has the services of an ingénieur des travaux agricoles and a conducuteur, and aide-conducuteur or of a moniteur principal.

In the Upper Volta the agricultural department has the following technicians:

<u>Mission d'Aide et de Coopération</u>	: 8 foreign technicians
<u>Ingénieurs des travaux agricoles</u>	: 12 (all Africans)
<u>Conducuteurs des travaux agricoles</u>	: 29 (all Africans, but not all nationals of the Upper Volta)
<u>Agents techniques d'agriculture</u>	: 195 (trained in the Upper Volta)
Temporary employees	: 129

478. As has already been pointed out, no modernization seems to have taken place in the methods of agricultural extension and of its technical staff. It was for this reason that the Direction du Paysannat was set up, but it is not unfortunately equipped with the same resources as the Direction des services agricoles.

479. The animation rurale division in this directorate is responsible primarily for assistance to the paysannat, for the implementation of programmes of rural activity, or advice to and control over all organizations contributing to the rural development of the Republic, and also for participating in the execution of the plan for rural education for the training of village leaders.

480. An FAO expert has been assigned since 1963 to advise the Government in the field of agricultural extension. His task is not an easy one.

In Mali, rural development personnel consist of:

11 Ingénieurs des travaux agricoles (42 are needed)

80 Conducteurs or aide-conducteurs (260 are needed)

175 Moniteurs

70 Co-operative officers

350 Assistants

Total 595

(840 moniteurs are required)

481. In addition to these salaried officials, mention should also be made of voluntary village leaders, trained in the Ecoles saisonnières at an annual rate of 20 - 25 per school.

482. At present there are 54 zones d'expansion rurale (ZER). Each has its Ecole saisonnière and 50 more are being built. The ZERs are the executive bodies for the activities of rural development.

483. A remarkable effort has been made, although much still remains to be done as the plan has not given adequate consideration to the fact that the means available are limited. It is these resources, both in skilled personnel and in money, which are lacking for the establishment of the complete apparatus.

484. Two requests from Mali were submitted to the United Nations Special Fund almost two years ago; one concerning rural vocational training and the other concerning the rural polytechnic institute at Katibougou(Mali). Neither project has yet received approval. There seems to be some confusion between the two projects at the Special Fund.

485. It is regrettable that this should be so as the first project (SF.310.MLI/3) should have high priority.

486. The second project (SF/310/MLI/4) also deserves high priority, but it does not seem to have been finalized yet and requires more thorough study, especially as regards the future of the scheme when the six years' assistance from the United Nations Special Fund is ended. The cost of the project as submitted clearly exceeds the financial resources of the country.

Conclusions and recommendations

487. Credit and co-operative associations are very closely linked in these three countries, which is as it should be.

488. In one of them, Mali, the links between these two activities and agricultural extension are very close not only in theory but also in practice. This is not the case, however, in the other two countries, which suffer from extension services relying upon out-dated methods.

489. The development of co-operatives is a slow process. A great variety of trends is found in the three countries studied, varying from the classic Rochdale pattern to the more highly State-controlled and more collectivist type of organization.

490. For a long period during the colonial era, co-operative movements were aimed primarily at the marketing of agricultural commodities. At the present time far greater attention is devoted to production and, in particular, to two highly important elements of agricultural activity, i.e. equipment (animal draught) and credit.

491. Important tasks might be entrusted to the co-operatives and it is certainly the intention of the majority of governments to make them responsible for the improvement of marketing chains and for industrial equipment, at least for the processing and preserving of agricultural products. It must be admitted, unfortunately, that the co-operative movement is still only in its infancy and that it cannot be over-burdened without endangering both the movement itself and the economy of the country.

492. This ideal objective should not however be lost from sight and all measures should be taken with the thought in mind that one day, the co-operatives will be able to play the major role which rightfully belongs to them.

493. On the other hand, all efforts should be concentrated upon the training of co-operators and then on co-operatives. This task is not merely the province of departments specializing in co-operation, but also of those responsible for teaching and education.

494. In countries where co-operative movements have already been in existence for over a century, people become co-operators without being aware of it through contact with their neighbours and with previous generations. In the developing countries however it is vital for intensive training to be given to all age groups, each in its own background: to adults in the course of their daily activities in the fields or at the market and to children at school.

495. It is clear that governments that have placed a stake in co-operatives cannot, however, wait to carry out their development plans until the co-operatives themselves are able to accomplish their task in full. For this reason two solutions are envisaged. It is not a question of choosing one or other of these solutions but rather of selecting the most suitable one in each case. The first of these solutions consists in helping to supervise the young co-operatives, both from the technical and administrative angles, in an intensive fashion so as to enable them to fulfil important tasks from the very beginning. (This method is indicated for marketing, for example). The second method, which is recommended rather for the establishment of important industries, is to entrust the organization and operation of the new enterprise to a business company on the condition, from the beginning, that subsequently and with the least possible delay the management of the enterprise must be handed over to the producers grouped in a co-operative society. (This intermediate solution may be adopted for the setting-up of industries for the processing of agricultural products: preserving industries, tanneries, sugar refineries, oil mills, etc.) Every precaution must be taken so that the final objective, i.e. the co-operative, should be attained as rapidly as possible. To achieve this aim, the education of the members of the co-operative must be carried on without respite.

496. Is it possible to envisage regional or sub-regional activities in the sphere of co-operation? It does not seem so, since, as has already been mentioned in this study, the choice of co-operative doctrine varies from country to country.

497. On the other hand, on the commercial and industrial level, links can and must be established between the various branches of activity of neighbouring countries facing the same problems or having complementary economies. The fact that these business relations will be carried on between the groups primarily concerned with the interests of producers and consumers is the best guarantee for sound transactions.

498. A great effort remains to be accomplished in the field of credit. In the Niger and the Upper Volta, institutions responsible for agricultural products are well established to carry out successfully the task entrusted to them. The available funds have sufficed so far to satisfy the relatively limited demands. However, keeping pace with the adoption of modern agricultural methods, requiring more expensive equipment and implying the use of ancillary material such as fertilizers, insecticides, fodder, fuel, etc. in increasing quantities, the demand for credit continues to grow. The development plans do not seem to have given enough attention to this problem. Since it will arise in a general way for all the developing countries, it should be solved at regional level.

499. In the three countries which are the subject of this study, agricultural credit is granted only through co-operative groups, with very few exceptions.

500. Agricultural extension is the field in which the most serious shortcomings were observed. Not only are the technicians of the Ministries of agriculture ill-prepared to carry out their activities as extension workers but also the extension services are badly organized from the administrative point of view. This means that poor use is made of qualified personnel, who are much too scarce.

501. In two of the countries under consideration, new agencies engaged in animation rurale have been established to compensate for the deficiencies in the agricultural services. This activity is obviously directed chiefly at increasing agricultural output. These agencies receive bilateral or international assistance on a large scale.

502. The lack of co-ordination between all the activities carried on for the benefit of farmers is the most striking aspect of the situation.

The following recommendations are necessary:

A reorganization of agricultural extension services, taking into account new concepts and work carried out;

A better selection of personnel responsible for extension services;

The training of such personnel.

503. At an overall level, ECA might envisage the following measures:

1. A survey to analyse various recent achievements or those now in progress in the sphere of co-operatives, animation rurale, rural development and agricultural credit;
2. Technical assistance in the re-organization of agricultural services;
3. Support for requests submitted by these countries to obtain the technical assistance of the specialized agencies of the United Nations and of the Special Fund in these fields;
4. A search for solutions to the problem of better financing of the governmental institutions responsible for agricultural credit;
5. The encouragement and support of projects aiming at the creation of higher level regional institutes for the training of technicians (UNSF, etc.);

6. Encouragement and participation in the setting-up of documentation clearing houses on co-operatives, credit and agricultural extension;

7. Improved co-ordination of the activities of all agencies giving assistance.

TRANSPORT PROBLEMS

504. In Mali, the distance problem (Bamako-Dakar 1,272 km; Bamako-Conakry 800 km; Bamako-Mopti 600 km; Bamako-Gao 1,000 km; represents a hindering factor to the development of the country, as a result of the existing situation, imported food stuffs become more expensive and the exported items are produced at a higher cost, while the fluctuations in prices on the world market are not in favour of the producers. The transportation costs create a bottleneck to the economic and social development of Mali. The total transportation costs are evaluated for the year 1959 to 4,847 million CFA francs of which 3/5 are put on agricultural products and foodstuffs. The road Bamako-Gao is asphalted between Bamako and Segou (240 km) Gao and Mopti (200 km).

505. The transport activities are almost exclusively the responsibility of national carriers. The latter, often "Dioulas" are quite dynamic but unable to organize a transport network designed to deserve the entire country. Therefore, the Malian Government had to create by 1961 a "Régie" of transports and actually the interior network satisfies the internal markets.

506. Programme of road building has been laid out and the objective set was 11,160 km containing 1,650 km of feeder roads; 5,400 km of regional roads; 5,000 km of secondary roads which can be used mostly during the dry season. The transportation through the Senegal and the Niger rivers is not possible. The Niger river is navigable between Bamako and Kéroulé (Guinea) (heavy: July-December; light: June-January). The biggest part of the traffic is carried on the section Koulikouro-Segou-Markala (72,000 in 1959) but later the traffic was reduced to 1/10 of this original figure.

507. Mali gets a network of 24 airfields of which one is class B, 7 others being accessible to DC-4 and the remaining to DC-3. Airplans are quite used by the Dioulas for their trips to Gao, Tombouctou and other places.

508. The centre of Niger is located at about 1,300 km from the Port of Lagos. Therefore the transportation of export and import items represents an acute problem. Niger is paying its neighbour countries a tribute of an average of 1,000 millions CFA francs for a total of 150,000 tons of items exported and imported.

509. In the South part of Niger the "Nigerian Railways" are serving the East and Central parts. This goes to Lagos. From Kano it is linked to the Maradi city by 310 km of asphalted road and Zinder 260 km of which 220 km is laterate. In 300 km radius of Maradi, lies the most potential area of Niger: 60 per cent of the total population; 65 per cent of the cattle surveyed; 92 per cent of the ground nuts and 98 per cent of the cotton produced. To the South West, 438 km of railways from Parakou to Cotonou. From Parakou to the main highway 450 km of distance of which about 400 km are asphalted road. In 1954, while the capacity of transport through the Nigerian railways as available for Niger was only of 48,000 tons of groundnuts, the product of 63,000 created a hard problem which had been solved by the organization of the operation called "Hirondelle". It constitutes handling the product through the West of Niger and the Dahomey railway to Cotonou. So, 6,300 tons of groundnuts coming from Maradi and Zinder areas have been carried through, as much as 4,000 tons of other imported merchandise.

510. The air network is composed of 19 airfields of which one is class A, open to DC-8; 5 which can be used by DC-4 and 13 accessible to DC-3. There are also quite a few private fields used by the mining companies. Most of the transportation is made by vehicles of which 6141 could be mentioned in 1963.

511. In Upper Volta, the road network represents the most extensive of the area and amounts to 16,900 km. From this total, almost 1/3 is practicable all year around but the maintenance cost is very expensive.

Even if the railway Abidjan-Niger renders possible the transportation of products to the sea, the transport cost remains very high.

ASPECTS OF COMMUNITY DEVELOPMENT IN THE THREE COUNTRIES

512. In the three countries concerned, the Governments are already aware of the potential resources that Community Development may contribute to bring about into the process of social and economic development, of the region. The efforts concentrated in that line vary perhaps in the three countries in magnitude, but not in the nature of the concept. In fact Community Development in West Africa is generally known under the terminology of "Rural Animation". The eagerness of the government officials to look for a greater and active participation of the rural populations to the process of development has brought about the need for setting social and administrative structures adopted to any dynamic process of development. They have been therefore looking for a balanced equilibrium between the economic and the social factor in order to help the rural communities to reach at an improvement of their living conditions. As the idea is admitted by the governments concerned that the participation of the populations in all agricultural development programmes is a prerequisite for its success.

513. These governments will be called therefore to recognize that in the agricultural field, the following points should receive deep consideration:

- (1) to drive from the subsistence agriculture to market agriculture;
- (2) to substitute a permanent exploitation of the soil to the itinerant of shifting system;
- (3) to proceed to the Development of River basins;
- (4) to associate intimately the livestock production to the agricultural production by developing the money-making attitude;
- (5) to assure a permanent fertility to the soil by application of manure and chemical fertilizer as much as by the use of economic soil conservation practices.

514. All this should be accomplished by taking into account the objectives of the over-all plans prepared by the governments concerned which have to be respective of political needs, existing social structures and cultural development reached by the population.

Mali

515. In Mali, practical steps have been taken by the officials responsible for economic development and the concept adopted to this point is clearly defined into the survey report on the "Modernisation Rurale dans la Haute Volta du Niger" which has stated the following:

"The rural modernization as envisaged in the Upper Valley must bring farmers to reach better conditions of living. This can only be reached by a more rational exploitation of the natural milieu into the frame of economic and social factors which are to stir up individual efforts and to help every one to be conscient of his responsibilities by providing him also with the means to do it. Being given the family structure of the Malinke Agriculture, this action must start from the bottom: the farmer is his holding and his home, his village and his community. The programme and action of modernization must be co-ordinated and then it is necessary to set the structures and the organizations from the bottom to the highest levels.

Conscient of this, the Government of Mali has already planned the integration of a number of sectors into zones of "encadrement rural", depending upon the main sector of Rural Development of the High Valley; and the government has also organized co-operatives by village, or group of villages, which are to be called "groupements ruraux de production et de secours mutuel" (GRPSM) associated around the main "secteur" as "associated rural groups (GRA)".

516. The results obtained up to the present time are more than satisfactory and, as is was included in the presentation of the 5-year plan of development 1961-1965, it is recommended that such an action be intensified and intended to the entire country, by using some economic incentives such as support by the supervised credit, enlargement of agricultural extension services, development of the Community Development organizations, intensive training of rural youth.

Niger

517. In Niger, after the visit of a mission sponsored by IRAM (Institute of Research and of application of Development Methods) in 1961, the Government officials (who had called for the mission) have accepted the report produced by this institute. This report concluded to the possibility of applying the Techniques involved in the process of the "Animation Rurale" to the existing social structures of Niger, on the basis of the experience already gained in Senegal, Morocco and Madagascar. This was to recommend that the Rural populations through their animators were to be organized in a way to receive new technical knowledge on agriculture and livestock production at this level and to apply them to their day to day activities so as to help the government to reach its national objective aiming at a betterment of the rural life.

518. Therefore, community started to be organized under the leadership of local animators, who were formed at the village level. The work started into the four centres (say, Tamataboye, Matameye and Gouré). (CAR - Centre d'animation rurale) and progress achieved since then calls for a stronger support from the Government Services in order to be able to desserve a greater part of the rural population.

519. This step is a very important one when it is recognized that in 1961 one agricultural agent had to desserve a population of 30,000. While the average accepted as desirable in Africa is around one Agent for 500 - 600 rural families. Time has come then to see that the "Direction Générale pour la Promotion Humaine" pursue its activities so as to minimize at a greatest extent the expenditures that the Government of Niger could be called to invest in order to face with the need in the field of personnel requirements for rural development programmes.

Upper Volta

520. In the Upper Volta a great deal of efforts has been applied to get the rural populations involved in the agricultural development projects through a direct participation into the implementation. The most spectacular results have been obtained in the field of ground nuts production where actually more than 2,500 trained producers are working closely with the animators. In the same purpose, the "Centres d'Education Rurale" have been organized, where training facilities have been provided to producers and agriculture extension agents. This experience is called to develop a better attitude of the populations regarding their responsibilities to the country.

521. Although the participation of the population can be noted in many fields of activities, it remains that a great deal of effort is still to be made in order to build up a stronger infrastructure and consequently to reduce the rate of migration (schools, clinics, roads, water supply, marketing boards, etc.). In that line some information programme through radio broadcasts, as it has started already in the Upper Volta, supported by a campaign against illiteracy would help to achieve the objectives exposed.

CHAPTER V

ECONOMIC DEVELOPMENT PLANS AND PROSPECTS

1. Recapitulation of resources and potentialities ^{1/}

522. Analysis of the structure and organization of existing resources and their potentialities for the three countries has been made in the preceding chapters of this report. Various economic and social problems of the economies have been disclosed and recommendations have been proposed. To recapitulate, it may be stated that although these countries are not endowed with rich and abundant natural resources yet they could achieve an adequate level of living for the population if the resources are fully and efficiently utilized. At present there exists idle capacity with respect to land and human resources. On the other hand currently available resources are utilized at a low rate of efficiency due to institutional factors, lack of adoption of modern technology and shortage of skilled personnel.

523. Conditions hindering the development of resources are numerous. They can be classified as physical, technical, social and economic factors. The Planning Commission in Niger has enumerated the following factors which are also relevant to Mali and Upper Volta.

524. A. Physical factors: Inadequate rainfall, deficiency of water for irrigation, inaccessibility to the ocean, vastness of the total area, shortage of raw materials and insufficient sources of energy at the present state of technology.

B. Technical factors: Insufficient studies and research, insufficient economic and social infrastructures and lack of administrative and skilled personnel.

^{1/} Recapitulations by authors of other parts of the report should be incorporated under this sub-chapter.

C. Social factors : High rate of population growth, high rate of illiteracy, archaic methods of cultivation, existence of caste system, absence of business middle class and lack of professional personnel.

D. Economic factors: Dependence on the outside world, smallness of the market economy, limited national revenue, lack of savings, weakness of the secondary sector, monopolistic enterprises, inadequate credit and trade system, and lack of a co-operative movement.

525 Potentialities for development are also enumerated by the same Commission as follows:

A. Physical factors: Potential sources of underground water, prospects of mineral resources, solar and hydro-energy, natural pasture, river and lake fisheries, and fertile land in the southern part of the country.

B. Technical factors: Provisional findings of agronomical research and adequate air transport facilities.

C. Social factors: Abundance of labour force, progressive spirit of certain ethnic groups and ancient spirit of solidarity and technical tradition of the herdsmen.

D. Economic factors: Sufficient food production, availability of arable land and the potential utilization of the existing large number of livestock.

526. If the above favourable factors are exploited, better utilization of resources would be achieved. In addition experiments undertaken in these countries indicate that the application of modern technology to agriculture could increase the yields from two to five times and in the case of cotton to ten times. Estimates of increase of yields of various crops by the Commission of Planning in Niger are shown in Table 1.

TABLE 1

Actual and maximum yields of various crops of the

Republic of Niger

Crop	Yield (kilo/hectare)		
	Present	Maximum	% increase
Millet	500	1,500	300
Sorghum	800	2,000	250
Ground nuts	600	2,000	333
Rice	800	4,000	500
Cotton	300	3,000	1,000
Sugar cane	1,500	5,000	333

527. In addition to potentialities of increasing crop production there are also potentialities for increasing the output of livestock and fisheries. Output of industrial, construction and services sectors could also be increased substantially as indicated before. It is thus reasonable to assume that total national output in each of the three surveyed countries could easily be doubled or tripled in ten to twenty years if appropriate measures --suggested elsewhere in this report-- are implemented.

2. Characteristics of development plans of programmes

A. Aims

528. Comprehensive economic planning is a relatively recent phenomenon in these countries. Before independence, the colonial power controlled the budget, trade and monetary system, designed policies for the encouragement and/or discouragement of one or the other item of production.

In all these areas, privileges were granted or withdrawn and restriction imposed or tightened. ^{1/}

529. French colonies were considered as an integral part of the whole French empire and considerable control from Paris was exercised in formulation and execution of the economic plans. The structure, sources and objectives of investments have been dealt with elsewhere in this report.

530. Since the attainment of independence the governments have embarked on planning or rather programming to accelerate the rate of economic and social development. Common objectives of economic plans in the three countries are:

- (a) to achieve economic independence;
- (b) to increase total production and therefore per capita income, and,
- (c) to increase the facilities for education, health, housing and other components of social development.

531. In Mali the five year plan for 1961-1965 has the following aims:

- (a) rapid economic decolonization;
- (b) creation of a modern economic structure through socialist planning;
- (c) establishment of adequate infrastructures;
- (d) raising agricultural production in order to increase domestic consumption and export earnings;
- (e) development of industries;
- (f) exploration of mineral resources, and
- (g) enlargement of the public sector, control of trade and development of co-operatives.

^{1/} ECA, Economic Survey of West Africa, Part III Nov. 1964 p.21 (Ditto).

532. In Niger the 1961-1963 plan as well as the follow-up plan for 1964 were designed to achieve:

- (a) national solidarity;
- (b) higher standard of living for the masses, and
- (c) economic independence.

A long-term plan (for 10 years) has now been drafted and approved.

533. In Upper Volta a plan for the period 1963- 1967 was prepared with French experts financed by FAC. However, the plan was rejected as being inconsistent with the country's available financial and technical resources. An attempt is being made to reformulate another plan, which will probably embody the common objectives of the plans of Mali and Niger.

B. Means of planning

534. The formulation and implementation of economic planning in the three surveyed countries are encumbered with many statistical, administrative, technical and financial problems.

535. Data and information required for the formulation of economic plans were lacking in the three countries when they started on the path of planned development. After independence a year or more was spent on the collection, compilation and analysis of needed statistics. It was necessary in all cases to rely on national accounts of 1959. At present, statistics are still inadequate, as has been pointed out several times throughout this report. Statistics divisions in these countries were and still are mainly concerned with trade statistics and to some extent demographic statistics. Data on production, especially on agricultural production, on national accounts, on tenure conditions, on income distribution, on production costs, and on cost of living are deficient. In addition, there is no unified authority for statistics but rather there are many sources producing different estimates of the same thing. The improvement of the statistical services is a prerequisite of sound planning.

536. On the administrative side of planning the three countries have established central planning commissions attached either to the Presidency or to the Ministry of Economic Affairs. However, there is a shortage of administrative personnel, especially on the regional level, to execute the plan. Moreover, all of the three countries have had to, and still must, rely on foreign experts for drawing up the economic plan. Different departments in the governments also have conflicting interests or try to overplay their roles and share in planning. These difficulties hinder the course towards effective planning. In some cases plans had to be reformulated.

537. Technical means of planning, in addition to those mentioned above, are also inadequate. These include lack of technical experts, inadequacy of communication and transportation systems, lack of technical studies on the nature and structure of various business enterprises and similar other factors.

538. Financial means of planning are also inadequate. Insufficient investment has been allocated to productive purposes. The necessity of establishing costly economic and social infrastructures also poses a limitation on the amount of directly productive investments. The levels of national income and governmental revenue do not permit the allocation of sufficient funds for development. All the three countries, thus, have to rely on outside sources for financing economic development. Financial assistance from outside sources may not be in the right amounts, or may be of the right kind or may be too expensive, or earmarked for a specific purpose which is not given priority in the economic plans.

539. The above mentioned problems are some obstacles that have to be tackled if sound, elaborated and comprehensive economic planning is to take place and be effective in accelerating economic growth.

3. Analysis of development plans or programmes

A. Degree of integration and co-ordination

540. Integration and co-ordination are necessary for the success and implementation of economic plans. The following aspects should be taken into consideration:

- (a) integration of various sectors of the economy;
- (b) integration of social and economic aspects of development;
- (c) co-ordination between various governmental departments; and
- (d) co-ordination between the national and local levels of planning.

These aspects of planning are not yet worked out, in an elaborate way, in the three countries under investigation.

B. The place of agriculture in planning

541. The important place of agriculture in the economies of these countries has been previously indicated elsewhere in this report. Investment allocated to agriculture has also been discussed. In all of the three countries attempts are made to increase agricultural production. Yet investment in agriculture is too inadequate to achieve this objective. In addition, no measures are taken to change and/or improve the following important aspects of agriculture:

- (a) productivity of agriculture;
- (b) the structure of agricultural output which consists mostly of millet and sorghum;
- (c) the commercialization of agriculture;
- (d) the tenure conditions;
- (e) the land use pattern;
- (f) the distribution of income; and
- (g) employment in agriculture.

C. Review and analysis of current plans and projects

542. Comprehensive economic planning --as indicated earlier--is yet to take place in the three countries, the various obstacles encountered in its formulation and implementation have not been overcome. At present only a general target is set for the economy, a group of projects chosen, and an investment budget is earmarked for the execution of projects.

543. The projects embodied in the plan are numerous and cover various fields of economic activities. However, emphasis is placed on social and economic infra-structures.

544. In Mali economic planning has undergone many phases since independence. Preparation for planning started in 1959. On 22 September 1960 the Congress held in Bamako adopted the general goals of planning as being to decolonize and establish the structure for a social evolution. Means to achieve these goals include development of agriculture (especially with respect to farm mechanization, training of personnel and co-operatives), diversification of the economy and the exploration of mineral and petroleum resources. During the years 1961 and 1962 funds were allocated to finance projects in the four year plan 1961- 1964, which was modified to a five year plan for 1961- 1966 and was adopted 23 January 1963 by the National Assembly.

Amounts and uses of investments for the execution of the 1961-1966 plan are indicated in Table 2 .

TABLE 2

Amounts and uses of investments 1961- 1966

Mali ^{1/}

Amount (billion FM)		Uses	
Year	Amount		% of total
1960-61	10.8	Agriculture	25.4
1962-63	17.7	Transformation industries	14.0
1963-64	17.3	Hydro-electric barrages	11.3
1964-65	17.4	Transportation	14.5
1965-66	15.0	Administrative and social services	10.8
Total	78.2	Urbanization	18.0
		Housing	6.0
		Research	0.4

^{1/} Source : Abstracted from Bulletin de l'Afrique Noire No.373, 1965

545. The plan is based on an annual rate of increase of 8 per cent in the total output and 14 per cent in total exports. The year 1962 is taken as a base year. The success of the plan depends, however, on the nature and scope of projects, the availability of outside sources of finance, the training of personnel and the active participation of the population. It is rather difficult to assess more precisely the effectiveness of the plan since information regarding the impact of various projects on the development of the economy is not available.

546. In Niger planning endeavours have also followed various phases since independence. A three year plan for 1961 - 1963 was carried out. It was followed up by a 1964 programme. Finally, a perspective of development for a ten year period (1965-1974) was adopted by the National Assembly in September 1965.

Within the framework of the ten years, a four year plan for 1965 - 1968 is being implemented.

The common objectives of all these plans are:

- (1) national unity in terms of equity in developing various regions of the country through education, communications and inter-regional trade;
- (2) economic independence through training of personnel, encouragement of investments, development of agriculture and industry; and
- (3) raising the standard of living of the population.

Public and private investments of the three year plan are indicated in Table 3.

TABLE 3

Public and private investments 1961- 1963 plan

Niger ^{1/}

Million CFA francs

	Public investments	% of total	Private investm.	% of total	Total	% of total
Studies	1,237	7.1	-	-	1,237	4.4
Infrastructure	11,795	67.4	7,254	67.7	19,049	67.5
Production	4,460	25.5	3,455	32.3	7,915	28.1
Total	17,492	100.0	10,709	100.0	28,201	-

^{1/} Compiled and computed from Bulletin de l'Afrique Noire No.376, June 1965.

547. It should be noted that investments indicated in Table 26 represent funds which were made available for investments with a specific purpose. Actual investments or funds actually spent are not indicated due to lack of information. Public investments accounted for about 62 per cent of total investments. Investments in infrastructure accounted for more than two-thirds of total public and private investments. Investments in production amounted to 25.5 and 32.3 per cent of public and private investments, respectively. While the amount allocated to investment in production is relatively small, especially if long term investment in irrigation and mining projects is taken in consideration, investment in agriculture must be still lower.

Sources of funds for public investments for the 1961- 1963 plan are shown in Table 4.

TABLE 4

Sources of funds for public investments

1961-1963 Plan, Niger ^{1/}

Source	Amount Billion CFA francs	% of Total
Local funds	3.2	18.4
French aid	6.8	39.1
FED	6.6	37.9
American aid	0.8	4.6
Total:	17.4	100.0

^{1/} Compiled from Bulletin de l'Afrique Noire No.388, 1965

548. Outside sources of finance provided 81.6 per cent of total funds for investments. French aid is the major outside source of finance. American aid amounted only to 4.6 total funds allocated for investments. Allocation of outside funds should, thus, be given careful consideration if the country is to achieve the future self sustained development.

As for the 1964 plan, the pattern of investments is similar to that of the 1961-1963 plan.

549. In the ten years development perspectives for 1965-1974, certain goals are set for various sectors. In the agricultural sectors production goals for various crops are indicated in Table 5. It can be seen from Table 5 that crops are to be increased by 124 to 987 per cent in the next ten years.

TABLE 5

Goals for crop production 1965-1974 plan, Niger^{1/}

Crop	Thousand tons			
	Production 1963	Goal 1974	% 1963	% of imports 1963-1974
Millet	971.0	1,200	124	20
Sorghum	352.0	500	142	40
Ground nuts	220.0	280	127	25
Rice	10.0	25	250	150
Cotton	6.4	30	470	450
Beans	80.0	120	150	45
Manioc & Potatoes	16.2	160	987	-
Maize	2.2	4	179	50
Barley	1.0	6	600	500
Tobacco	0.3	1	340	550
Sugar cane	30.7	100	326	200

^{1/} Compiled from Bulletin de l'Afrique Noire No.388,1965

550. However, it should be noted that targets set for major crops, i.e. millet, sorghum and maize, are not only lower than those set for other crops but they are also inadequate in terms of population food requirements. That the targets for these major food crops do not keep pace with population growth is evident from the fact that the demand for these food requirements would have to be met from imports even at the end of the next ten years. Ironically, output of export crops such as tobacco, sugar cane and rice will be expanded to such an extent that will obviate their imports. This exchange may be beneficial to the country if (a) it results in a favourable balance of trade, and (b) if it is impossible to accelerate the rate of increase in food production to the extent that imports of manufactured or capital goods can be substituted for food imports. This problem should be given serious attention.

551. The ten year plan does not envisage the integration of livestock with crop production. It provides only for the improvement of the quality of livestock without substantial increase in quantity.

Fish production is to reach about 10,200 tons by 1974, compared with 6,340 tons at present.

552. In Upper Volta comprehensive economic planning ---as mentioned earlier in this report--- has not yet been undertaken. While there is a consensus on the overall objectives of development, only a group of projects is implemented, on an ad hoc basis. Foreign aid is the major source of financing such projects. It should be noted, however, that an attempt is being made to formulate a five year plan for the period 1965-1970.

553. Projects in the agricultural sectors deal with soil conservation, especially in Ouahigouya; construction of barrages and wells for better utilization of water resources; research and extension which are carried out mostly by IRHO with respect to ground nuts, by CFDT with respect to cotton and rural education, which is composed of about 300 schools catering for about 15,000 students.

In 1963 the government also established a Paysannats Department which was charged with the following functions:

- (1) to develop co-operatives,
- (2) to improve the level of nutrition, and
- (3) to provide training and extension to farmers.

554. It should be noted that the main objectives of agricultural research are to raise yields and to introduce crop rotation. While promising results have been reached, their application is still carried out in a very limited scale.

555. Most of the important industries are concerned with the processing of agricultural products, mainly rice, cotton, fats and oils, livestock slaughtering, hides and furniture. Metallic and chemical industries are still in the embryonic stage and deal with the manufacturing of bicycles, plastics, matches and printing.

CHAPTER VI

CONCLUSIONS AND RECOMMENDATIONS

556. The survey conducted in the region has brought about the increased recognition that economic development constitutes a basic prerequisite for the raising of the levels of living of the 11.4 millions people of these land-locked countries of Mali, Niger and Upper Volta. It has also contributed to the understanding that economic development is not feasible without some degree of social development. The strategy therefore to follow which will demand much creative imagination and flexibility, will be to find the practical ways to realize the integration between the economic and social development into the region.

557. If in the strategy of development of the region, main emphasis is to be placed on stepping up capital formation, it is to be recognized, however, that the pace of such economic development will depend upon the variety of factors which constitute the psychological and sociological setting within which the economies of the countries are operating and which have been reviewed in this report.

558. These factors have to constitute only a setting rather than the content of the development planning. So, it seems clearly indicated to the mission that the population of the region should forego in the immediate future certain benefits derived from existing programmes for the sake of accelerating further development. Therefore the exhortation to austerity as a factor to facilitate capital formation does not by itself constitute alone a motivation for the people to exert themselves for greater development unless the appeal is also accompanied by appropriate other incentives. Social services, if well provided, can help to build up a self-sustaining economy in the region by increasing the rate of productivity itself, because the people are able to improve the efficiency of their human resources, in terms of greater productive efforts.

559. Consequently attention of the Governments of Mali, Niger and Upper Volta is called to the conclusion reached by the mission and the recommendations listed accordingly as follows:

Eradication of illiteracy

560. Efforts undertaken in the field of socio-economic development will not be productive unless the rural population actively participates in the process. They must first understand the process and secondly they must be able to recognize their own interest in it. Unfortunately, illiteracy tends to impede such realization. Consequently, it is recommended that a mass campaign of eradication of illiteracy and basic education of the people, through agricultural extension and rural animation techniques, be undertaken as a matter of high priority. Conditions and means for implementation should be studied as soon as possible, with the participation of specialized staff from bi-lateral or international agencies (FAO-UNESCO-ILO-WHO). The Mali project of oriented eradication of illiteracy should serve as a guideline for the other countries.

Expansion of Community Development Services to Rural Population

561. It appears to the team members that the human problems in the region represent a greater handicap than the financial problems in development of agricultural credit.

562. It is recommended that in the interest of surer and speedier advancement and change all the people of the three countries should be concertedly involved in the day to day execution of the national programmes for economic and social development, by enshrining in the National Plans, the importance of community development as a means of utilizing and maximising the organization and training of the people to use their intelligence, time, energy, zeal and skills, through group activity (youth groups, womens' groups; all types of farmers' societies including land reform and agriculture; health and education activities; co-operative, credit and marketing

societies; handicraft industries; community committees, projects and councils) to establish vital links of communication and understanding between Government and People so that the national plans may receive popular attention, understanding and acceptance in every city, town and village; and so that the efforts of the People and of their governments may attract supporting technical and financial help from international and bilateral sources.

Health Planning

563. The mission has observed that in the field of health, some concrete steps have been already taken by the governments. A ten-year health plan integrated in the general development plan for Mali and Niger is being presented.

564. Considering that such a step is designed to increase the manpower productivity by eliminating the causes of endemic diseases (Malaria, various types of parasitosis, trypanosomiasis, etc.) and by educating the population in the prevention of diseases and improvement of nutrition and hygiene, it is recommended that "the Upper Volta Government prepare its own health plan, and the three countries then combine their efforts at the sub-regional level in order to meet their needs in specific fields, such as preparation of vaccines, quarantine devices, and to strengthen the efforts undertaken by the OCCGE (Organisation de Coordination et de Coopération pour la lutte contre les Grandes Endémies), by searching for technical and financial assistance from WHO, and possibly some specialized non-governmental institutions."

Better nutrition for Man-power through Home Economics

565. There is no problem of manpower supply, for it is abundant enough to provide neighbouring countries with important additions to their labour supply. But the training of this manpower is urgently needed and should be supported by other measures.

566. It is therefore recommended "that the nutrition of the population as a whole (rural youth and adults) should be improved especially by a greater consumption of proteins of animal origin; Mass campaigns for adult and youth education in this field should be co-ordinated with selective programmes for smaller groups of adult families and with a better introduction of nutrition into the curriculum of the primary and secondary schools so as to improve manpower productivity. "

Mobilization of youth

567. It appears in the three countries that youngsters and infants account for nearly 41 per cent of the total population of the region. This constitutes a great latent human resources, which tend everyday to acquire a greater potentiality and the role will be determinant in the future of the three countries' social and economic development.

568. It is recommended that in the overall national planning for the proper exploitation of human resources special attention be given to the education and educational training of the youth and that the noteworthy efforts undertaken in Niger be spread to Mali and Upper Volta. It is a prerequisite that youth be used as a channel for the introduction of new skills, better nutritional habits and better production techniques into the process of technical development. The methods to be applied in such a training should not necessarily be copied from foreign countries whose cultural, historical and social background is different from the pattern existing in the region, but it is recommended that research be made accordingly in the countries concerned. Consideration could also be given to the possibility of creating a Sub-regional Youth Training Centre with possibly the assistance of UNESCO and FAO, WFP, FFHC to ensure training of leadership for the execution of the sub-regional youth programmes.

Support to Extension Workers

569. Upper Volta is receiving technical assistance from the United Nations in the field of agricultural extension, particularly for the training of the personnel at the lower and middle levels. Another project for the training of higher level personnel is under study in Mali. But in general the existing personnel available in the field is not sufficiently equipped to work effectively.

570. It is recommended that priority be given to reinforce the equipment available in terms of quantity, to increase the transportation facilities as well as the audio-visual materials to be used by the extension agents; that stipends allocated to the personnel working in the field be attributed in proportion to distance from main cities to their duty stations and also to existing difficulties to get access to those duty stations.

Development of Rural Life

571. It appears to the mission members that the measures to suggest and the policy to adopt must be mainly designed to create in the three countries some well developed community development programmes which are to play a very important part in the promotion of economic and social development of the region. It is clear that such a contribution is to be translated qualitatively into a change of attitude, an increase in production capacity, greater skills and better use of the human capital and qualitatively into the formation of basic social capital increased production, promotion of small-scale industries, increase of family incomes.

572. Therefore the extension of new knowledge and attitudes among the mass of the agricultural population is a prerequisite. To reach this aim, it is recommended that development of a programme of the type actually in execution in Madagascar through the assistance of FAO, UNESCO, WHO and UNICEF be undertaken in the field of nutritional education, rural education of teachers and promotion of the rural people through animation and agri -

cultural extension and that a team of government's Officials working through ECA make a study-tour in Madagascar to appreciate the scheme and analyse possibilities of developing a similar one in the region.

Training and Education for Co-operatives Organizations

573. The three countries have called for the services and advice of foreign specialists from International or bilateral technical assistance.

574. It is recommended that the Governments allocate greater resources to the implementation of the projects already studied and to those already in execution. Emphasis should be put on the training of personnel and the education of co-operative members.

Socio-economic Planning

575. The three countries at least formally accept planning for aiming at their socio-economic development. While the Mali plan is an integrated one which may lead to strengthening of relations between the different sectors of development, the plans of Upper Volta, and the preliminary one adopted by Niger, use much more the sectional approach than the "global approach".

576. It is recommended to set up, if necessary with International assistance a team of planning economists in order to help the Governments to elaborate an integrated development plans.

Land Tenure improvement as a stimulus for Greater Production

577. The problem of stimulus must be faced by governments if the producers are to have greater incentives to intensify their agriculture. One of such stimuli is the profit motive. The search for profit requires greater and better application effort. Such efforts cannot be expected until some stability of land use as seen by the farmers can be brought about. The latter are not interested in long-term improvements in the land, and dwellings so long as they are not sure to occupy the land for a reasonably

long time. Therefore, land reform is a prerequisite to stabilize the land tenure situation.

Technical Assistance to Land Tenure

578. Consequently, the mission suggests that three experts should be put at the disposal of the region for land settlement. They will be assigned to study and help promulgate appropriate legislation on land reform in the land-locked countries and consult with each other before proposing definite advice.

Land use and Land Capability Surveys

579. It appears that the great extension of idle land in the region, 19.3 and 31 per cent of the total, respectively in Mali, Niger and Upper Volta will progressively be reduced when more areas will be put into cultivation as soon as the population growth creates more pressure in the areas already under cultivation.

580. Sites have to be therefore selected for the future progression of the population. No economic study of land use has been undertaken in the countries to determine the economic capabilities of various land classes or to indicate the optimum allocation of agricultural resources.

581. It is recommended that steps be taken in order to make possible the realization of an economic land classification study, designed to determine various land categories and their economic capabilities.

Expanding resettlement schemes

582. It appears to the team members that the demographic growth in the region, which is close to 2.4 per cent leads to create pressure on the land resources and at the same time, the gap between this rate and the rate of production is becoming greater, particularly in the case of the Upper Volta.

583. It is recommended that the demographic growth and the production increase be harmonized by the use of carefully studied measures such as the development of River Basins and the expansion of land settlement schemes.

Diversification of Agriculture

584. The region not only is suitable to the production of grains, ground-nuts, sugar cane and cotton, but also it seems capable of producing more than its own needs. It could be complementary to the neighbouring southern coastal countries that will have to import foodstuffs at a reasonable price. But the land areas will have to be able to deliver the foods wanted on the coast at a reasonable price. There are important hydrologic resource limitations however in these countries (of which so much of the area is in the Saharan and Sahilian zones.

585. Consequently "circumstances compel the adoption of policy aiming at a national exploration of all water resources available mainly for agricultural purposes: irrigation schemes, digging of wells for human as well as for animal consumption, (to complete a programme which has started already in the region). It seems therefore essential that an agreement could be reached at an appropriate level among the three countries, to establish a series of expert committees to examine the problems in depth and make specific proposals for co-ordination of studies, drafting of plans and search for financing sources, as is the case for the Senegal River Basin Project (UNSP). Possibilities to be investigated through bilateral aid, private investments, or/and within UN family with particular co-ordination of ECA to complement governments budget allocations." Also full support to projects sponsored by UN Special Funds such as Dallols and Maouri, Niger, be consolidated and others be initiated with possible use of facilities under the WFP Programmes and FFHC.

Modernization of Milk and Meat Production

586. The three countries have emphasized their interest in the modernization of the milk production and in meat marketing, by planning the installation of milk factories, modern slaughter houses and canning factories in the main livestock production areas. However this alone would not solve the problem as livestock producers and the trade need to be provided with stronger economic incentives than those involved in the present system.

587. It is recommended that before embarking on a new policy aimed at a thorough break with the traditional system "careful consideration be paid to the survey carried out in 1965 by ECA with the participation of FAO in five of the West African Countries (Mali, Niger, Upper Volta, Ghana, Nigeria), in order to avoid large scale malinvestments and, if necessary, that additional studies be introduced covering social aspects and attitudes, markets, costs of processing and transport as well as tendencies and developments in the neighbouring main importing countries.

588. Meanwhile certain preparatory steps could be reached as suggested by the mission as to obtain:

- (a) the better organization and supervision of livestock market
- (b) the improvement of livestock routes leading to such markets
- (c) the improvement of transport by the provision of refrigerated rail wagon, for instance
- (d) the financial assistance to private export firms in the form of high yielding credit in order to modernize equipment facilities.

Improvement of Statistical Organizations

589. It has been observed that the limited amount of reliable statistical data have made too difficult the formulation of integrated plans which contain a realistic appraisal of the situation and an assessment of the countries' potentialities (human and physical)

590. It is recommended that the actual statistical services be reinforced and that facilities be provided in order to put at the disposal of the countries trained and qualified personnel provided with means of action such as to be able to reinforce and expand the existing Training Centres supported partly by ECA.

591. It is also suggested that the three countries concerned search for UN support through ECA and bi-lateral assistance for the provision of such a training.

Increasing Investment in Agriculture

592. It is recognized that the use of draught animals, selected seeds fertilizers, pesticides, irrigation and drainage, etc.. can make possible an intensification of the agriculture, and later render economical an extension of the cultivated areas, without a continuing degradation and waste of the available and cultivable land. Measures must be taken in the social and institutional fields to make possible such technical modernization of agriculture and animal production by creating a balance between agricultural and social development. To improve and to expand production techniques, to construct irrigation systems, and to introduce the latest scientific improvements, already proven in the region, so that the productive forces will be further developed, demands for more investment in agriculture than has been the case.

Consolidation of Holdings

593. It appears to the Team members that the land/man ratio in the region is unevenly distributed with the result that the size of holding, under the present state of exploitation, is too small to be economical and renders production for the markets and the introduction of modern farming techniques difficult.

594. It is recommended that additional land for enlarging the size of holdings could be made available by a well planned reduction of fallow land as well as by the utilization of the part of arable land which is currently uncultivated.

595. Together with these measures it is recommended that other forms of modern farm organization such as co-operative and group farming be undertaken whenever the small scale farming is not suitable. This should lead to a desired increase in agricultural exports, while measures should be taken to improve the balance of payments by large-scale reduction of agricultural imports (especially foodstuffs) this being made in order to expand the internal markets and develop domestic production.

Training of Agricultural Personnel

596. The team fully agrees with the government officials that intensification of the agriculture and livestock production requires the availability of sufficiently qualified personnel. Such an increase of personnel will require immediately a consequential increase of expenditure that the mission recommends :

(i) that an approach to the problem be made in a very realistic way by developing the agricultural education at all levels, in order to provide the cadres for the developing areas first, and to turn later to the entire remaining territory;

(ii) that technical and financial assistance should be requested of the UN Specialized Agencies as well as bilateral aid, for the opening of preferably inter-state or sub-regional institutes with the aim of training necessary personnel to agricultural extension, community development, co-operatives and credit.

Increasing Agriculture and Livestock Production

597. The economy of the region is predominantly based on agriculture and livestock. Increased production in those fields of activities is a prerequisite for a "take off" in their economic development.

598. It is recommended that the development of the region's economy should be based on a modernization and intensification of its production techniques in agriculture and livestock.

Inter-Governmental Training Institute

599. None of the countries has a training institute for the personnel working in the field of co-operatives whether personnel of the co-operative services, managers or employees of the co-operatives at the middle and higher levels. Actually this personnel has to go abroad to acquire this education, a situation which is quite inconvenient.

600. It appears that the financial means of each of these countries taken individually are not fully adequate to cover such institutes. It seems therefore that the requests of international assistance would be much more appropriate, if the three countries could combine their efforts, even calling on some other interested neighbouring countries to join them, in order to formulate a common request or undertake a joint training project.

601. It is recommended that consultations be undertaken with the interested countries, most likely upon the initiative of ECA on the matter and to create an Inter-State Institute for training in co-operative management. Training in agricultural credit should also be encouraged in such an Institute. It is likely that facilities existing at Dakar be expanded with the assistance of UN Special Fund.

Statistical Training

602. It appears that the system of social accounts actually used by the region to measure the economic development does not facilitate the determination of the perspective of the development.

603. It is recommended that an articulated system of social accounts on a national as well as annual basis be given priority in the three countries in order to provide a measurement of economic development and a guideline for economic planning and that assistance of UN expert be sought for a training of statisticians of their countries into the use of the standardized system.

Sedenterization of the nomads

604. It appears that in the three countries the problems encountered in the field of livestock production are quite similar in the region and the process of sedenterization, which is desirable, needs to be considered on the basis of proper use of techniques adapted to the prevailing conditions.

605. It is recommended that the research findings into the techniques of cattle grazing within a limited range of availability of drinking water and grasses be exchanged on a regional basis and that common measures, such as based on economic study of land use, be adequately pursued in view of accelerating the process of sedenterization of the nomads everywhere it looks appropriate and/or indicated. Also the development of small pilot schemes in new areas should precede large scale development.

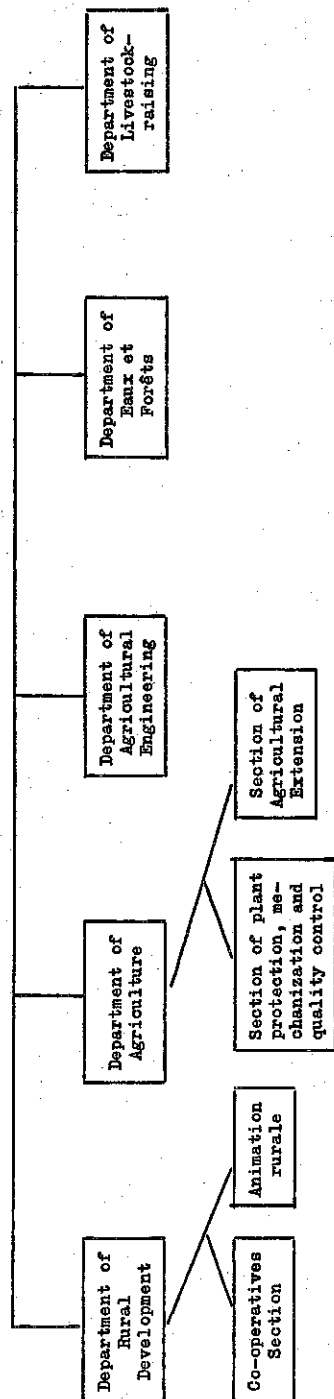
ANNEX I

THE REPUBLIC OF THE NIGER

Organisation Chart of the Ministry of Rural Economy

MINISTRY

Head of the Cabinet
Director of the Cabinet



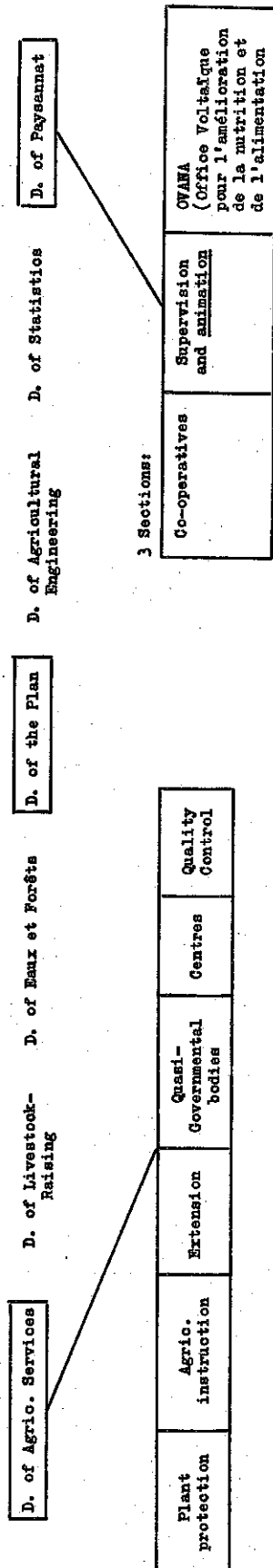
5 AGRICULTURAL SECTORS (+ 2 now being set up)

28 AGRICULTURAL SUB-SECTORS [corresponding approximately to administrative districts (circonscriptions)]

115 AGRICULTURAL DISTRICTS (corresponding to "cantons" or 1/2-cantons)
(at the end of the 10-Year Plan, the total is expected to reach 300, each having an agricultural moniteur)

ANNEX II
THE REPUBLIC OF THE UPPER VOLTA
Ministry of National Economy

7 Directorates:



8 Agricultural regions (regional officers)

40 districts (cercles) (district officers)

officers

ANNEX III

THE REPUBLIC OF MALI

Organization Chart
(Summary)

Ministry of Development

National Directorate
of Water Resources

Department of
Eaux et Forêts

Institute of
Rural Economy

National Directorate of Rural Development

1. Central Office of Co-operation Section of legislation urban co-ops.	Division of Co-operation (created in July 1963)	Division of Marketing (also responsible for management supervision of the SMDS) (the section of marke- ting and supply is attached at present to the national cereals board)	(being set up at present, for research, agricul- tural education, plant protection and soil conser- vation)
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3. Inspectors:

- (a) Consumers' co-op.
- (b) Agri. co-ops and
building workers'
co-ops
- (c) Cottage industry
co-ops and emplo-
yers' co-ops

At the level of AREAS (6) Area farms and practical schools (2 areas equipped at present)
Area advisers (Ingénieurs agricoles)

At the level of CERCLES (42) Sectors of rural development (SDR)
Rural district advisers (Ingénieurs des Travaux Agricoles)

At the level of ARRONDISSEMENTS (aprox. 260) Zones of rural expansion (ZER)
Ecole saisonnière
Co-operative centre for education and agricultural modernization (CCEMA)
(co-operative officer)
Agricultural adviser for the arrondissement (conducteur or aide-conducteur)

At the level of the GRA: Groups of villages (1,000 to 1,200) Base Sector (BS)
Agricultural adviser: moniteur

At the village level (20-30 families, i.e. 300 to 450 inhabitants) (GEPSE) approx. 10,000 villages in all
Voluntary village leaders