



SOMALI DEMOCRATIC REPUBLIC  
STATE PLANNING COMMISSION

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# **MOGAMBO IRRIGATION PROJECT**

## **Supplementary Feasibility Study**

### **ANNEX 6 Infrastructure and Institutions ANNEX 7 Economics**

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**MOGAMBO IRRIGATION PROJECT**  
**SUPPLEMENTARY FEASIBILITY STUDY**

This report comprises the following volumes:-

Main Report

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**ANNEX 6**

**INFRASTRUCTURE AND INSTITUTIONS**

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## CHAPTER 1

### ADMINISTRATIVE INFRASTRUCTURE

#### 1.1 Introduction

The present study is concerned with an area of some 6 400 ha net irrigable area in a country which extends over more than 64 million ha. Although current estimates set a figure of 8.2 million ha to the total area suitable for agriculture, only about 250 000 ha could be developed under controlled irrigation. Of this, 160 000 ha is located in the Juba river valley with rather less than 10% of it actually provided with an irrigation system. Seen in this light, the study area in fact represents a significant proportion of the development potential for irrigated agriculture in the country. Furthermore, pump schemes at present provide irrigation for only 14 000 ha, so that the Mogambo scheme of 6 400 ha would represent a major increase in the exploited area of the Juba river valley.

It is, therefore, important to look for an organisation which will make the best possible use of the considerable investment of manpower and money which is involved. Its success should not be assessed only in terms of the productivity of the farm. It should also be able to add to the institutional experience of the country, provide a practical training ground for irrigated farming, and assist in the general dissemination of modern farming techniques for small scale as well as large scale enterprises.

Somalia is a country facing a number of difficult problems, which it is tackling within a socialist framework. This calls for central planning and state control of the economy, although the private sector is regarded as still having a positive contribution to make. Among the country's major problems is that of the chronic shortage of skilled manpower at all levels. Since the general policy places the greatest emphasis upon state enterprises, this shortage bears most heavily upon the public sector, with the result that performances are often disappointing. Linked with the shortage of skills is the general lack of reliable data which inhibits development or, at worst, can lead to misdirected or duplicated investment.

Another problem of particular concern to development is the fragmented nature of responsibility in certain sectors. This is not, of course, unique to Somalia or for that matter to the developing world. The creating of new ministries and switching or regrouping functions under different ministries is a familiar problem to most countries. It is most disadvantageous where experienced administrative staff are in short supply, and where the civil service is still in the process of acquiring that administrative momentum which can accept changes with confidence and adjust priorities without abandoning their long term objectives.

It is proposed in this and the subsequent chapter to discuss briefly the general trends in administration throughout the country and the institutions which in one way or another impinge upon the project. The project is to be developed as a state farm in accordance with the general policy guidelines announced by the client. For reasons discussed in other annexes, the state farm will have a significant mechanised component and will either have or attract important livestock and processing functions though the degree of mechanisation and the

viability of a feedlot have to be tested. The presence in practice of such an organisation in what at present is largely bush with small areas cleared for seasonal subsistence cultivation cannot but have a profound effect upon the district. It is therefore important to ensure that even such a mechanistic structure as a state farm should be so organised as to be seen as part of regional development, with responsibilities for promoting health, education and community activities as well as maximising production.

## 1.2 The General Administrative Structure

The ultimate decision-making body for the country is the Political Bureau, at the head of which is the President of the Somali Democratic Republic who is also Chairman of the Somali Socialist Revolutionary Party. The party itself has its own specialised bureaux, each of which covers a particular aspect of national affairs. Their function is to ensure that the administration of the country is following the general socialist principles which they interpret in accordance with the specific needs of Somalia. The party structure is repeated at regional and district levels, with regional governors and district commissioners as chairmen of the party organisation within their areas of responsibility.

The actual administration of the various sectors of the economy is in the hands of the Presidency and 21 ministries. The Presidency has special functions of a non sectoral nature. Thus personnel, state planning, resettlement, audit and the police are matters which come under the general guidance of the President's office. The ministries are responsible for providing services and applying the general policy to the particular needs of their sector within the budgetary provisions available to them. Each ministry has its headquarters in Mogadishu, organised in accordance with its special functions. Thus some ministries, such as education, have as many as six directorates, co-ordinated by a director general, who is responsible directly to the minister. Other ministries such as posts and telecommunications have no need for such a sub-division and operate with a director general in charge of a unified organisation with a single function.

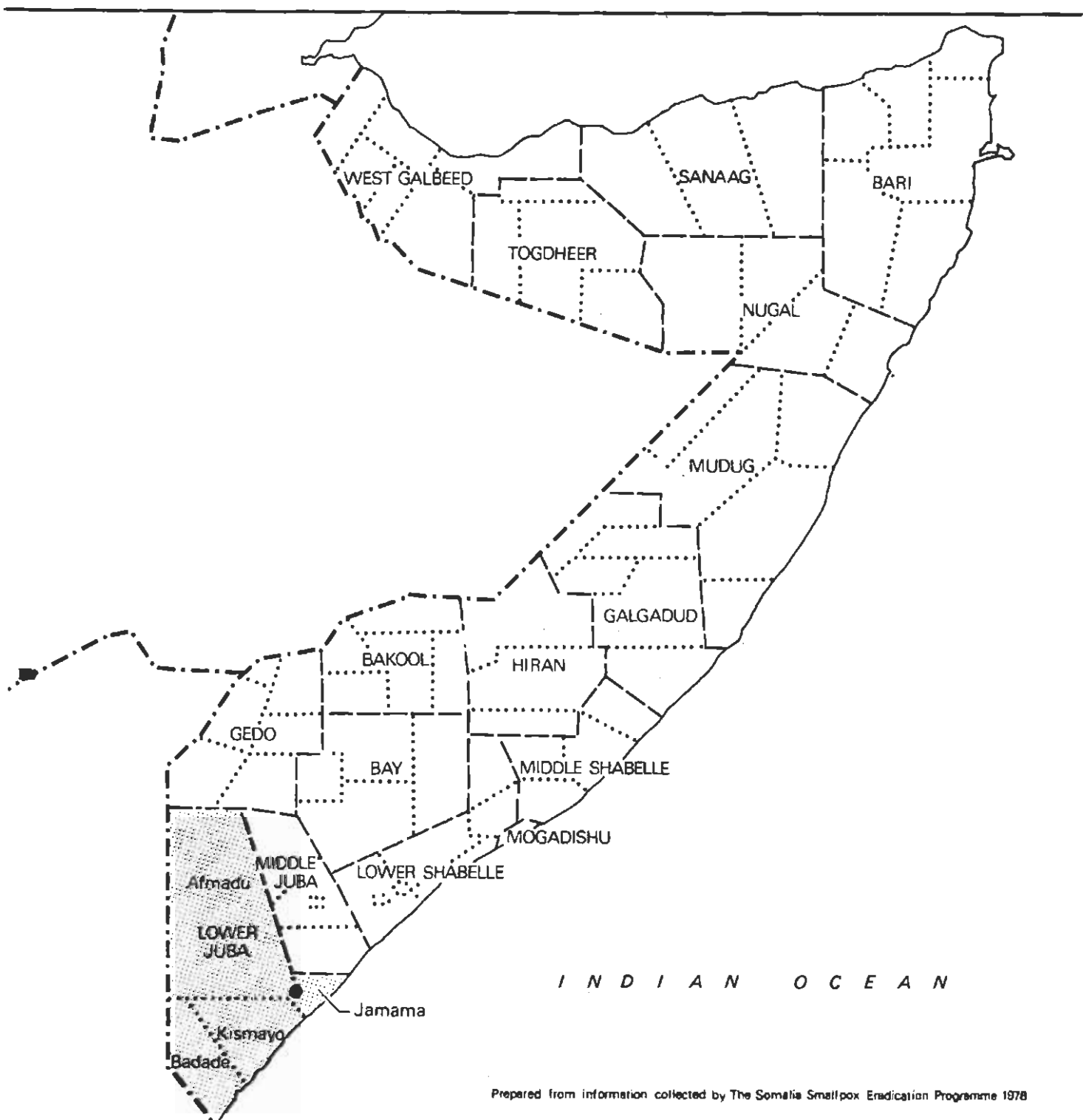
Most ministries will also operate in any or all of the sixteen regions into which the country is divided (Figure 1.1). Where a ministry has a number of separate functions, as is particularly the case with the Ministry of Agriculture (MOA), the most senior in the region will be the regional co-ordinator, administratively responsible for any other officers of that ministry. Each regional co-ordinator comes under the administrative authority of the regional governor, whom he will advise upon the technical issues covered by this ministry, and who together with officers from other ministries will form an administrative council. This structure is repeated at the lower district level, although shortages of staff rarely enable these ministries with multiple functions to have representatives of each function at that level. Thus the Ministry of Education would as a rule have a single district education officer with responsibility for the various village primary school headmasters. Guided by the regional governors and the district commissioners, there is a hierarchy of councils, from village and district and region, which provide a forum for the discussion of local problems and which are encouraged to offer constructive advice over the development needs of their areas.



# Somalia: regions and districts

1.1

- Region Boundary
- ..... District Boundary
- Mogambo Project



While the ministries are concerned with the provision of services and technical guidance, the implementation of state enterprise is in the hands of statutory authorities. Because of the underlying principle of state ownership, there are many of these bodies, a list of which is given in Table 1.2. Each one of these represents a management structure and a bureaucracy which makes considerable demands upon the available trained manpower, but the greatest problem lies in the fact that certain operations thereby come under the control of more than one ministry. The livestock industry is a case in point. Here the Livestock Development Agency (LDA), which comes under the Ministry of Livestock, Forestry and Range, is responsible for building up the livestock export market. It handles the export of live animals, whereas chilling, freezing and canning operations are handled by the Kismayo Meat Factory (KMF), which is under the Ministry of Industry. Similarly, the Hides and Skins Factory comes under the Ministry of Industry, although the Hides and Skins Agency is under the Ministry of Commerce. Nationalisation is by no means an easy matter, nor is it necessarily achieved by switching agencies between ministries, as has happened, for instance, with the KMF and, in another context, with the Agricultural Development Corporation (ADC). This division of responsibilities will be a problem with the proposed Mogambo state farm, and with the development of the irrigation potential of the Juba river, unless co-ordination is institutionalised from the beginning.

### **1.3 The Project Area**

#### **1.3.1 General Infrastructure (see Figure 4.1)**

Mogambo project area lies in Jamama district, one of four districts of the Lower Juba region. There is a good surfaced road between Kismayo and Gelib on the west bank of the river, with access to the slightly more developed road network on the east of the river by means of a road bridge south of Kobon village, leading to Jamama, and another one north of Mogambo at Kamsume. Apart from the two road bridges, which are over 30 km apart, the only link between the villages on the opposite banks of the river is by ferry, of which there are three between Mogambo and Kobon. The ferries are privately owned and are not powered. There is a bus service from Mogambo to Kismayo at a fare of SoSh 5 per person, and for about half that price people can travel on the backs of lorries.

#### **1.3.2 Population**

For administrative purposes, the district is divided into five sub-districts. The population is distributed mainly along both banks of the river in approximately 127 villages, of which many would accommodate fewer than 50 families. The total population of the district according to the figures supplied by the district administration is of the order of 84 000 people, of whom about 12 000 live in Jamama. The twelve villages identified in the TAMS/FINTECS report as being near the project site are the principal villages out of a total of 24 villages and hamlets within the immediate area. The population according to the 1975 survey of the twelve villages was 11 104 distributed among 2 538 families. The figures provided by the district administrator might indicate a considerable increase in population, or a considerable degree of inaccuracy in the survey figures. For instance, five of the villages from the 1975 survey appear in the district commissioner's figures, and a comparison of the number of families in these villages is given in Table 1.1.

TABLE 1.1

Numbers of Families in Villages

	TAMS/FINTECS report	District commissioner's figure
Kobon	604	800
Mana Moofi	438	750
Fagan	120	180
Mogambo	335	920
Bulo Yaag	128	120

The village head at Mogambo, however, gave it as his opinion that the present population of the village was 1 664 or about 332 families, with an average increase each year of about 40 families. The most likely explanation for the discrepancies is that the district administration figures are totals which include the groups of hamlets which relate to the five main villages, and therefore that the total number of families in the project area is the total of the main villages, with Bulo Yaag lying on the northern end and Kobon on the southern. There would thus be 2 700 families, which would represent an increase of 232 over the TAMS/FINTECS figure for all twelve villages.

### 1.3.3 Occupations

The main occupation of the people in the area is subsistence agriculture, supplemented by labour on the banana plantations which lie between the eastern boundary of the project and the river. Because of the tsetse infestation within the area, there is very limited livestock activity, and the nomad trails avoid the area. Some villages, such as Mogambo, are inhabited by ethnic groups to whom a livestock economy is alien. Other villages contain families who own stock which are ranged with the nomad herds.

Jamama, being the district centre, has attracted a number of Government officers and salaried employees, as well as the traders to supply their basic consumer requirements - general stores, butchers, and others. The main industrial activity is cotton ginning, which is undertaken at the one operational ginnery on the outskirts of the township. This ginnery has a capacity limited by its layout and its outmoded single roller gins and low density hand fed press. Any future increase in seed cotton production would have to be matched by a complete rehabilitation and redesign of the ginnery buildings, layout and ginning equipment. This rehabilitation would not necessarily provide additional employment opportunities, because a modernised ginnery would certainly be less labour intensive than the present one.

### 1.3.4 Land Tenure

Prior to 1969, agricultural land was held and disposed of in accordance with the traditional system appropriate to each locality, or in accordance with Islamic Law, or with the terms of the concessions offered by the colonial administration. With the revolution, all land became state owned. Where concessionary land had been abandoned or left unused, Government reallocated it, but smallholders who previously occupied and cultivated land were allowed to continue to exercise their cultivation rights.

In 1975, the Land Registration Act consolidated land tenure legislation and defined the conditions as to size and use which would enable private individuals and institutions to hold and dispose of land. Thus, although the right of full ownership was extinguished, a system exists which secures land to the occupier and his heirs, providing he has registered his right to occupancy and providing he disposes of the land in accordance with the prevailing conditions. This title is such that, if the Government wishes to resume occupancy of allocated land, it may do so, but will pay compensation for any capital investment thereby lost to the registered occupier.

Registration of land is the responsibility of the Directorate of Land and Water of the Ministry of Agriculture, and the approval of the ministry (which, in effect, is that of the senior agricultural officer in the area) has to be obtained before registration is finalised. The other conditions prior to registration are that the application is for an individual holding of not more than 30 ha of irrigated annual crops, 100 ha of irrigated perennial crops or 60 ha of rainfed crops. Larger holdings would only be accepted if the applicant were a cooperative society or a company. If the holding is not cultivated within a stipulated period from the date of registration, the registration is invalidated. Registered land may not be rented, though it is possible to rent or lease state land for approved large scale projects.

In practice, the registration procedures are as yet incomplete and there appears to be some disagreement over the interpretation of ownership and disposal by inheritance. In the project area, there is little agricultural activity and what does exist is seasonal, non residential and subsistence. Outside the project area, but within the Jamama district, agricultural activity is either confined to the cultivation of banana plantations by labour, paid on piece rates or by tasks, or is of the low technology smallholder type, largely subsistence and lacking any effective support services. The labourers on the banana plantations also have plots of land and it appeared to be customary for the plantation owners to provide certain minimal facilities (such as tractor cultivation or even pre-harvest subsistence credit) to their workers.

### 1.3.5 Labour Mobility

The extent to which labour is actually mobile (as opposed to being theoretically available) is difficult to assess. While the labour officers maintain that labour is available (in the sense that there is a great deal of underemployment), the experiences of the Juba Sugar project and the Fanoole state farm would seem to suggest that it is not sufficiently mobile to be drawn into labour intensive schemes at the present level of inducements, with low wages, seasonal occupations and considerable distances to travel. Even when the Juba Sugar project sends lorries into the Jamama district to recruit labour for the sugar plantations, there is not sufficient labour prepared to accept the convenience of transport to and from the site as a sufficiently attractive inducement to offering itself for hiring.

**TABLE 1.2****State Agencies and Authorities**

<b>Ministry</b>	<b>Agency</b>
<b>Agriculture</b>	National Banana Board (ENB) ONAT Agricultural Development Corporation (ADC) LIBSOMA
<b>Industry</b>	Somaltex Vegetable Oil Milling Agency Kiiswayo Meat Factory (KMF) Jowhar Sugar Estate (SNAI) INCAS Milk Factory Mogadishu Hides & Skins Centre (Leather Agency) State Monopoly Agency Foundry and Workshop Cigarettes and Matches Factory Flour and Paste Factory ITOP Fruit Processing Agency Afgoi Brick Making Factory
<b>Commerce</b>	WAAGAD (Trade Agency for Vehicles and Spares) National Petroleum Agency ENC (National Trading Agency) Building Materials Agency Hides and Skins Agency Clothing and Utensils Import Agency Chamber of Commerce
<b>Livestock Forestry and Range</b>	Livestock Development Agency (LDA) National Range Agency
<b>Transport</b>	Somali Airlines National Transport Agency
<b>Marine Transport</b>	National Shipping Agency Somali Ports Authority Somali Forwarding Agency
<b>Public Works</b>	National Electricity Authority (ENEE) National Construction Agency Somali Engineering Consultants
<b>Water and Minerals</b>	Water Development Agency (WDA)
<b>Finance</b>	Central Bank Somali Development Bank Commercial and Savings Bank SICOS (State Insurance Co. of Somalia)

TABLE 1.2 (cont.)

Ministry	Agency
Health	ASPIMA (Drugs Importing Agency) Somali Social Security Agency
Higher Education	National University, Museum, Library
Labour and Social Affairs	SIDAM (Management Training Institute)
Fisheries	Fishing Canning Agency Somali Fish Company
Information	State Printing Agency National Films Agency National Theatre
Presidency	Settlement Development Agency (SDA) National Tourism Agency National Parks Agency

## CHAPTER 2

### THE INSTITUTIONAL FRAMEWORK

#### 2.1 Introduction

As far as the Mogambo project is concerned, there are seven ministries, with a number of attendant agencies, which are concerned in varying degrees with the type of development which is considered to be appropriate. There is also one agency which should be very much concerned but which has not yet been formed. This is an issue which should be settled quickly and should also be discussed here because the institutional framework is incomplete without it.

The Juba valley is the largest remaining area with an unexploited potential for irrigated agriculture in the country. There are a number of well established small pump schemes drawing water from the river and the valuable production and export of bananas depends upon their continuing to do so. There are also a number of projects already being implemented such as the Fanoola project with its state farm, the Juba Sugar project and the Trans-Juba livestock project, while others such as the Saakow Agricultural Development, have been studied in considerable detail. Other proposals again have been identified for further study, all of which will add to the demands for water. Finally, there is the Bardheere dam project which, if implemented, could result in modifications to current and future proposals, including the Mogambo project. The construction of the dam would, in fact, answer many problems, and would be the ideal point from which it would be possible to control and allocate water for irrigation purposes.

It is not only the allocation of water which requires planning. There is also the question of priorities for crop production in relation to water and to labour availability, the location of processing facilities, the degree of emphasis upon livestock, the conservation of forests, and the spread between smallholder systems, group farms and estate type enterprises, whether state or private or corporate. These questions need to be examined in the single context of the Juba river valley, and a regional co-ordinating authority with regulatory power is clearly indicated. The Government, of course, is well aware of the need to coordinate the various development projects and it is understood that they have asked for advice on setting up an authority, and for recommendations on the constitution, powers and aims of such a body. In the discussions on the organisation and institutional background to the Mogambo project, it has been assumed that there will be a Juba Valley Development Authority (JVDA) by the time the Mogambo scheme is implemented, and that the JVDA will be a member of the Mogambo board with authority to ensure that the Mogambo farm, once approved, is not constrained in its crop production and processing activities by the management, labour and water requirements of any existing or future schemes.

#### 2.2 Agricultural Institutions

The institution which plays the major role in agricultural development is the Ministry of Agriculture (MOA) which is organised under the director general into a number of directorates, each one having responsibility for specific functions. The most important functions are discussed below.

### **2.2.1 Cooperatives**

The Government of Somalia lays great emphasis upon the use of cooperatives as a means of developing smallholder agriculture, although in the context of their policy of scientific socialism the smallholder is seen only as a stage in an evolving process which leads to full collective farming. This evolution passes through three stages.

The first stage is the familiar multipurpose co-operative society (MPCS) wherein smallholders, having rights of usufruct and disposal over defined plots of land, join together to form a service co-operative which will provide credit, tractor hire, inputs and marketing facilities. The Government, through the Department of Co-operative Development of the MOA, provides funds and training facilities as well as supervision and assistance over management. The most recent figures available show that there were 47 of the MPCS's throughout the country, with a membership of 13 213 having an average holding size of 2.4 ha each. Five out of these 47 were in the Lower Juba region.

The second stage is the co-operative group farm, where the smallholders, as well as having their own plots, also commercially farm areas of land allocated to them by Government. Government in this case supplies the group farm with basic facilities such as storage, and provides assistance in acquiring equipment for communal ownership, providing the farm management has the necessary capability. Group farms are controlled by management committees of nine which plan and assign work to the members in proportion to their ability. The committees also assess the value of work in terms of work units. The management committees are supervised in their turn by a 3-man audit committee. There were 244 group farms, with a membership of 14 038 in 1978, and an average size of 141 ha. Sixteen of these group farms were in the Lower Juba region.

The third stage, not yet reached, is the fully collective farm, with collective ownership and responsibility. Since an underlying element of co-operatives is the concept of voluntary association, it is difficult to envisage any immediate movement in this direction.

The policy of the Department of Co-operative Development is to encourage development on a step by step basis, accepting the constraints due to shortages of staff, lack of management skills and lack of any real understanding among the smallholders and the landless of the technical and organisational issues involved.

### **2.2.2 State Farms and Agricultural Production**

The state farm is regarded by the ministry as an effective method of developing land which, however, requires heavy capital investment in irrigation works, mechanisation, processing, marketing and skilled management. Their operation is supervised by the Department of Agricultural Production, which is also responsible for the agricultural crash programmes. These are aimed at training unemployed volunteer youths in agricultural production and thereby extending the area under cereal crop production. The programme, though under the office of the President, relies upon the MOA and inevitably suffers from the shortage of technical staff at the sub-professional level who are needed to train the volunteers in the field.



### 2.2.3 Research, Extension and Training

The Agricultural Research Institute is a department of the Ministry of Agriculture with responsibility for agricultural research in the country. Irrigated crop production research is concentrated mainly on the 400 ha Afgoi Central Agricultural Research Station (CARS) which was established in 1964 under a USAID funded programme. There is a subsidiary station near Gelib of 40 ha, and rainfed research facilities exist in the Upper Juba and north-west areas. The CARS is responsible for the Afgoi Seed Multiplication Centre which, however, is inadequately equipped for supplying the needs of any major developments in irrigated crop production in the Juba valley. There is thus every justification for undertaking seed processing at Mogambo, in collaboration with CARS.

Extension and training are functions of a separate department of the ministry, although all departments in fact conduct their own extension work, as do the autonomous agencies such as the National Banana Board. There is a good case for specialised agencies, dealing with a single plantation crop such as bananas, to employ their own specially trained technicians for providing the farmers with advice and assistance. The general aims of the department are to increase yields through demonstrations of row cultivation, plant populations and weed control and through advice on buying improved seed through the Agricultural Development Corporation (ADC). They also offer advice on ox cultivation, pest control, and the use of credit, in theory using selected progressive farmers to pass on the advice. The effectiveness of the service is minimal because of the lack of staff and of the doubtful value of the progressive farmer system. The Lower Juba region has, in fact, only three extension agents, one of whom is at Jamama, one at Kismayo, while the third has a van equipped with a projector and film. The extension agents are recruited from secondary school graduates who are given a three month induction course in Mogadishu before being posted to a region or district. The agricultural co-ordinator at Kismayo has, in addition to the three extension agents, five plant protection personnel for the Lower Juba region, with a further two expected, two co-operative assistants and a food protection unit under the Land and Water Department of the Ministry of Agriculture. Because of the shortage of staff, the departments inevitably concentrate upon the co-operative group farms, and hope that the progressive farmers will be able to stimulate interest in the improved techniques which they have learnt.

Training for farmers is undertaken at Farmer Training Centres (FTCs) which have been established at five locations throughout the country, one being at Jamama. The Jamama centre has residential accommodation for 40 students, with a permanent non-teaching staff of ten. The aim of the Jamama FTC is to offer five 1 to 1.5 month courses per year to selected farmers, covering a range of subjects including plant protection, general agriculture and animal husbandry, with ministry staff providing the teaching. The farmers, on return to their villages, are expected to disseminate their knowledge to their fellows. The FTC also runs occasional in-service courses.

The Juba Sugar project is actively engaged in setting up a training facility for farm mechanisation. In the first years of the training centre, the accommodation and teaching capacity will be engaged upon the project's own considerable training needs, but thereafter it is likely that sponsored students from other projects adjacent to the centre would be accepted. There is also a vocational training centre, supported by funds from the ODM of the United Kingdom, which is located in the Lower Juba region within range of the Mogambo project. Neither of these centres, however, has plans or capacity for the sort of training needs for training supervisors, foremen and labour in the type of team work appropriate to crop husbandry and water management on a state farm.

Training for professional staff (university degree courses) and technicians (diploma courses) within Somalia has been possible only for the last few years. In 1972, the Faculty of Agriculture was opened at Afgoi and is now able to run four year courses in general agriculture, with an output of about 40 per year. The Agricultural Secondary School, also at Afgoi, was opened a year later, and now handles about fifty students on the four year diploma course. Prior to the opening of these institutions, degree and diploma training was undertaken overseas. The facilities now available in Somalia are still supplemented by higher courses overseas.

#### **2.2.4 Irrigation**

There is no irrigation department as such, but the Land and Water Department is concerned with hydrology, irrigation, flood control and canal maintenance services as well as dealing with land registration matters. They operate mainly in the area of small-scale pump schemes. Where a major Irrigation scheme is approved, the executing agency is the MOA, with foreign technical assistance, but execution is generally through a state farm a group farm, or a settlement scheme, all of which either come under a separate agency or, like Mogambo, have their own organisation relating directly to the director general or the minister.

### **2.3 Other Agricultural Institutions**

#### **2.3.1 Agricultural Development Corporation**

The agency which will be of greatest importance to the Mogambo project is the Agricultural Development Corporation, which was set up in 1971, under the Ministry of Commerce, but was transferred to the Ministry of Agriculture in 1978, and is responsible directly to the minister. It was established as a co-ordinating agency for the purchase and storing, handling and marketing of all grain crops grown in the country. Its responsibilities now include handling rice, oil seeds and cotton, as well as the original maize and sorghum. It is organised into four main departments, for finance, commerce, personnel and administration. The commercial department is sub-divided into sales and purchases sections.

The ADC purchases, by law, all surplus production beyond the immediate requirements of the producer's family, which in theory is allowed to retain 200 kg for each member. From their purchases, ADC holds buffer stocks in each region and its present storage capacity of 150 000 tonnes is strategically distributed, with some 31 000 tonnes in the Lower Juba region of which 21 000 are at Kismayo and 10 000 at Jamama, although the silos at Jamama appear to have faults in their construction. In order to provide an adequate and convenient buying service, ADC establishes one seasonal collecting point to serve perhaps 100 farmers within a radius of about 10 km. All told, the corporation now has about 180 collecting centres, of which about 68 are in the Lower Juba region. The weighing, recording and paying are performed by ADC staff, supplemented by the staff of other ministries during the height of the season who are loaned to ADC on the authority of the regional administration.

ADC also undertakes rice hulling and maize drying - the latter under a UNDP scheme. It formerly owned and operated a ginnery, but the ginning industry is now mainly the concern of Somaltex, who declare the delivery ginnery price for seed cotton. Prices generally are calculated by ADC economists and submitted to a council of ministers with the recommendation of the Director General of Agriculture.

### 2.3.2 National Banana Board

The National Banana Board (ENB) is now in direct control of the banana production and marketing system. It has developed out of two former grower's associations which provide an input, technical and marketing service to their members. The two associations amalgamated, but were later (1977) nationalised to form the present ENB, which is semi-autonomous and responsible to the Minister of Agriculture. It is organised into three departments: commercial, technical and production. It now undertakes its own extension work through its technical officers, of whom, for example, there are three in Jamama district. The board is proposing to recruit staff with higher qualifications than has been the case formerly and is proposing to undertake its own mechanical cultivation service instead of relying upon ONAT. The production department employs quality control supervisors at packing stations; although some of the stations are privately operated, either by the bigger farms individually, or by groups of farmers co-operatively, all packing stations have ENB supervision over selection and treatment. ENB provides the cartons and packing materials, the cost of which is deducted from the price of the produce. ENB is also responsible for transport, shipping and marketing overseas. It is not until the bananas are actually loaded onto ships that ENB accepts responsibility financially for the fruit.

### 2.3.3 ONAT

The last of the semi-autonomous agencies responsible to the Minister of Agriculture is the Farm Machinery and Agricultural Supply Service (ONAT). It originated as a machinery hire agency but has increased its scope after nationalisation by taking over the supply of chemicals and fertilisers, seed and additional tractor hire facilities. Within the last year, it has relinquished much of its machinery and spare parts procurement operations to WAAGAD, the Trade Agency for Vehicles and Spare Parts (formerly FIAT), which is another Government agency, but responsible to the Minister of Commerce. This, along with a recent decision by ENB to undertake its own mechanisation services and its own supply of chemicals, has released ONAT from some of the responsibilities which overburdened its limited resources.

ONAT's performance, in fact, has not been satisfactory, because of a serious shortage of technical staff and because of a chronic shortage of spare parts, due in part to its policy of importing small quantities of many different makes and types of machinery, in part to problems of foreign exchange and in part to a poor stock control system. Their hire service has been directed mainly at state and co-operative enterprises for bush clearing, flood protection bunds and primary cultivation, and even these operations have been severely hampered by the problem of ageing equipment.

## 2.4 Industrial Institutions

There is likely to be a problem of co-ordination due to the fact that the cropping plans proposed for Mogambo farm would involve an increase in the cotton crop for which existing processing facilities would be totally inadequate. The provision of processing facilities for seed cotton and its by-products is the responsibility of two Government agencies which come within the Minister of Industry's portfolio. The other agro-industrial activity which would be consequent upon the Mogambo farm cropping pattern is that of rice milling.

The rice marketing operations are the responsibility of ADC, which purchases hulled or unhulled rice, and operates its own rice hulleries where necessary. Co-ordination between Mogambo and ADC should be relatively simple because both organisations come within the same ministry. It is proposed to dry and hull all the rice grown on the project for sale to ADC as hulled rice. The organisation of ADC is geared to accepting rice in any form, so the Mogambo farm's problems over hulling, bagging and delivering rice to wherever the corporation requires would be largely a problem of quality control and efficiency of the organisation handling the rice harvest.

Cotton, however, is more complicated, because all seed cotton is the concern of Somaltex, a Government agency under the Ministry of Industry with responsibility for processing the raw cotton and for spinning and weaving the resultant lint. However, in practice, ADC undertakes the marketing and ginning in areas such as Jamama, where Somaltex has no staff.

It is understood that plans exist for extending the cotton production in the Jamama area on a smallholder basis. In addition the Mogambo project proposals include 1 100 ha of cotton so there is a probability of a further increase of at least another 2 000 tonnes of seed cotton from these sources. The existing ginning facilities would certainly not be capable of handling any additional quantities, and it will therefore be necessary for coordination between the Mogambo farm's production schedules and the capacity of Somaltex to handle them.

This coordination, it is suggested in the next chapter, would be undertaken at the policy level by the Mogambo board and would involve joint planning to ensure that there was no duplication of storage, handling and transport facilities between the Mogambo farm and the ginners to which Somaltex would direct its seed cotton. This planning, strictly speaking, should be a function of the Juba Valley Development Authority, which would be in a position to allocate land and water for cotton production and would therefore be able to advise Somaltex on the best site and the optimum capacity for new ginning equipment. Until the authority is formed, however, and even when it exists, there would always be a need for an authoritative co-ordinating body for controlling the relationship between the farm and the Somaltex ginners.

Cotton seed represents about two-thirds of the weight of seed cotton, and has little immediate value until it has been conveyed to an oil mill. Oil milling is another of the Ministry of Industry's responsibilities, and at present (except for a few very small-scale, animal powered local oil expressing enterprises for sesame seed) there is only one oil mill at Mogadishu. Since Somalia at present imports considerable quantities of coconut oil, any additional sources of vegetable oil seeds would be important import substitutes, providing their production could be geared to the processing facilities.

Furthermore, the development of the livestock industry and any improvement on its present position as the principal export earner of the country may lead to the establishment of seed lots in the Juba valley. Oil seed cake would be an essential component of the feed lot rations, and the siting of any additional oil milling capacity as well as its extent, once the present capacity at Mogadishu is fully utilised, would become a matter of regional importance and of concern to the Ministry of Industry, the Ministry of Livestock and the Ministry of Agriculture. The particular concern of the Mogambo farm would be for the possible build-up of stocks which might lead to a delay in the disposal of its harvested seed cotton. Inadequate and badly sited oil milling capacity can lead to congestion at the ginnery, to a slowing down in the rate of production and therefore to a slowing down in the rate at which the seed cotton could be accepted.

## **2.5 Livestock Institutions**

These are covered fully in Annex 4. The only point which needs to be emphasised here is that the Livestock Development Agency (LDA), a semi-autonomous agency responsible to the Ministry of Livestock Forestry and Range (MLFR), is very much concerned in the development of the Juba valley because of the Trans-Juba livestock project. The allocation of resources for irrigated fodder production cannot be considered in isolation from the agricultural activities which are being undertaken or planned on adjacent projects. To the north there is the Juba Sugar project with a considerable projected output of molasses. To the south there will be the Mogambo farm with a production of crop residues and of cotton seed and therefore potentially of oil cake. Although the LDA comes under a different ministry from that of the Mogambo farm, the importance of coordination is obvious. Co-ordination of planning could be achieved through a Juba Valley Development Authority, while co-ordination of operations would be the function of the Mogambo farm board.

## **2.6 Social Institutions**

The Mogambo farm can only become operational if labour of the right quality can be mustered and retained. It is the general view that it will not be retained unless it is offered attractive conditions wherein provision is made for families, their health and the education of their children. This would involve three ministries - the Ministry of Labour and Social Affairs, the Ministry of Education and the Ministry of Health.

### **2.6.1 The Ministry of Labour and Social Affairs**

The Labour Department is responsible for supervising the complex legislation relating to the recruitment and employment of labour throughout the country. There are separate provisions covering the terms and conditions of employment for civil services, for employees of autonomous agencies and for technicians. Because of their relative scarcity, the employment of secondary school leavers is subject to a system of allocation, after they have completed their national service. A potential employer may, under the employment law, recruit other categories of labour through the local worker's committees, though it is possible to obtain dispensation from this under special circumstances such as are likely to pertain at Mogambo.

Considering how comprehensive the labour laws are, it is unfortunate that the department is very much understaffed.

For instance, the Lower Juba region has a regional labour inspector with only two labour inspectors, whose responsibilities include recording the extent of employment, and underemployment, assisting over the recruitment of labour, dealing with industrial disputes, and conciliation cases. One of the inspectors is at Kismayo and the other is at Jamama, while the district commissioners of the other two districts in the region (Afmadu and Badade) undertake the responsibilities of the Labour Department in the absence of labour inspectors. It is not so much that these two districts (which are largely unpopulated or have a transitory or nomadic population on the stock routes) have no inspector as that the two districts where there is a settled population have insufficient staff to be able to accumulate reliable information about the availability and mobility of labour.

## 2.6.2 Education

### (a) Non-Formal Education

The overall objectives of the country in general terms are to increase the opportunities for productive employment and to ensure that services and commodities are fairly distributed. But the equitable use of services and commodities presupposes a degree of literacy among all sections of society. The National Literacy Campaign of 1973 brought school teachers, students, civil servants, and others into an implementation programme under the guidance of the Ministry of Education and a committee from six other Government ministries or agencies whereby literacy courses were conducted in urban areas after regular working hours. The success of this programme gave rise to a complementary programme, called the Rural Development Campaign. The objective of this was to develop a basic knowledge of hygiene, agriculture and livestock husbandry through lessons in literacy. These two remarkably successful campaigns were followed by the establishment of Literacy Committees with responsibility for spreading functional literacy throughout the country. This is the aspect of education which comes under the Department of Non-Formal Education.

### (b) Formal Education

In addition to the non-formal education system, it is the aim of the country to provide free and compulsory primary education for all, and a separate Department of Primary Education has responsibility for accomplishing this aim. The primary system consists of an eight year cycle of education, followed by a four year cycle of secondary and technical education. The true primary covers the first four grades, with an Intermediate period of grades 5 to 8, followed by two years secondary and a final two years of higher secondary. The target class size in the primary system is 35 to 40 pupils, though this is usually exceeded. Primary schools with grades 1 to 4 are entitled to a headmaster, but schools with fewer than this minimum of four grades have no such entitlement.

Requests for primary school facilities originate at the lowest of the four levels of committees (national, regional, district and village) and once the request has been incorporated in the annual programme for school construction, the Ministry of Education will provide the plans for the classrooms. The community then provides the labour and materials for building the school, except

for the cost of some of the materials which are difficult to obtain, such as cement. The assistance by the ministry over these materials is reckoned to be about SoSh 5 000 per rural school, though the figure would be higher for an urban school. The teachers and the teaching equipment are also provided by the ministry, with the parents providing uniforms and exercise books.

There is a separate department of the ministry to deal with secondary and technical education, which is centrally planned in accordance with district and regional needs and the availability of teaching staff qualified at a higher level than the requirements of the primary teachers (who are secondary school leavers, with post leaving training). The ministry has a further department for teacher training, with two additional non-executive departments for administration and for planning, all departments coming under the general control of the Director General of Education. Supervision at the regional level is the responsibility of regional inspectors, with district inspectors directly supervising the village headmasters.

### 2.6.3 Health

The health of the nation is the responsibility of the Ministry of Health, whose underlying policy is to develop the present referral system - that is to say, the system which trains different categories of medical personnel to recognise symptoms and treat cases within their capability but to refer what is beyond their capability to a higher level of training. There is thus a hierarchy of first aid centres staffed by local people who have had a short training course, dispensaries staffed by Mogadishu trained medical assistants, health centres with a doctor and midwife and a small in-patient clinic, and fully equipped hospitals with surgeons, paediatricians and gynaecologists. Generally speaking, the system is one of curative rather than preventive medicine, although in the case of malaria, there is a current spraying campaign and malaria clinics, though the one at Jamama, for instance, was not in use because of lack of staff.

The ministry is organised in the same general way as other ministries, with the policy and administrative functions being performed at the Mogadishu headquarters, and the medical activities being organised on a regional basis. Inevitably the main emphasis in the past has been upon building up the medical facilities at Mogadishu, though the recent emphasis upon regional development (following on from the creation of the Ministry of Local Government and Regional Development in 1977) is producing positive programmes of improvement to regional medical facilities - as is evidenced by the rebuilding programme for the Kismayo general hospital in the Lower Juba region. The procurement and distribution of drugs is undertaken by ASPIMA (Somali Agency for the Production and Importation of Medicine) a semi-autonomous state agency.

The Ministry of Health figures for 1977 give a total of 198 doctors for the country as a whole, of whom 56% were in the Mogadishu region. There were also 753 medical assistants with 39% in Mogadishu; 209 dispensaries with 6% in Mogadishu; 66 hospitals with 60% in Mogadishu; and 5 956 beds with 43% in Mogadishu. This, of course, is consistent with the gradual build-up of facilities, the majority of doctors and hospitals being at the centre, and the majority of dispensaries being dispersed throughout the country. Assistance from the Chinese Peoples Republic has been provided in the form of doctors, of whom there is a team of seven in the Lower Juba region.

The present situation in the Lower Juba region is that the medical facilities are concentrated at Kismayo where there is one 80 bed TB hospital and one 140 bed general hospital with a total of nine doctors, with two more expected. In addition, there are four out-patient clinics in the township. Jamama district has the next largest settled population, and has one doctor, a 50 bed general hospital and eight out-patient clinics (dispensaries) in the villages. Each of the remaining two districts in Lower Juba region (Badade and Afmadu) has a ten bed health centre with a medical assistant in charge at present. Medical coverage in fact is higher on average per person in the region than is the case elsewhere in the country, except for the Mogadishu region, though clearly the coverage is insufficient.

As is to be expected in a region where most of the population is settled along the bank of the river or beside the canals on irrigation schemes, the major diseases are bilharzia (with an incidence of about 80% in the estimation of the regional authorities, which is higher than the national average), malaria and intestinal parasites. Considering the widespread use of shallow wells and the scarcity of domestic latrines, it is surprising that typhoid is not a hazard at present. Nutritional problems exist less because of lack of bulk than because of the quality of the food available which shows a protein deficiency. Many of these health problems are due to ignorance, and any assistance in the form of village first aid post, sponsored self-help, child-care clinics, home economics courses and community centres (where simple courses in the basic rules of sanitation and hygiene could be conducted) would be welcomed and supported.



## CHAPTER 3

### ORGANISATION AND MANAGEMENT

#### 3.1 Introduction

In drawing up these recommendations, consideration has been given to a number of basic objectives which underlie the Government's general development policy. The objectives which are of most concern in the Mogambo scheme are:-

(a) The need for self-sufficiency.

The project area is at present relatively unproductive, so the project implementation will immediately add irrigable and potentially highly productive land to existing resources for crop and livestock production. An objective of the scheme is therefore to identify and develop production techniques at the earliest possible moment.

(b) The conservation of resources

The water resources of the Juba valley will have to meet a steadily increasing demand as additional projects are brought to the implementation stage. Mention has already been made in Chapter 2 that there is a most pressing need for the establishment of a Juba Valley Development Authority with the powers needed to introduce a coherent plan and control system for the use of the land and water resources of the valley. The organisation for Mogambo is therefore seen from the beginning as relating to any future development authority with responsibility for allocating water resources and for establishing appropriate guidelines for irrigation and drainage systems, cropping and livestock production priorities and marketing and processing requirements. The cultivation practices proposed for Mogambo would provide data and experience which would be applicable to other schemes. For example, the feasibility of machine picked as opposed to hand picked cotton in Somalia.

(c) The improvement of standards of living.

Agricultural activities within the project area at present are mainly of a subsistence nature. The project will provide paid employment and better basic facilities within the project villages, as well as including within the farm management structure a community services officer to help raise standards through improved access to knowledge about health, education, nutrition and home economics.

(d) The provision of productive employment in rural areas.

Although there will be an emphasis upon mechanisation, every effort must be made to attract and retain as many categories of manpower as possible. The farm will be concerned mainly with crop production, but this will necessitate improved crop processing facilities and the crop by-products will have some value for livestock production. It is planned to employ a total work force at all levels and locations under

the recommended crop and water management systems amounting to 1 600 on a permanent basis, with a further seasonal requirement, reaching a peak of 900 labourers in the month of January, which it is hoped will be drawn mainly from families resident within the project area and the inhabited parts of the Jamama district adjacent to the area.

The introduction of bananas on 1 200 ha after the implementation of Bardheere dam would require a further 1 500 permanently employed labourers. The implications of this are discussed in Section 3.6.

### 3.2 The TAMS/FINTECS Report

The basic management structure proposed in the original feasibility study has been modified and developed, although the organisation remains that of a state farm. The modifications aim at providing the farm with a strong management and administrative team without which there would be no chance of achieving the production targets described in other annexes to this report. It has to be remembered that estate management on the scale proposed is not as yet within the experience of the country and that the performance of existing state farms has not been as satisfactory as was hoped. It must also be remembered that the success of the proposed management system depends to an extent upon other ministries and agencies providing marketing and processing facilities. For this reason, the recommendations for inter-ministry policy and co-ordination have been added. In addition, the farm mechanisation, the importance of water management training, crop production and disease control all call for specialist back-up to reinforce the field management system.

### 3.3 The State Farm Concept

A state farm is a form of organisation which simplifies such matters as direct control of state investment in farming operations and the pursuit and rapid fulfilment of specific national production targets. To achieve this it must have a full integrated and experienced management structure supported by specialist services.

A state farm can have certain inherent disadvantages, among the most significant of which are its size in relation to the skills available to manage it; its employment of labour which has no automatic sense of commitment beyond what is needed to complete a task or a stated period of hours for which the payment will be made; its rigidly hierarchical system of management and its tendency to develop in isolation from its surroundings. Such farms can become a form of development to which the communities outside the areas cannot relate because of the farm's use of techniques to which smallholders would have no access. If they had access to the techniques, together with the support of input, credit, processing and marketing services, or the time in which to learn how to organise themselves into co-operative groups with the necessary management skills, there would be no particular case for a state farm organisation. The recommendations for the Mogambo farm organisation which follow have been developed in such a way as to avoid the disadvantages mentioned in the previous paragraphs. Thus the whole area of the farm has been sub-divided into four individual farms of approximately equal area. Each farm would be managed as a production unit, maintaining its own records of inputs, outputs, production per man and machine hours and depending upon permanent staff accommodated within the farm area.

The work force would be able to look for productivity bonuses directly related to the performance of the farm within which they would be employed. Although the management will be hierarchical, it will be less obviously so because the work force will be able to relate to its own easily identified village farm structure without losing the advantages of higher level co-ordination, specialist services and the knowledge that its performance can be compared with other farm units sharing the same resources. Finally, by encouraging the involvement of the work force through village production committees, and by providing social facilities and guidance linked with the Government services at Jamama district headquarters, it is hoped that the state farm would develop as part of the district, as well as achieving the important national objectives of increased food production, of import substitution and, through linkages with the Trans-Juba livestock project, of additional livestock exports.

### 3.4 Labour Availability

There is ample evidence from the experience of the Juba Sugar project and the Fanoole state farm to show that attracting seasonal labour to the farm could present a problem. With the exception of the banana estates, the majority of the agricultural activities in the district are based upon smallholdings with a very low level of productivity and with a considerable amount of underemployment out of season. The seasonal labour required on the Mogambo farm has been planned as far as possible to avoid the gu season cultivation periods but there is a very heavy demand for seasonal labour during the month of January for the harvesting of maize and particularly cotton under the proposed cropping pattern. This consists of 4 300 ha of rice during the gu season and 5 400 ha of maize and cotton during the der season.

It is apparent from the problems encountered on other adjacent schemes that present wages alone would not be sufficient inducement to secure the regular daily labour force needed by the Mogambo farm. The proposals developed in later sections of this chapter attempt to solve this problem by providing additional inducements, such as permanent accommodation for many of the full-time employees, a small allotment of irrigated land per household, a bonus scheme and a level of social and agricultural services above the normal level pertaining outside the farm areas. The total number of permanently employed labourers plus the skilled labour, foremen, clerks and the technicians (those, in fact, whose families could be expected to provide seasonal labour) would amount to 1 500. Even though many of these would be accommodated in the farm villages, it is by no means certain that family labour alone would be able to meet the peak demands.

One way to reduce the demand for seasonal labour would be to plan immediately for a maximum mechanisation programme, including fully mechanised maize and cotton harvesting. This would introduce reductions in the requirements for the maize harvest, particularly in January, but the major reduction would be on the cotton harvest. The type of machine harvesting which could be used on the cotton, however, has proved itself so far only under conditions and in countries very different from Somalia. It is therefore proposed (Annex 3) that a very limited trial of 100 ha should be put under the full cotton mechanisation system, with a majority of the 1 000 ha of cotton proposed for the overhead irrigated levee soils under the hand picked system.

The total unskilled labour requirement for the peak cotton and maize harvest period in January for a labour intensive system on 1 000 ha cotton and a mechanised system on 4 300 ha of maize would be approximately 1 900, including the permanent labour engaged on the irrigation system, or as watchmen or workshop labour and others. The permanent labour force, excluding senior and junior executives required to operate the project is estimated at 1 550. This figure includes drivers, foremen, supervisors and clerks as well as unskilled labour. Provision has been included in the project for 1 120 village houses which will be constructed by the future occupiers themselves with assistance and materials provided by the contractor for the civil engineering works. A peak requirement for an extra 900 casual labourers occurs in January, giving a total work force at that time of 2 450.

Therefore, even if every family housed on the project can provide two labour units, and this is not certain, there would still be a shortfall of labour in January. Furthermore, it cannot be guaranteed that all the required permanent labour force will wish to settle in the project area. This will particularly apply to people who are already adequately housed elsewhere.

Clearly, the project area alone cannot be relied upon as the source of all labour and inevitably there will be seasonal shortfalls which could amount to more than one thousand if the project villages are not fully populated. These shortfalls would have to be made good by obtaining labour from outside the farm, possibly in competition with the other projects demanding labour. Using the total population of 84 000 for the district (in accordance with the District Commissioner's figure) the economically active population would amount to about one third, or 28 000. It is estimated that 40% of these would belong to the nomadic population of the district. In fact, the 1975 population statistics for the Lower Juba region gave the percentage of nomads for the whole region as 70%, but this figure was distorted by the drought conditions pertaining at the time of the census, and it is considered that Jamama district, with its greater agricultural and settled population would, in any event, have a lower percentage. There would thus be a population of about 16 800 economically active and settled people. Of these, an estimated 10 000 will be engaged in paid employment on banana estates, in trade or in Government service. Thus the Mogambo farm might have to rely upon recruiting up to 15% of the potentially mobile labour force of the district, estimated at about 6 800, or to depend upon the Labour Department to direct labour from outside the area of the project.

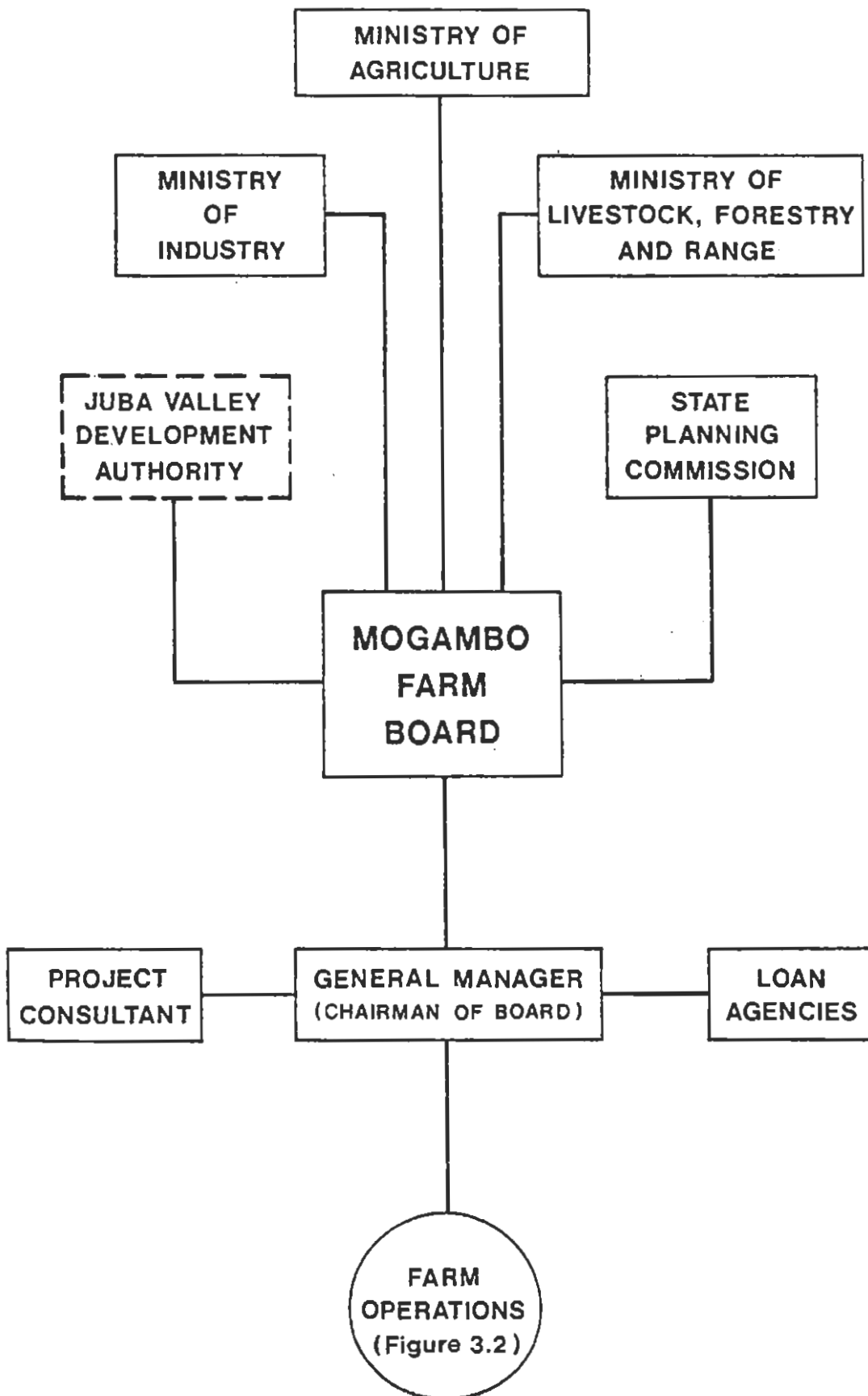
### **3.5 Mogambo Farm Organisation**

#### **3.5.1 Policy and Administration**

The operations of the Mogambo state farm would be of concern to the Ministry of Industry (MOI) and the Ministry of Livestock Forestry and Range (MLFR), and especially to the Ministry of Agriculture (MOA). Its significance as an instrument of planned development also makes it of particular concern to the State Planning Commission (SPC). Its demands upon the waters of the Juba river would bring it within the terms of reference of a Juba Valley Development Authority (JVDA), once such a body has been established. It is therefore proposed that the Mogambo state farm board be established with representatives from the five above-mentioned organisations under a chairman appointed by the Small Government (Figure 3.1). The chairman of the board would also be

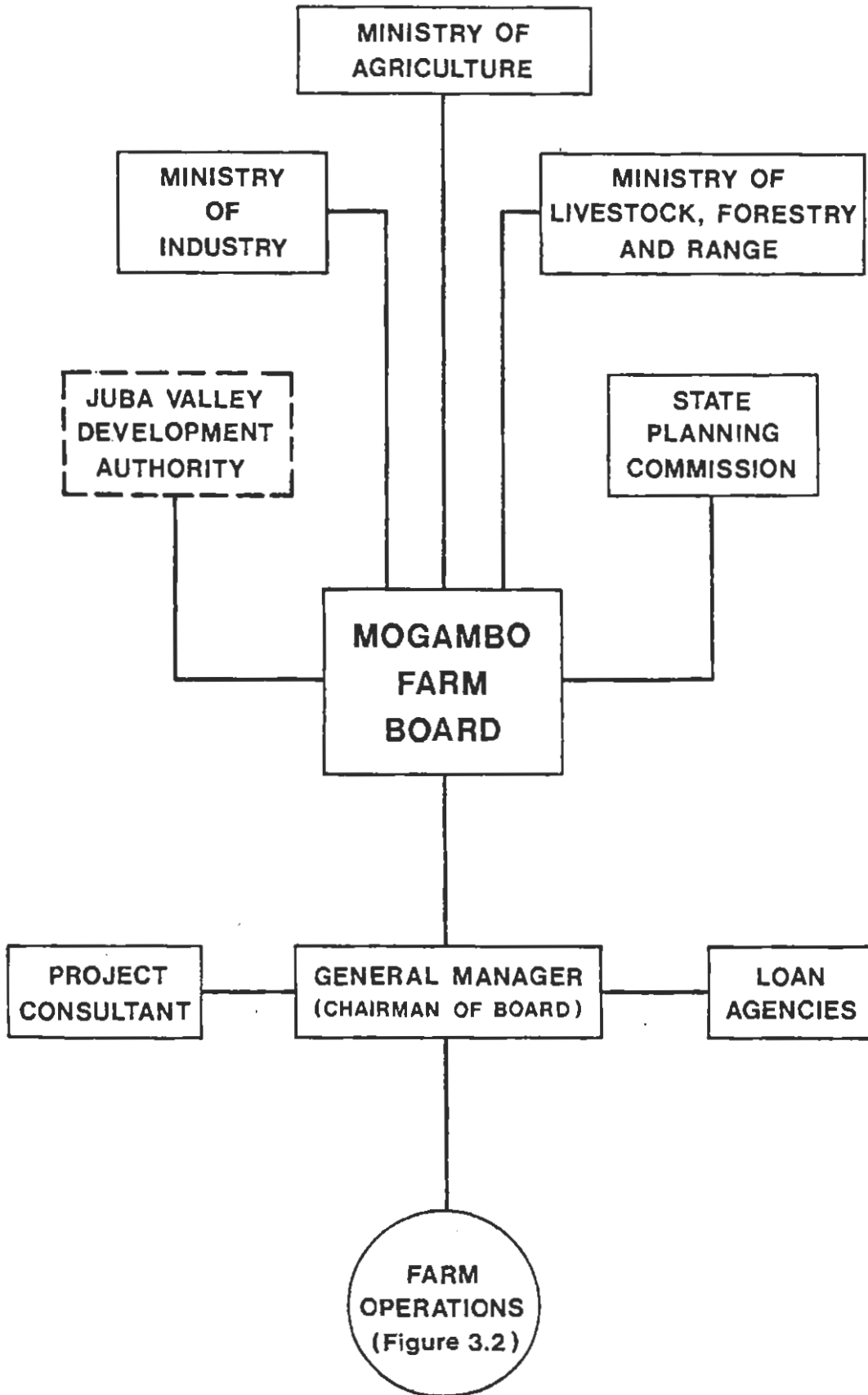
# Mogambo Farm Board

3.1



# Mogambo Farm Board

3.1



The project consultant may be assisted by sub-consultants and other specialists. There may well be more than one contractor as well as other participating in the execution of the works.

Implementation concerns the organisation of three basic activities:

- (a) Setting up the employer's organisation which will ultimately operate and maintain the project.
- (b) The engineering construction.
- (c) The agricultural planning and execution.

The project objective is a fully operational state farm and, in order to achieve this, it is essential that all three organisational activities grow together. This requires the development and bringing into production of part of the area as soon as possible so that early opportunities for training staff and gaining operational experience are provided. Thereafter, there must be progressive development to ensure that shortly after completion of the engineering works, the whole project area is under production and taken over by the employer's organisation. Adopting this procedure will help to ensure an early return on the large capital investment.

The organisation of the Mogambo state farm at the implementation stage is shown in Figure 3.3. It can be seen that in parallel with the employer's state farm organisation there is the project consultant's organisation to advise the employer, supervise construction and assist with operation and management.

With the proposed simultaneous implementation of a number of large irrigation projects in Somalia in the near future (Mogambo, Homboy and Genale in particular) a major problem will arise in supplying the necessary Somali managerial, technical and semi-skilled staff. Whilst advantage would be taken of any staff coming available from the proposed Agricultural Extension and Farm Management Project and any other sources, it is evident that sufficient numbers of Somali staff will not be available in Somalia at the start of the projects. Somali staff will have to be trained on the relevant projects over a period by staff brought in from elsewhere to start implementation of the project. The aim would be to replace expatriate staff by Somali staff as soon as the latter were capable of taking over.

Supervision of the civil engineering and infrastructure works would follow the usual practice of having a resident engineer and his staff on site supervising the contractor's work. Procurement of machinery and equipment would normally be carried out mainly by the project consultant's head office in consultation with site and the general manager.

Agricultural implementation could be achieved by employing an agricultural contractor under the supervision of the project consultant but it may be difficult to find suitable organisations to tender for the work since there are not many established firms and they are usually associated with an agro-industry having a commercial end product such as sugar or meat.

Those posts which initially would be filled by expatriate staff are listed in Table 3.1.

Organisation of  
Mogambo Farm:  
Operational stage

3.2

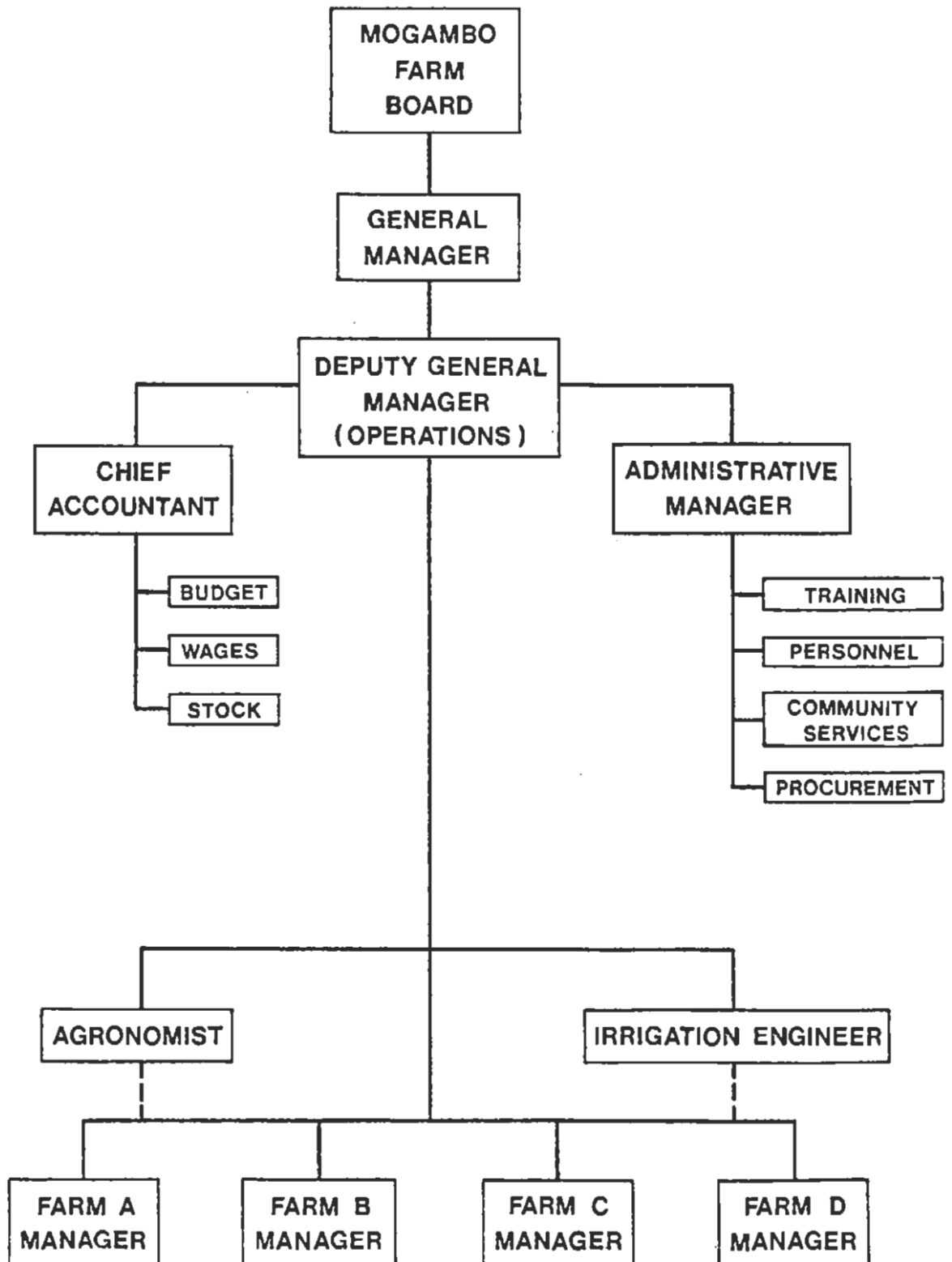




TABLE 3.1

## Expatriate Staff Requirements

Designation	Year					
	1	2	3	4	5	6
Deputy general manager	½	1	1	1	1	-
Agronomist	-	1	1	1	1	-
Mechanisation specialist (1)	-	1	1	1	-	-
Workshop manager	-	1	1	1	1	-
Processing manager	-	-	1	1	-	-
Irrigation engineer	-	1	1	1	1	-
Farm managers (2)	-	1	2	2	2	1
Chief accountant	-	1	1	1	1	-
Administrative manager	½	1	1	1	1	-

Notes: (1) Post of mechanisation specialist only required during implementation phase.

(2) Only two expatriate farm managers are proposed. The first manages Farm A for 2 years and then moves on to Farm C whilst maintaining contact with the Somali manager who takes over on Farm A. Similarly the second expatriate manages Farm B for 2 years and then Farm D.

(3) Construction contract is let at beginning of year 1, construction is completed in year 4 and full agricultural implementation is achieved in year 5.

Since there is already a considerable amount of agricultural experience in Somalia, an alternative method would be for expatriate staff to be provided by an agricultural management consultant or similar organisation who would have no commercial interest in the crops grown on the project. It would be the responsibility of the project consultant to draft suitable terms of reference for their appointment.

Both methods should be explored but it is considered that the alternative method is likely to be more appropriate for the Mogambo project.

### 3.5.3 Project Staffing

A full list of the project staff requirements is given in Table 3.2, showing the build-up through the implementation phase to the final operational requirements. The key posts are discussed in turn below.

TABLE 3.2  
Project Staffing

Location	Designation	Grade	Year							Notes
			1	2	3	4	5	6	7	
HQ	General manager	SE	1	1	1	1	1	1	1	
HQ	Secretary to general manager	PA	1	1	1	1	1	1	1	
HQ	Internal auditor	JE	-	1	1	1	1	1	1	
HQ	Audit clerks	C	-	1	1	1	2	2	2	
HQ	Chief accountant	SE*	-	1	1	1	1	-	-	(1)
HQ	Chief accountant	JE	-	-	-	-	-	1	1	
HQ	Secretary	PA	-	1	1	1	1	1	1	
HQ	Assistant accountants	JE	-	1	1	2	3	3	3	
HQ	Accounts clerks	C	-	1	2	4	6	6	6	
HQ	Administrative manager	SE*	½	1	1	1	1	-	-	
HQ	Administrative manager	JE	-	-	-	-	-	1	1	(1)
HQ	Secretary	PA	-	1	1	1	1	1	1	
HQ	Clerks	C	-	1	1	2	2	2	2	
HQ	Training manager	JE	-	1	1	1	1	1	1	
F	Training officer	JE	-	1	2	3	4	4	4	
HQ	Personnel manager	JE	½	1	1	1	1	1	1	
HQ	Secretary	PA	-	1	1	1	1	1	1	
HQ	Clerks	C	-	1	1	2	2	2	2	
HQ	Community services manager	JE	-	1	1	1	1	1	1	
F	Community officers	JE	-	1	2	3	4	4	4	
HQ	Agricultural extension officer	T	-	1	1	1	1	1	1	
HQ	Livestock extension officer	T	-	1	1	1	1	1	1	
F	Village extension workers	T	-	-	1	2	3	4	4	
HQ	Office manager	JE	-	1	1	1	1	1	1	
HQ	Clerks	C	1	1	3	5	6	6	6	
HQ	Watchmen	L	2	12	20	20	20	20	20	
HQ	Messengers	L	2	5	10	10	10	10	10	
HQ	Drivers	SL	5	10	15	15	15	15	15	
HQ	Rest house staff	SL	2	3	4	4	4	4	4	
HQ	Building maintenance	SL	-	2	4	6	6	6	6	
HQ	Deputy general manager	SE*	½	1	1	1	1	-	-	
HQ	Deputy general manager	JE	-	-	-	-	-	1	1	(1)
HQ	Secretary	PA	-	1	1	1	1	1	1	
HQ	Agronomist	SE*	-	1	1	1	1	-	-	
HQ	Agronomist	JE	-	-	-	-	-	1	1	(1)
HQ	Seed processing manager	JE	-	-	1	1	1	1	1	

TABLE 3.2 (cont.)

Location	Designation	Grade	Year							Notes
			1	2	3	4	5	6	7	
HQ	Crop processing	SE*	-	-	1	1	-	-	-	(2)
HQ	Rice mill manager	JE	-	1	1	1	1	1	1	
HQ	HQ agriculturalist	JE	-	1	1	1	1	1	1	
F	Field agriculturalists	JE	-	1	2	3	4	4	4	
HQ	Secretary	PA	-	1	1	1	1	1	1	
HQ	Clerks	C	-	1	1	2	2	2	2	
HQ	Mechanics	T	-	1	3	6	6	6	6	
HQ	Labour	L	-	5	10	15	20	20	20	
HQ	Stores	T	-	-	1	1	1	1	1	
HQ	Mechanisation specialist	SE*	-	1	1	1	-	-	-	(3)
HQ	Workshop manager	T*	-	1	1	1	1	-	-	(4)
HQ	Workshop mechanics/tradesmen	T	-	10	20	30	30	30	30	
HQ	Mobile workshop mechanics	T	-	-	2	4	4	4	4	
HQ	Workshop labour	SL	-	12	22	34	40	40	40	
HQ	Storekeeper	T	-	1	1	2	2	2	2	
HQ	Fuel pump attendant	T	-	1	2	2	2	2	2	
HQ	Truck drivers	SL	-	2	4	4	4	4	4	
HQ	Clerks	C	-	1	1	2	2	2	2	
HQ	Irrigation engineer	SE*	-	1	1	1	1	-	-	
HQ	Irrigation engineer	JE	-	-	-	-	-	1	1	(1)
HQ	Surveyor	JE	-	1	1	1	1	1	1	
HQ	Assistant surveyor	JE	-	1	2	2	2	2	2	
F	Pump operators	T	-	5	15	30	43	43	43	
F	Pump mechanics	T	-	2	4	6	8	8	8	
F	Canal maintenance foreman	S	-	1	2	3	4	4	4	
F	Canal maintenance labour	L	-	3	6	18	24	24	24	
HQ	Plant operators	T	-	2	4	6	8	10	10	
HQ	Assistant operators	T	-	2	4	6	8	10	10	
HQ	Drivers	SL	-	6	12	24	30	30	30	
HQ	Clerks	C	-	1	1	2	4	4	4	
HQ	Power station attendants	T	-	2	2	4	4	4	4	
HQ	Power station mechanics	T	-	2	2	4	4	4	4	
HQ	Water treatment works attendant	SL	-	1	1	1	1	1	1	
F	Water treatment works attendant	SL	-	1	2	3	4	4	4	
HQ	HQ farm manager	JE	-	-	1	1	1	1	1	
HQ	HQ farm storekeeper	T	-	-	1	1	1	1	1	
HQ	HQ farm labour	L	-	-	1	3	6	10	10	
F	Field inspectors	JE	-	1	2	3	4	4	4	

TABLE 3.2 (cont.)

Location	Designation	Grade	Year							Notes
			1	2	3	4	5	6	7	
F	Farm managers	SE*	-	1	2	2	2	1	-	(1)
F	Farm managers	JE	-	-	-	1	2	3	4	
F	Mechanisation super- visors	JE	-	1	2	3	4	4	4	
F	Irrigation super- visors	JE	-	1	2	3	4	4	4	
F	Block supervisors	S	-	2	6	10	16	16	16	
F	Gate operators	SL	-	2	4	6	8	8	8	
F	Storekeepers	T	-	1	2	3	4	4	4	
F	Assistant storekeepers	T	-	1	2	3	4	4	4	
F	Clerks	C	-	2	4	6	8	8	8	
F	Watchmen	L	-	4	8	12	16	16	16	
F	Drivers	SL	-	1	2	3	4	4	4	
F	Foremen irrigators	S	-	12	25	40	50	50	50	
F	Ditch riders	T	-	8	14	20	26	26	26	
F	Agricultural and irrigation labour	L	-	60	300	700	900	900	900	
F	Machinery operators	T	-	23	63	125	165	165	165	

#### Construction Supervision (Provisional Requirements)

HQ	Resident engineer	SE*	1	1	1	1	-	-	-
HQ	Assistant engineer	SE*	3	3	3	2	-	-	-
HQ	Engineer/inspector	SE*	1	1	1	-	-	-	-
HQ	Secretary	PA	1	1	1	1	-	-	-
HQ	Clerks	C	1	1	1	1	-	-	-

Notes: \* Indicates expatriate

- (1) Somali replacement for expatriate
- (2) Crop processing manager replaced by rice mill manager
- (3) Mechanisation specialist not replaced
- (4) Workshop manager replaced by Somali mechanic
- SE Senior executive
- JE Junior executive
- PA Personal assistant
- C Clerk
- T Technician
- S Supervisor
- SL Skilled labourer
- L Labourer

HQ Project Head quarters  
F Farm village

(a) The General Manager

The general manager would be appointed at the start of construction and would work with the project consultants in setting up the management structure of the project. This man would be a senior Somali executive probably from the Ministry of Agriculture and would act as chairman of the Mogambo board.

(b) Deputy General Manager (Operations)

The deputy general manager would have overall responsibility for all the farm operations and would report directly to the general manager. During the implementation phase he would also be responsible for co-ordinating the construction works with the agricultural development of the project.

He would supervise the operation through his four farm managers and the technical experts for agronomy, irrigation, mechanisation and crop processing.

(c) Chief Accountant

The chief accountant would occupy a position of great importance in effectively monitoring expenditure and income during the project implementation and operation, and in setting up a workable system during the implementation phase.

He would have under him three assistant accountants, who would be Somali graduates, one of whom would be able to take over the job of chief accountant in year 6 when the expatriate accountant's post would be terminated.

(d) Administrative Manager

The administrative manager would be responsible for four sub-departments:

- (i) training
- (ii) personnel
- (iii) community services (including extension services)
- (iv) office management

He would be appointed in the early stages of construction in order to establish contacts with the District Labour Office and other relevant agencies in the project environs. His would be a very important position since it would be his responsibility to organise the staffing for the project and, through his training manager, to ensure that the workforce is educated to perform the tasks required of them. He would also assist with the procurement of plant, equipment, fertiliser and other farm inputs in association with the project consultants.

(e) The Agronomist

The responsibilities of the agronomist would include the supervision of crop trials and seed multiplication on the headquarters farm, which would be a 25 ha experimental farm adjacent to the administrative centre. He would maintain contact with the Agricultural Research

Institute at Afgoi, to which he would offer any results of his trials, and from which he would receive advice, recommendations and seed for multiplication. He would also have a team of five agriculturalists who would be posted one to each of the four farm villages, and one at the headquarters farm. The four agriculturalists would work under the farm managers maintaining yield data, helping to supervise the agricultural operations and reporting back to the agronomist.

The agronomist would also be responsible for maintaining a check on pests and diseases. He would do this through his agriculturalists and a team of four field inspectors, one posted to each village farm. The agronomist would be responsible for the logistics and technical aspects of crop spraying programmes which would be undertaken generally by contract aerial spraying.

(f) The Mechanisation Specialist

A mechanisation specialist is required during the implementation stage in order to advise on the operation and maintenance of the agricultural plant. He will be assisted by a fully qualified workshop manager, also an expatriate, who will take charge of the project headquarters workshop. The workshop manager would be replaced by a Somali ultimately but the post of mechanisation specialist would not continue after the implementation stage.

The workshop manager would therefore ultimately be in overall charge of the maintenance of the project plant. Operation of the plant after the implementation phase would be the responsibility of the farm managers.

(g) Irrigation Engineer

The post of irrigation engineer would be permanent, filled by an expatriate during implementation and later by a Somali promoted from within the project. The irrigation engineer would be directly responsible to the deputy general manager for the efficient operation of the pump stations and the canal and drain system. He would prepare the bi-monthly irrigation requirement schedules and ensure that these were adhered to by the operational staff. His team of maintenance workers would ensure that a regular inspection routine was established and that all canals and drains were adequately maintained. The irrigation engineer would also advise the farm managers who would be in charge of farm level irrigation operations.

(h) The Processing Manager

Operation of the grain drying plant and rice mill would be supervised by an expatriate expert for the first two years (years 3 and 4), afterwards this post would be occupied by the Somali rice mill manager. The processing manager would also help to establish contacts with cotton ginning and oil milling processes outside the project.

### 3.5.4 Village Farm Management

The continuation of the line management in respect of the main farming operations is illustrated in Figure 3.4. The net irrigable area will be of the

order of 6 400 ha, and the recommendation is to divide the area into four approximately equal units. Each farm would have an individual identity by virtue of the fact that many of the permanent work force would be accommodated, together with families, in the farm village. These four villages would not be simply labour lines, but would be designed as complete communities, as is discussed below in Chapter 4. The sense of identity would be reinforced by placing all the major operational responsibility upon the four farm managers who, however, would have the specialists to provide the technical support. The farm managers would be part of the proposed input of 10 expatriate personnel with the requisite skills and experience.

Each farm manager would be responsible for the irrigation management within his area, and each farm would be sub-divided into blocks of about 400 ha under a block supervisor, each block being sub-divided again into a number of field units with a foreman irrigator in charge of several units, and a workforce of irrigators (labourers with the benefit of brief training sessions in the simple routines necessary). The irrigation regime would be determined by the irrigation specialist and modified as a result of experience, and field trials both at the headquarters farm and on the four village farms. The release of water to the individual farms would be centrally managed, but distribution within each farm would be the farm manager's responsibility, assisted by an irrigation supervisor working with the block supervisors. The irrigation teams would vary in respect of number and operations between the overhead and the surface irrigation systems.

There would also be a mechanisation supervisor under the farm manager. He would be responsible for the village vehicle park and the inspection of the farm vehicles (crawlers, tractors, harvesters and the ancillary equipment, trailers etc.). The mechanisation supervisor's particular duty would be to maintain accurate records of the performance of each vehicle - hours worked, tasks accomplished, fuel consumption, breakdowns, maintenance and tasks performed. These records would be presented to the farm manager each day, and summarised in the form of a weekly return to the central workshop, where a complete vehicle history sheet would be kept for each vehicle on the state farm. Each vehicle would as far as possible be driven and maintained by the same pair of drivers, though the award of incentive bonuses would be based upon the performance of the pair of drivers rather than upon that of the vehicle.

It would be the responsibility of the farm managers to obtain casual labour for such operations as spot weeding, taking people from the project villages as far as possible.

### 3.5.5 Procurement

In order for the state farm to function efficiently it will be necessary for the procurement of equipment, machinery, fertiliser, seeds and services such as aerial spraying to be the sole responsibility of the project itself. Clearly some liaison between the project and associated agencies and ministries can be of mutual benefit but the system must be such as to avoid delays in the supply of these goods and services. It is therefore recommended that the system set up for the procurement of goods and services is autonomous and does not require to use existing channels which are, in any case, already overloaded.

During implementation the project consultant would play a leading role in procurement but this would later become the responsibility of the department under the administrative manager.

### **3.6 The Effects of Bardheere Dam**

It is proposed that, following the implementation of Bardheere dam and the consequent availability of perennial flows in the river, the proposed cropping pattern should be changed to include bananas on up to 1 200 ha of the levee soils (Annexes 3 and 7).

This change, which could start to take place in year 7 of the Mogambo project, would eventually require an additional permanent labour force of some 1 500.

In view of the possibility of problems in obtaining the permanent labour force required for the Mogambo project it is clear that this large increase will have to take place gradually.

It is hoped that the wages offered by the Mogambo project and the benefits for the labour force working thereon (Chapter 4) will be able to attract the required labour force from other less lucrative employment. The Mogambo project will have been fully operational for two years when this change to bananas becomes a possibility and therefore the project administration will be fully aware of the labour situation in the whole Lower Juba region. They will, therefore, be able to plan accordingly, in particular by advance recruiting.

### **3.7 Alternative to the State Farm**

There are several alternative forms of development which could be adopted for Mogambo. These are discussed briefly in the Main Report, Chapter 6.

Of the three alternatives to the state farm, namely a farm corporation, a group farm, and a settlement scheme for smallholder tenants, the settlement scheme is thought to be the most appropriate.

There is no doubt that there is more incentive to work if a farmer has a parcel of land which is his by right rather than if he is simply part of a large paid labour force working on several thousand hectares. In contrast, the distinct advantage of a state farm is the strong centralised management which controls all the farm operations. Clearly, for a settlement scheme to work effectively, the centralised management would still be required in some form, otherwise the project would simply be a collection of groups of farmers all working independently.

The engineering designs proposed in this study have been based on the state farm concept but there is no major feature of the designs which would exclude the development of the project as a settlement scheme. Each farmer would be allocated an area of 2 to 4 ha and groups of farmers would work collectively within an irrigation field unit to perform such tasks as moving laterals (overhead irrigation) and priming and supervising the siphon pipes used for surface irrigation. They would also be responsible for field unit maintenance operations, some hand weeding and spraying, and hand harvesting of cotton.

There would probably be few changes to the agricultural plant proposed because the success of the system would still rely upon efficient use of mechanisation. If there was a move away from mechanisation on the assumption that the foreman and his family were capable of carrying out most operations by hand or with some hired plant then it would be much more difficult to control the operation of the



farm as a unit. This would result in fragmented cropping prohibiting the use of such inputs as aerial crop spraying and combine harvesting of large areas. The consequences would be much reduced yields and the project economics would change.

In a settlement scheme it would still be necessary to have centralised control of the irrigation system and of a pool of agricultural plant. Farmers would pay water charges and for hire of machinery and equipment. They would also purchase the farm inputs (seed, fertilizer, etc.) from the farm management and work market their produce through this management.

To summarise, it is considered that the alternative of a settlement scheme could be adopted for Mogambo but, in order to justify the high capital costs of the engineering works, it would be essential to have centralised management with strict control of the timing of agricultural operations and of the crops grown.

## CHAPTER 4

### STAFF LOCATION AND SETTLEMENT

#### 4.1 Introduction

Various conflicting views have been expressed on the subject of labour availability in the Jamama district. It would appear that, during certain months, especially during the gu season, there is at present a shortage of readily recruited casual labour, because of the demands of subsistence agriculture and peak labour demands for other farming enterprises dependent upon the labour available in Jamama district and the adjacent Gelib district. It is also possible that labour could be found if the rates of pay were to be made more attractive, but it was clear that Mogambo could not safely rely upon obtaining labour when needed, that some of its labour would need to be trained and therefore retained, and that it would not be sensible to be a party to a system of over-bidding other labour users.

The recommended approach for the Mogambo state farm is therefore to provide attractive working conditions, social and community facilities and financial incentives, based upon farm performance, for a permanent work force. The recommendations for the permanent work force include the provision of accommodation and an irrigated allotment for each family. It also means recruiting labour on a contractual basis, if necessary applying for special dispensation from the provisions governing recruitment under the employment law. This chapter therefore considers the problems which the farm will encounter in planning for a secure and productive work force.

The existing population is strung out along the Kismayo-Gelib road, and has settled in 29 named villages. Many of these villages are, in fact, too small to have any separate headman or village council. The TAMS/FINTECS report identified twelve nucleated villages and gave a population estimate of slightly over 11 000 for these villages, all of which are within or are adjacent to the project area, with a further estimate of 15 000 to 20 000 in total, inland from the western bank of the river, between the northern and southern boundaries of the project. It would not be feasible to depend upon drawing manpower from these existing villages. Instead, the state farm should locate new villages within the area, so that the work force can move from its present villages, thereby committing itself to the farm.

#### 4.2 Number and Location of Project Villages

The management structure proposed for the state farm requires that there should be a sub-division into four separate farms, with a project headquarters and a number of other activities which would be controlled by the headquarters. The cropping pattern provides for paddy rice and maize under surface irrigation and cotton, maize and upland rice under overhead irrigation. The irrigation layout has determined the actual boundaries of each farm but these have been chosen to be approximately of equal size, so that the distribution of the total work force will be even, with about 300 employees at each farm village, and the remainder at the administrative centre. Figure 4.1 shows the location of the villages, with an indication of the intercommunicating road system which will be necessary for the movement of produce from farm to processing plant or marketing outlet. The proposed implementation would take place over a period of five years.

Table 3.2 gave a breakdown of staff at the villages and at the administrative centre, year by year over the five year period. There would be a building programme for houses, offices, store and processing plant to ensure that accommodation was available by the time the staff was needed. This would mean that the project headquarters would be under construction throughout most of the construction period, while farm A village (sited near the pump station) would be built in year 1, ready for partial occupation in year 2; farm B village would follow in year 2, farm C village in year 3 and farm D village in year 4. Each village would be located on land close to the allotment area of about 30 ha per village to enable the family of the farm worker to cultivate it as a part-time occupation.

#### **4.3 Site Clearing and Village Construction**

Bush clearing will be a progressive operation, and it is recommended that, with the help and co-operation of the regional and district authorities, concessions should be offered to local individuals to select from the cleared materials whatever timber would be suitable for building poles, and to give further concessions to charcoal burners to utilise the rest of the material for charcoal production. The contractor for the construction works will be required to organise suitably located dumps for the material resulting from bush clearance. In some parts of the project area this may be impracticable and the cleared material will be burned in heaps adjacent to the cleared area.

When the village sites have been selected, the contractor will put in the roads and mark out the house plots, the position of the community centres, schools, first aid posts, mosques, abattoirs and water points. They would also provide skilled supervision and building materials and would build the key buildings for the village - the farm manager's house, housing for the technician grades, the vehicle park, stores and the community centre. Once the water supply was available, the personnel manager would commence his recruitment programme from people currently working land in the project area and from any of the surrounding villages. Those recruited would be able to choose their house lot, would be given the building materials and the assistance of the contractor, and would build their own house. This would secure them the house, and allotment and a job for as long as they kept the terms of their employment contract (which would also require them to be resident with their family).

The construction of the administrative centre would be undertaken along similar lines, although the community facilities would be built in general to a higher standard than at the villages.






#### **4.4 The Village and Headquarters Layout**

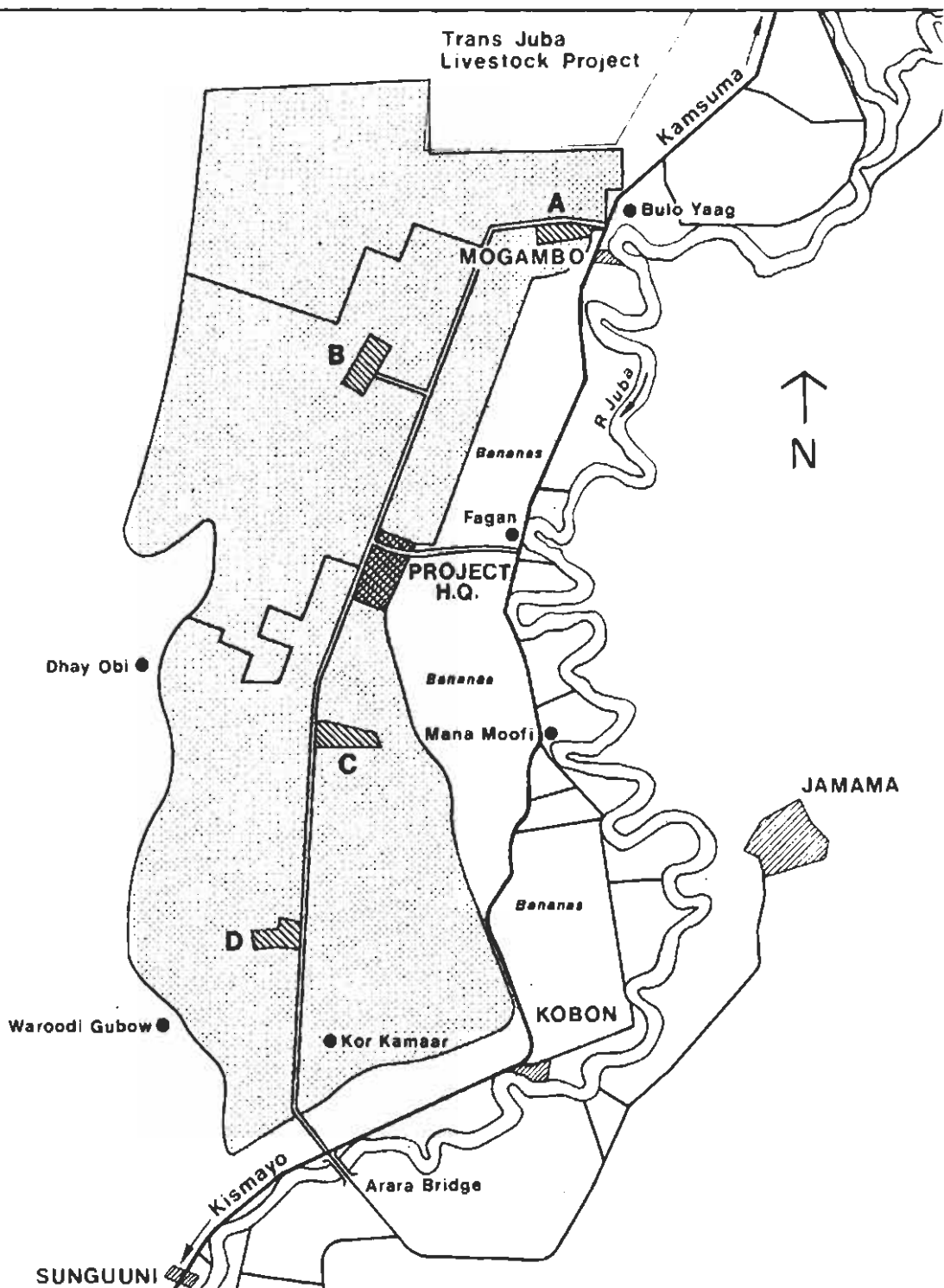
Planning for and providing the appropriate irrigation system, cropping pattern and production methods does no more than create conditions whereby a farm enterprise can succeed. In the final analysis, success depends upon the human factor - upon the skill and experience of management and upon the interest and commitment of the work force.

The necessary management skill and experience exist even though they will need in the first instance to be imported and provided with suitable accommodation and facilities. This would, in fact have a long term benefit for Somalia in that a successful Mogambo scheme would be of great value to the country as a training

# Project infrastructure

4.1

-  Surfaced road
-  Project primary road
-  Irrigable area
-  Farm village
-  Farm boundary



ground for future managers and as a model for further large scale enterprise planning - a model to be repeated or, more probably, to be modified.

The problem of planning the layout of the accommodation for management is relatively simple, especially in view of the fact that senior and middle management represent only 5% of the total permanent work force needed to run the farm successfully. It is far more complex, however, and equally important, to create conditions where the other 95% of the work force - technicians, supervisors, clerical and labour - can build up the vital sense of commitment, of involvement and of security. With a small holder scheme or a settlement scheme, this is generally automatic; in the case of a state farm, it is something which has to be developed. It has already been argued that it is not feasible to depend upon the existing village communities to provide the work force, so four villages and an administrative centre must be built to draw them onto the farm. This in itself will enable them to identify with the enterprise. The actual planning of the village layout, if undertaken with care, will increase the sense of involvement. Figure 4.2 offers a schematic layout which has been devised with this end in view.

The largest and most complex of the villages will be that at the administrative centre. This would be built with a number of particular considerations in mind.

#### **4.4.1 Administrative Offices**

There would be two main office blocks. One would be the general manager's office, with sixteen separate rooms of various sizes, plus one large room for conferences and meetings. Adjacent to the general manager's office would be the operations office, accommodating the deputy general manager and the specialists. This block would require fifteen offices, with its own separate room for meetings. The processing manager would also be accommodated in the operations office since his functions are those of supervision and co-ordination, particularly over such matters as the control of output and outturn percentages, and the movement of produce from the farms for drying or hulling or any of the predetermined outlets (ADC, Somaltex etc.).

#### **4.4.2 Other Headquarters Operations**

The training manager would have his office in the classroom block which would be built adjacent to the headquarters farm where demonstrations and practical lessons in irrigation and farm techniques would be held. The headquarters farm manager would live near the farm, with the seed processing unit located in a corner of the farm accessible to the rice drying and hulling unit. The central workshop and the rice hullery would be built on either side of the access road leading from the main Kismayo road. For the greater comfort of the residents, the processing units, together with the generator, would be sited away from all dwellings, in order to avoid pollution from dust from the rice hullery, and noise (especially from the generator). A rest house would be built adjacent to the senior staff residential area and the office blocks. A layout of the project headquarters is illustrated in Figure 4.3.

#### **4.4.3 The Residential Areas**

If people are to be attracted to the new villages, they will come not as settlers or as smallholders, but as employees who see positive benefits in moving from their present homes, which could be nearby or could equally well be

far away. Among the positive benefits which the scheme should offer are a proper use of space, the provision of easily accessible supplies of good quality water, medical and educational facilities, opportunities for community activities and provision for improved standards of public health.

It is therefore recommended that the villages (the administrative centre and the farm villages alike) should be built up from a series of small neighbourhood groups of eight dwellings provided with a well constructed, properly drained and concrete floored water yard with a spring loaded tap. A number of these neighbourhood groups would be built around an open space planted with trees and provided with plots for shops and a small community centre. There would be four of these village wards to each village, grouped around a central square where the dispensary or medical centre, the school, the mosque, the community centre and the village headman's office would be built.

Thus, each of the four wards would, in the case of the administrative centre consist of approximately 100 dwellings, split up into some twelve neighbourhood groups. In the case of the farm villages, a ward would be no more than 60 dwellings, or about seven neighbourhood groups. The community services manager and the village level workers (livestock, agricultural and community) would encourage each ward to develop the ward amenities through self-help schemes.

By basing the development of the villages on this modular system, it would be possible for groups of four families to work jointly over building the dwelling for each other and would provide an environment of mutual trust. Although the majority of the villagers would be employees of the state farm, there would also be a number of people who would be drawn by the needs of the community of employees. Among these additional settlers would be shopkeepers, charcoal vendors and craftsmen, while teachers and medical assistants would be provided as soon as the ministries concerned were in position to do so.

#### 4.4.4 Extension Activities

##### (a) The Community Officer

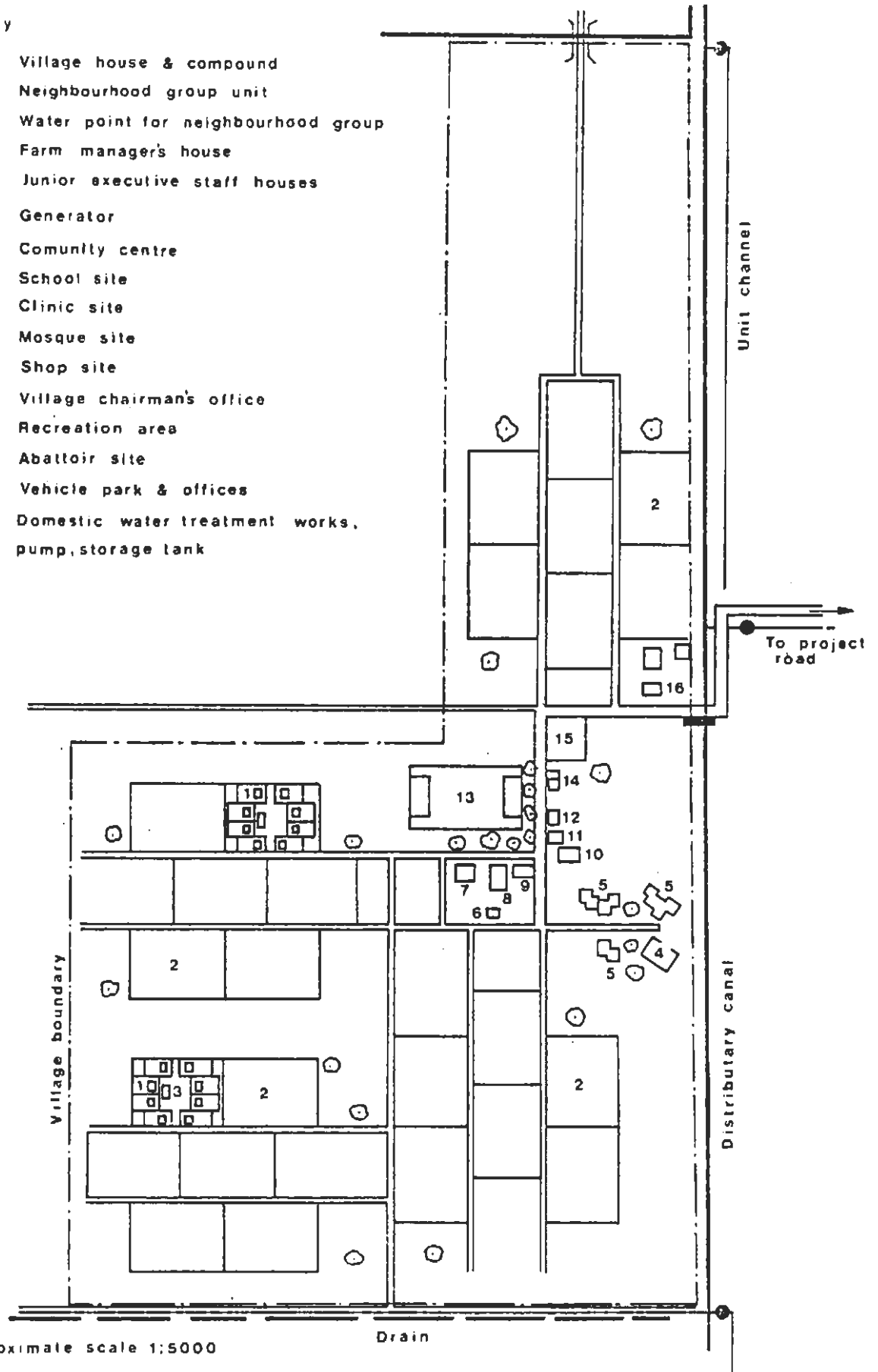
The extension activities would be under the control of the community services manager in the general manager's office. They would take the form of team activities at each of the four farm villages and at the administrative centre. As has already been indicated, the manager would be a graduate with a grounding in social sciences, sociology or education, and with an interest in community development. His general responsibility would be to co-ordinate and supervise the work of the community officers and the agricultural and livestock extension workers. His particular activities would be concerned with encouraging the village wards to elect committees, from which the eight members for village production committees would be chosen. Through these ward committees, he would stimulate an interest in self-help schemes directed at improving village amenities, i.e. educational and health facilities, their own community centre and child care activities during periods when mothers would be needed to tend the family allotment. He would also arrange for courses in nutrition and home economics at the community centres as soon as they were built, and to conduct these courses he would seek the assistance of the district representative of the appropriate ministry.

# Typical project village layout

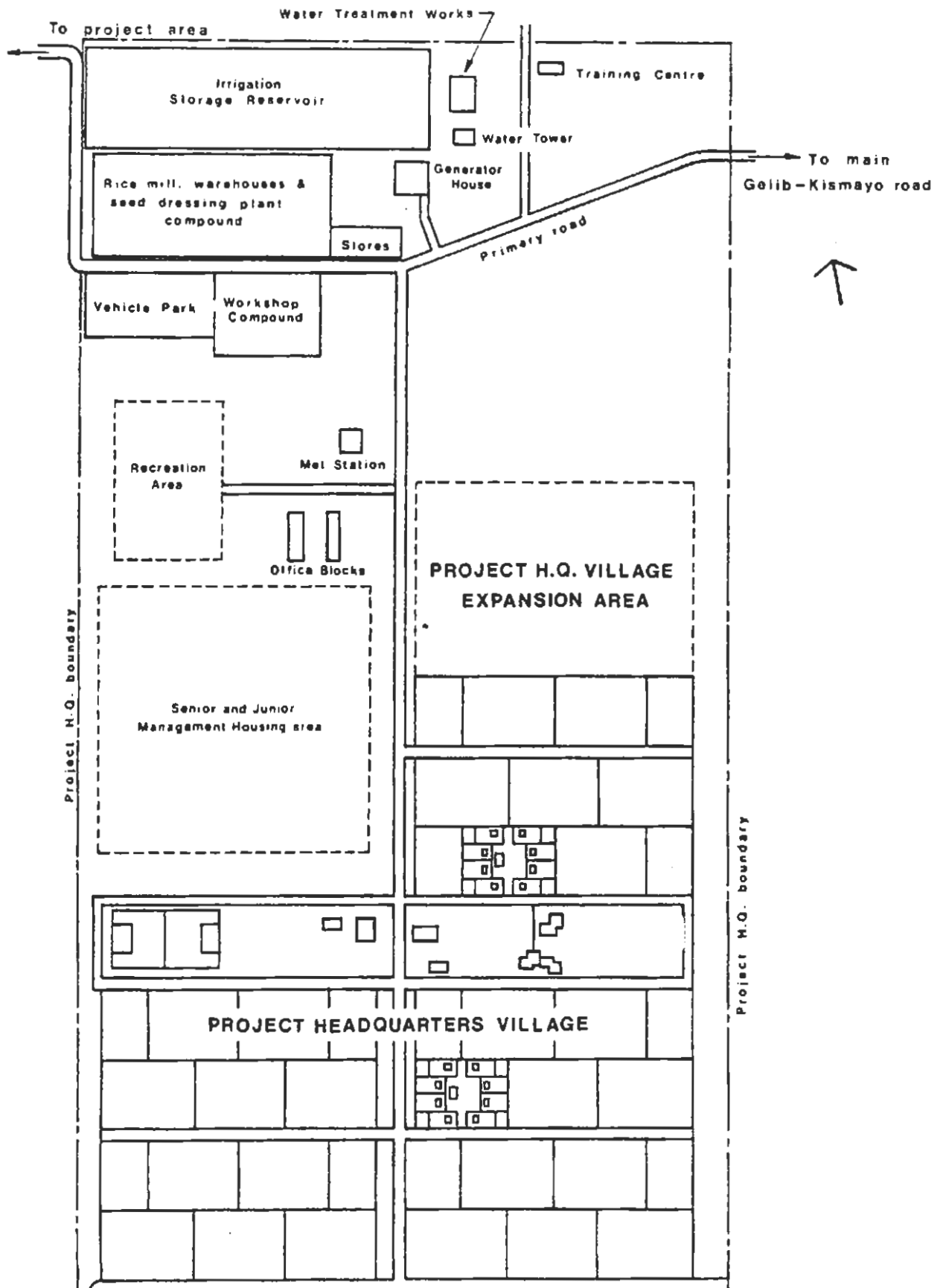
4.2

**Key**

- 1. Village house & compound
- 2. Neighbourhood group unit
- 3. Water point for neighbourhood group
- 4. Farm manager's house
- 5. Junior executive staff houses
- 6. Generator
- 7. Community centre
- 8. School site
- 9. Clinic site
- 10. Mosque site
- 11. Shop site
- 12. Village chairman's office
- 13. Recreation area
- 14. Abattoir site
- 15. Vehicle park & offices
- 16. Domestic water treatment works, pump, storage tank



Approximate scale 1:5000



Approximate scale 1:5000



(b) The Livestock Extension Officer

His duty would be to provide basic advice to livestock owners in the farm villages and the administrative centre. Livestock in the villages would have to be confined to small pens attached to their owners' houses, and would be hand fed irrigated fodder from the allotments, grass cut from along the canals and waterways and crop residues and by-products. There is a tradition of hand fed supplementary fodder to livestock along the Juba, and this management system would not therefore be alien to the livestock owners.

The livestock extension workers, who would have diplomas in animal production, would assist and advise livestock owners on the construction of suitable pens, feeding troughs, and water troughs; the use of irrigated fodder and other sources of forage; basic animal health practices and the selection and management of breeding stock.

(c) The Agricultural Extension Officer

The community allotments or garden plots would be situated at convenient distances from the villages and would occupy about 30 ha each. Each plot would be 0.1 ha and all categories of worker would be entitled to one such plot for his family. The agricultural extension workers would have diplomas in general agriculture but would receive training in irrigated crop production on special courses conducted at the training wing. Their duty would be to advise the plot holders in the correct use of water; sensible mixes of crops, including small irrigated fodder plots if the holder has any livestock; how to obtain suitable seed; proper seed rates and cultivation practices.

#### 4.5 Incentive Schemes

It is considered that a certain amount can be achieved through careful attention to the domestic and social needs of the employees. This alone would probably not suffice in the event that better paid employment was known to be available elsewhere. The state farm would therefore offer financial incentives as well, based upon productivity norms. These would take two forms. The first would be additional payments for any operator or group of operators (such as spray teams or irrigation teams) whose performance in terms of output, efficiency, or quality, was above the norm established by the personnel manager in consultation with the farm managers. This would be paid weekly as an addition to the basic hourly or weekly rate agreed in the worker's contract. To a certain extent, the award of these incentives would be subjective, insofar as the supervisors or foremen would be required to observe and assess performance.

The second incentive would be an annual one, which would be based upon the overall performance of each village farm. A value would be set upon the production of each crop. When this was exceeded, a payment related to the excess value would be credited to an employees incentive fund. The elected village production committee would then decide to what use this payment should be put. It could either be used to promote some community scheme, or it would be paid out completely or in part to the farm workers on a basis agreed by the committee, advised by the farm manager and the personnel manager.

The village production committees would be elected by the village wards at the rate of two per ward. The committee of eight would then elect from their own number a chairman who would call meetings to discuss with the farm manager, or with one of the supervisors (irrigation and mechanisation) problems which had arisen over farming operations. The committee would be consulted by the farm manager when there was a need for casual labour or when performance was below standard or when some technical problem had arisen which needed a change of routine. The production committee would also be a vehicle for planning and executing self-help schemes in discussion with the farm extension workers and, at an appropriate stage, with the district commissioner and his departmental officers.

#### **4.6 Promotion**

No provision has been made for the appointment of counterparts because it is believed that it would be of very much greater benefit to the farm and to the country if promotion were to be through a process of selection within the farm. Experience of the sort needed, especially in this instance, is not acquired in the classroom. It is an attribute which is the product of activity in a wide range of responsibilities at ascending levels of importance, and its value is enhanced in proportion to the occasions when the future managers and specialists have had to encounter and overcome the day to day operating problems of the enterprise.

Table 3.3 summarises the number of personnel in the different grades or categories of responsibility. It will be noted that there are 11 senior executives, of whom 10 would be expatriates during implementation. There are 47 junior executives, all of whom would be of graduate status from Somalia. The best of these would be selected over a period for eventual promotion to the positions of the expatriates, once their contracts were fulfilled. The junior executives would be chosen in the first instance for their aptitudes as communicators, field workers and managers, and their performance in their particular job would be kept under observation.

Furthermore, the training manager, under the control of the administrative manager, would study the particular problems associated with their jobs, and devise in-service training programmes for them, based upon the 'sandwich course' principle. The periodic courses (when they were out of the field) would be conducted at the farm training wing and by arrangement at adjacent training centres such as the Juba Sugar project centre, and the NOTCO Vocational Training Centre. This emphasis is upon in-service training is in line with the Presidential guidelines on manpower development (Presidential Circular of 1976) which require every agency to organise its training in accordance with its own present and future needs. Although the recommendations call for 47 Somali graduates, there would be a gradual build-up, and each graduate would have the advantage of (a) skilled supervision (b) periodic courses and (c) responsibility.

#### **4.7 Accommodation for Increased Workforce**

As has been mentioned in Chapter 3, an additional labour requirement of up to 1 500 workers will be required if the proposed changeover to 1 200 ha of bananas is to take place. It is unlikely that all of these extra employees will be accommodated within the project area but the areas allocated for the project villages are sufficiently large to permit such expansion if required. What is

more likely is that some of this increased workforce will be accommodated in the existing villages near to the project area, which already have a history of providing labour for banana plantations.

However it is hoped that the benefits incorporated in the project will act as an attraction to workers from the surrounding area and from other parts of the region, and that there will be a consequent increase in the potential labour force.

This increase in labour requirements will not, in any event, begin to take effect until at least seven years after the start of the Mogambo project by which time the project villages will be fully established. New employees will receive assistance to construct their own houses within the village areas in the same way as the original workers. They will immediately benefit from the community services and other improved facilities established in the initial implementation.

If, in spite of all these provisions, labour is still in short supply, it will be necessary to limit the changeover to bananas accordingly.