

1. THE BACKGROUND OF THE STUDY

The very inadequate and inexact data basis on the social and economic structures of the two project areas required a socio-economic analysis.

The main objective of the socioeconomic study can be summarized as follows:

The study aims to provide a detailed socioeconomic situation analysis in the target group in the SHIRA Project Areas A and B. Moreover, the socioeconomic study is regarded as an important contribution to the decision-making process for further planning and the realization of future development activities in the SHIRA Project.

"The Target Group includes all farmers organized in Water User Associations (WUAs)" (according to the SHIRA Project manager Mr D. Gebauer).

However, the ZELF Team has differentiated between three sub-groups, according to the main analysis of the method of ZOPP:

The Primary Target Group is defined as small-scale farmers (up to 3 ha) including their women to whom special attention is paid.

The Secondary Target Group consists of medium- and large-scale farmers, absentee landlords and nomads.

The Tertiary Target Group considers representatives of formal and informal institutions who have a considerable influence on the decision-making processes in the villages.

The majority of farmers in both project areas belong to the Primary Target Group. The study reveals that the other target groups cannot be excluded from project activities since their influence on all matters concerning the village communities, including the decision-making process, is considerable. Moreover, they can be regarded as groups which can more likely introduce innovations or support activities for development.

2. METHODOLOGICAL APPROACH

The area of this socioeconomic study is identical with the area covered by the SHIRA Project. It consists of two regions situated in the Lower Shabeelle Region, in the AW DHEEGLE - MUBAARAK REACH and the GORGAAL - AFGOYE YARE REACH.

The ZELF Team used aerial photography, maps, reports and official data to actualize the already existing knowledge about these areas.

The analysis of the available reports, statistics etc. concerning the SHIRA Project Area contained only insufficient baseline data. Therefore the main source of information had to be the questionnaire developed by the ZELF Team, and data provided by the local authorities, traditional leaders, members of the target group and informants concerned with the development of the region.

The data base for assessing the actual levels and structure of the project population is poor. The main source should have been the national population census of 1987 but its results have not yet been released. The ZELF Team therefore carried out its own population survey by gathering the population data collected in each village for the census of 1987 and the revised figures of 1989.

According to the Terms of Reference (TOR) the target group to be studied were those described in the target group identification. The instruments used to gather information were formal questionnaires, open interviews and discussions with the project staff and colleagues from various Ministries and development agencies. The relevant questions were developed, discussed and pretested in cooperation with the SHIRA Project and the target group. The final version (see Annex 7) was translated into the Somali language in order to improve the cooperation with the local staff. The formal interviews were carried out by Somali counterparts, who were introduced to the subject of the socioeconomic study and trained in performing empirical fieldwork.

Before the campaign began all villages and all relevant regional authorities were visited in order to inform them about the study and to present the ZELF Team. The units to be interviewed with the formal questionnaire were individual households, whereas the open interviews were carried out with relevant members of the respective villages, e.g. formal and informal village chiefs, village committees, religious leaders, opinion leaders and members of the target group. Since the ZELF Team consisting of male members could not have access to the female community, women-oriented interviews were carried out by local female interviewers, who had been trained and supervised by the ZELF Team, in cooperation with the Farm Family Section of the SHIRA Project. The individual households to be interviewed were chosen at random, since no detailed information about the village population was available. Their selection had to be differentiated because the settlement pattern is influenced by the tribal affiliation of the inhabitants who tend to segregate according to their social and tribal status.

To perform the study adequately, the members of the ZELF Team lived in the project areas and interviewed 385 households (5.9 % of all

households) by the formal questionnaire. The number of interviews carried out in each village was based on the number of inhabitants and limited by the time schedule for the performance of the socioeconomic study. The ZELF Team carried out its own population survey by gathering the population data collected in each village for the census of 1987 and the revised figures of 1989. The quantitative data were processed in Berlin between October and December 1989, since power supply problems in the SHIRA Project made it impossible to use adequate computer software in situ.

3. POPULATION IN THE AREA OF THE SHIRA-PROJECT

3.1 Demographic Pattern

3.1.1 Spatial Distribution

The irrigated zone on the Shabeelle River has a relatively high population density (approx. 237 inhabitants/km² in Project Area A and 247 inhabitants/km² in Project Area B). The bushland bordering on the project areas serves nomadic groups as grazing areas and is consequently less densely populated. During the dry season (jilaal) the agricultural area near the river is also occupied by the numerous nomadic groups that roam the interriverine region during the rest of the year. They depend on the river water and the harvest residues for feeding their livestock during this period. The number of inhabitants can therefore be considerably higher in the jilaal season with the result that the area is temporarily over populated by man and beast.

Table 1: Sedentary Population in the Project Areas A and B

Village	No. of families.	female	male	under 15 y	above 15 y	total	family size
Project Area A:							
Cabdi Cali***)	900	-	-	-	-	5000	5.5
Maanyo Faarax	370	1866	1844	1330	2380	3710	10.0
Gorgaal	200	814	608	706	716	1422	7.1
Carmooy	122	476	405	579	302	881	7.2
Doon Buraale**)	450	979	911	1068	822	1890	4.2
Malayley***)	185	-	-	-	-	1400	7.5
Bombaasa Kulub	467	1513	1549	1457	1605	3062	6.5
Afgooye Yare	250	640	1020	217	1443	1660	6.6
Banaaney	547	1313	1002	1243	1072	2315	4.2
Subtotal	3491	7601*)	7339*)	6600*)	8340*)	21340	≈6.5
Project Area B							
Aw Dheegle	1253	5521	4504	6278	3747	10025	8.0
Jawhar***)	100	-	-	-	-	700	7.0
Daarasalaam	274	686	746	683	749	1432	5.2
Mubaarak	1404	4033	3566	3773	3826	7599	5.4
Subtotal	3031	10240*)	8816*)	10734*)	8322*)	19756	≈6.4
TOTAL	6522	17841	16155	17334	16662	41096	

*) Subtotals are incomplete as detailed data were not available for all villages; **) including Caanoole; ***) estimates given by the village administration

Source: ZELF Team 1989

Considering the little experience of the administrators and the population in handling quantitative data in general, the figures can vary by approximately 5 to 10 %. It should also be taken into consideration that the population increases during those periods when the nomadic groups come to the river.

The settlement pattern in both areas is characterized by large villages up to several hundred houses, side by side, near the river, and hamlets and farmsteads scattered along the margin between agricultural land and bush. Typical sites for settlements close to the river are slight rises in the terrain, in some cases mounds. The site, as well as the spatial structure of the settlements and the lifestyle of their inhabitants are an expression of the locally prevailing socio-economic conditions.

Characteristic of the internal spatial pattern of large villages in Project Area A is the adjacency of dense and thin distribution of buildings. Whereas the more densely built-over quarters are inhabited by traditional sedentary peasant groups, the "river people", the more recently settled, previous nomadic (Garre Tribe) and now peasant population, for whom livestock keeping is still important, live in the thinly built-over area. Wide paths through the settlement, connecting nomadic living space and the river, serve as tracks for large herds during the jilaal season, thus assuring access for the livestock to the watering places on the river. The cattle herds belonging to villagers and visiting nomads are not only kept in the littoral bushland during the jilaal, but more often in the large open space within the settlement, where kraals and nomadic huts are accommodated.

Local facilities in the settlements of Project Area A, such as the meeting house of the village committee, a few small shops, teahouses, maize and oil mills and craftsmen's workshops are usually grouped around the central place of the village. Their significance is basically confined to the village itself and to the nomads living in the village during jilaal.

The settlement structure in Project Area B differs from the situation described above. All villages in this area are constructed in a more concentrated manner. The dominance of land cultivation over livestock keeping is demonstrated in the spatial pattern of these villages, since there are only small open spaces within the built-over area, not being used for livestock keeping.

Two villages in Project Area B are outstanding: Aw Dheegle and Mubaarak. They can be considered as small sub-centres for the surrounding region. Their physical appearance is quite different to that of the other villages. Numerous stone buildings, the wide use of corrugated iron for roof construction, as well as the use of "modern" materials (glass, metal, paint etc) bear witness to a certain degree of economic prosperity and a higher standard of living in comparison with the villages of Project Area A. Both towns function as supply and marketing centres for their respective region, evident in the clearly demarcated market areas with a roofed-in trading hall and a large mosque in each case.

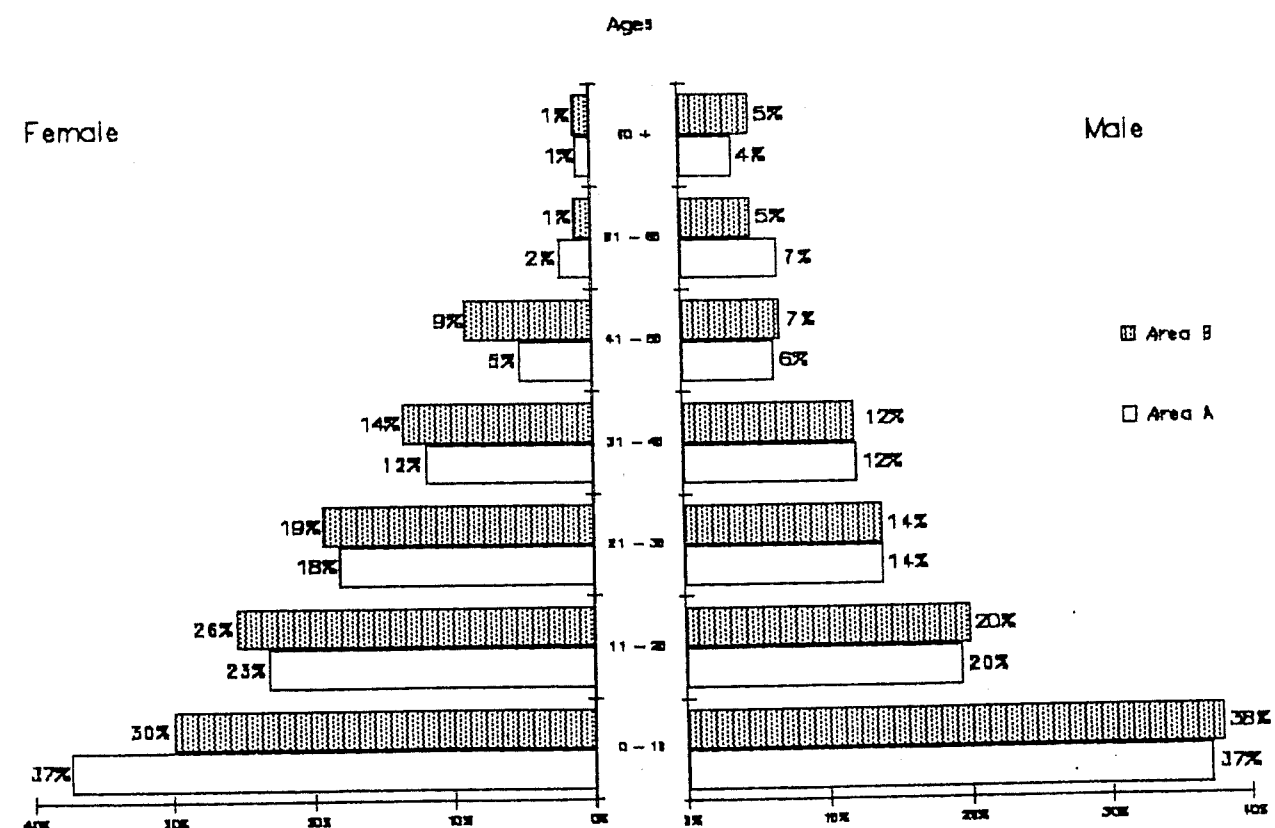
The type of settlement in the transitional zone between cultivated land and bush is characterized by scattered hamlets. In this peripheral zone of Project Area B there are numerous enclosures for livestock, where part of the livestock owning farmers from the river villages keep their cattle and small ruminants permanently. These settlements thus serve the larger villages as outstations for keeping livestock at a safe distance from the river, since the problems arising from trypanosomiasis are considerable up to a distance of 3 to 5 km (like Project Area A) from the river.

During the jilaal season there are numerous nomadic camps on the edge of the bush zone. This contrasts with the practice in Project Area A, where most nomadic groups stay temporarily in the open spaces of the villages near the river.

3.1.2 Age and Gender Structure

Figure 4 shows an age and gender pyramid for the ZELF sample of the population of both project areas. The population shows a broad juvenile base, typical of expanding populations in most developing countries of Africa. This broad juvenile base shows a potential for population growth, especially if better health services and facilities are made available.

Figure 4: Population Structure (according to Age and Gender) (as of August 1989)



Source: ZELF Team 1989

The anomaly of more men in the age groups above 50 years can be attributed to the sample of interviewees being more likely male, since in most cases the (male) ZELF Team could not interview women and in many cases the men interviewed did hesitate to reveal the age of their wives.

Women are more numerous than men during the childbearing years. Since polygamy is frequent, especially for men above 40 years, in both project areas, there is a potential for high population growth and an increasing demand for mother and child health care.

3.1.3 Migration

In both areas there are basically four forms of migration. Besides the medium- and long-term labour emigration, there also exists a seasonal and permanent immigration into the riverine settlements.

After the Revolution of 1969 the medium term emigration of labour increased considerably. The emigrants usually are unmarried labourers and members of farm families with small-scale production areas (below 3 ha). They migrate mostly directly to Mogadishu, working in the tertiary or informal sectors. A large number remains in the capital, but keep contact to their respective village, by transferring a part of their income, helping in the fields during periods of high labour demand, or selling agricultural products of their family (or relatives) in the town. It is also common that these emigrants are supported by their relatives as the opportunities for work in Mogadishu are uncertain. Unfortunately detailed data on the exchange in both directions were not revealed by the interviewees. After the beginning of the liberalization of prices for agricultural products in 1983 the medium-term migration decreased because of the improvement of income opportunities in the rural areas. There is a tendency in both project areas for medium-term emigrants to come back to their respective villages or start farming in the opened up areas of Kutunwarey and Alafuutow.

In the early seventies long-term emigrants sought work in Saudi Arabia. They mostly went to Jeddah where they lived in community with other Somali emigrants, helping each other in all concerns. It is common practice to stay abroad for a period of 9 months and to live with the family and the wife for 3 months a year. This form of migration is almost limited to members of farm families with large-scale production in Project Area B, whereas in Project Area A it has not been reported to be widespread.

These emigrants transfer a considerable part of their income to their families, who are most likely to use it for agricultural investments, such as buying land or inputs. The transfer of money occurs indirectly via traders living in Mogadishu who also have a trade agency abroad. By this informal way of transactions the income reaches its destination within a few days only.

Table 2: Income of Emigrants Abroad (p.a.)

Percent of Somali Emigrants	amount (US \$)
21	380 - 570
43	571 - 860
26	861 - 1430
10	1431 - 1700

Source: Som Consult (1985) p. 5

The fields of employment abroad reflects the fact that most of the emigrants are not skilled labourers. But according to the findings in both project areas they are among those farmers, who most likely seek

to improve and develop agricultural production. Moreover they are well respected within their community.

Table 3: Employment of Emigrants

Employment	% of Emigrants
Professionals and senior administrators	11
Clerks, sales workers	12
Employees in general services	14
Technicians, skilled workers	17
Unskilled labourers	46

Source: Som Consult (1985) p. 5

The skills learned during the stay abroad can, in most cases, hardly be used in the rural areas, mainly due to the lack of the infrastructure necessary for their application.

After the Revolution of 1969 the immigration rate increased considerably in both project areas. The immigrants were basically landless labourers and small-scale farmers from the Bay Region, who already had been working as seasonal labourers in both areas during periods of high labour demand (end of jilaal and xagaa).

Project Area A also experienced the immigration of farmers whose villages were destroyed by floods in the early seventies when the governmental policy attempted to concentrate scattered settlements in larger rural centres (e.g. Gorgaal, Doon Buraale, Bombaasa Kulub).

In Project Area B the immigration was favoured by the local authorities because of lack of local labour, hindering further extension of the agricultural area. Therefore the immigrants were given small areas to be cleared and to use on a temporary base until they had sufficient means to buy their own land. Since these people used to be seasonal workers in the respective villages before, they were settled in thinly built-over areas of the settlement or in those zones of the villages reserved for future extension. These immigrants mostly come from the Bay Region and are regarded as labourers by the autochthonous population. Moreover they do not have much influence in the decision-making processes within the villages and are frequently victims of development intentions of the more powerful "old" groups.

Seasonal immigration of labourers is frequent in both areas. Their demand is limited to periods of high labour requirement in the period of land preparation, weeding and harvesting. In Project Area A these workers (male and female) come from villages of the export-oriented plantation area, regional urban centres and to a minor extent from the Bay Region. In Project Area B they mostly come from the Bay Region.

3.1.4 Ethnic Differentiation

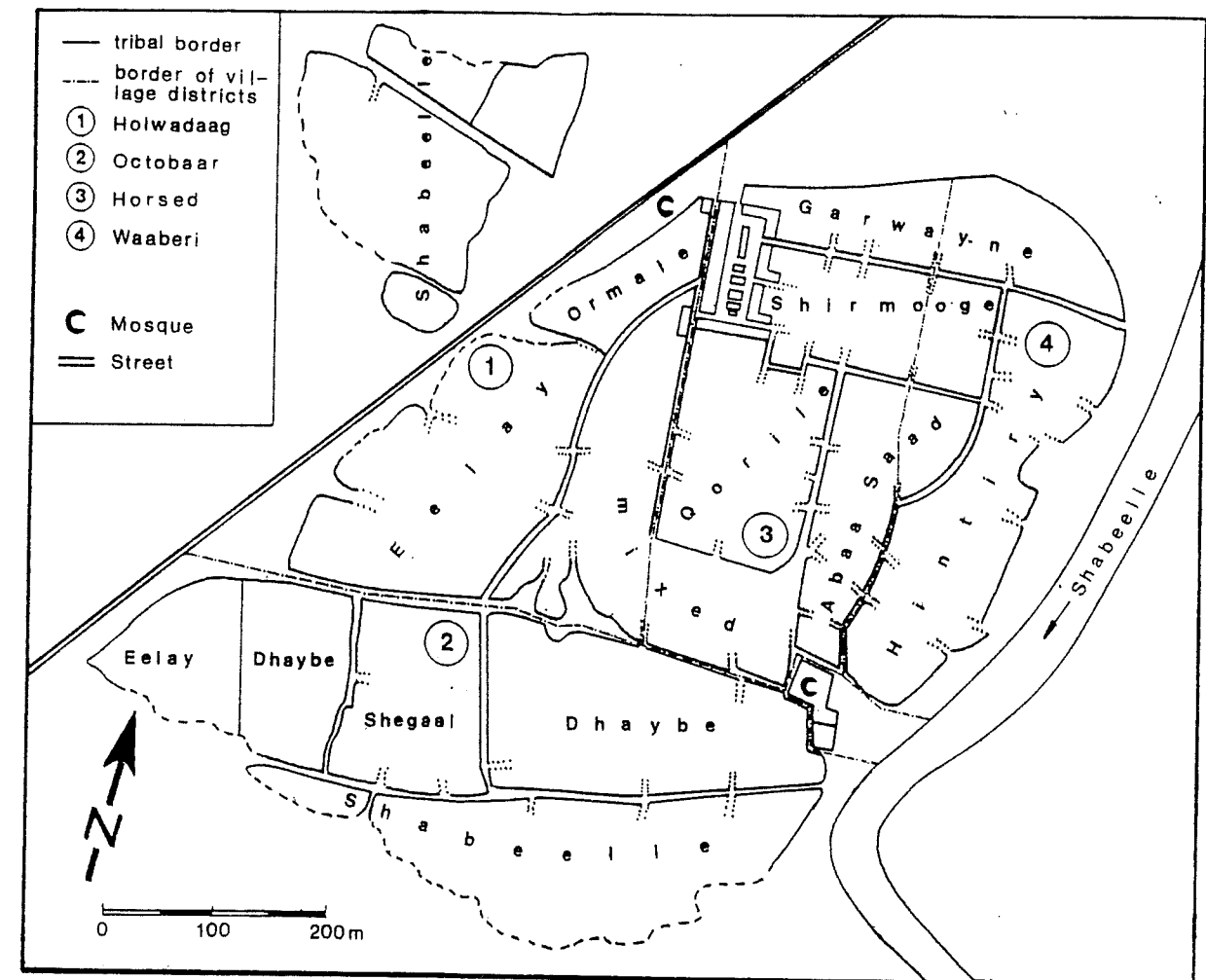
The original autochthonous population of both project areas consisted of sedentary farming and fishing Bantu and to a larger extent of nomadic livestock-keeping tribes, such as the Garre tribe in Project Area B and the Giddow tribe in Area A. The majority of the present sedentary population immigrated gradually down the course of the Shabeelle River or from the interriverine area and the coastal zone (Project Area B), whereas the sedentary population of Project Area A used to be agropastoralist before or they were searching new arable land. To a minor extent some groups fled from the colonization of the Italians or were (dependent) farmers, originally living on the Jubba River, who associated with nomadic groups in order to provide them with agricultural products.

Despite the formal abolition of tribalism in Somalia, the ethnic affiliation of individuals and groups is still of great importance as far as social status, influence on decision-making and participation in development is concerned. This differentiation is also represented in the heterogeneous structure of the settlement pattern with its spatial segregation of the various local tribal groups, and furthermore in the standard of living these various groups can achieve under the present conditions.

The groups with high social status commonly nominate the village leaders and the formal representatives. The findings show that these groups are most likely the local large-scale farmers and do not necessarily represent all inhabitants of the community. The groups with lower social status are at the same time small-scale farmers. Since they are also needed as labourers in the agricultural production, the leading groups tend not to encourage improvement among them, in order to have enough labour for their large-scale farms.

In this context the impact of slavery, which is reported to have existed until 1940, can still be traced in Project Area B because the descendants of former slaves retain strong ties to their former masters. Although the former are now small-scale farmers, they preferably work as labourers on the fields of the latter (e.g. Aw Dheegle, Mubaarak).

Figure 5: Spatial Segregation of Ethnic Groups in the Village of Mubaarak



Source: SEGER, N. 1988 p.46

In Project Area A the tribe of the Giddow is predominant, even though it is split up into two sub-groups, such as the Wajiis (traditionally this sub-group nominated the secular leaders of the Giddow) in the Qoryooley - Doon Buraale reach and the Safer (traditionally this sub-group nominated the religious leaders of the Giddow) dominating the Doon Buraale - Afgooye Yare reach. They control all development activities in their area and are reported to be very devoted to livestock and its integration into crop production. Moreover the sub-group of the Safer are very devoted to their traditions and maintain the forms of production inherited from their ancestors (e.g. Caanoole, Malayley), who used to live as agropastoralists. As reported by headmen of other tribes, the Safer are opposed to development activities if they lead to further immigration of farmers into their area¹⁾.

1) The present leader of the Giddow tribe (sultan) is the mayor of Qoryooley.

3.1.5 Family Structure

The term "family" in this context is used according to the following definition of UPTON, M. (1987) p.4: "The typical unit of production is a nuclear family comprising a man, his wife or wives and their unmarried children, although other relatives may be involved. Such a family may live in more than one dwelling, but all members generally 'share the same pot'. In the riverine areas of Somalia it has to be considered that in polygamous families each wife has her own household. These wives more likely produce independently on their own land or on parts of the husbands land for her and her children's benefit only. The husbands' contributions to these households are then regulated by customary agreements.

The analysis of the sample show that on average 19% in Project Area A and 21% of the families are polygamous. The practice appears to originate from considerations of economic expediency. It is conspicuously widespread among the sedentary farming community and the Bantu groups in particular. The large labour requirements in irrigation farming, coinciding with a scarcity of machinery as well as high wages and running costs, encourage the marriage of more than one wife. This is in the hope that more children can be raised to assist with crop production and livestock tending. Amongst the sedentary groups of nomadic origin, there is, however, a tendency for the husband to marry a second wife. In accordance with the nomadic tradition that a large herd makes it necessary for parts of the family to move out to distant pastures in the bush for the greater part of the year, family splitting occurs. One wife, together with other family members, leads a nomadic existence, while the other attends to household and farmwork in the village.

3.2 Pattern of Social and Economic Stratification and Organization

3.2.1 The Family Level

The findings of the socioeconomic study show that the population above 15 years of age is directly involved in agricultural production. The children below 15 years of age contribute to the work required in the house by helping their mother in the day to day work and by looking after the young children during her absence. The active agricultural population above 15 years can therefore be regarded as full labour unit.

Table 4: Family Labour Force

Village	average family size	family labour force
Project Area A:		
Cabdi Cali*)	5.5	-
Maanyo Faarax	10.0	6.4
Gorgaal	7.1	3.5
Carmooy	7.2	2.4
Doon Buraale**)	4.2	1.8
Malayley*)	7.5	-
Bombaasa Kulub	6.5	3.4
Afgooye Yare	6.6	5.7
Banaaney	4.2	1.9
Subtotal	≈6.5	≈3.5
Project Area B		
Aw Dheegle	8.0	2.9
Jawhar*)	7.0	-
Daarasalaam	5.2	2.7
Mubaarak	5.4	2.7
Subtotal	≈6.4	≈2.7
Difference	0.1	0.8

*) estimates given by the village administration

***) including Caanoole

Source: ZELF Team 1989

Table 4 shows a considerable difference in the family labour force of the project areas. Since Project Area A is a young settlement area with a considerable percentage of immigrants and young couples the number of children or dependents living with the family is higher.

In Project Area B the necessity to rely on the family labour force is less, because machinery and means are more likely to be available. Moreover there is a slight tendency towards family planning among younger couples, locally explained by the increasing awareness that smaller families facilitate better living conditions (e.g. Daarasalaam, Mubaarak).

The individual family members have specific tasks according to their age and gender. The contribution of the women to fieldwork decreases with the size of the land cultivated by the family. The women's labour force is then replaced by hired labour, which is increasingly employed with growing size of the farm land. The replacement of family labour usually starts with gradually hiring labourers for irrigation, land preparation, field subdivision, weeding and harvesting.

The division of labour within the farm families is organized in such a way that the husband is above all responsible for the land preparation, the irrigation and the maintenance of the irrigation system as well as for bringing in and storing the harvest. The wife's main duties, apart from her household and children, are fetching water

and weeding the fields. If lactating cows are kept in the village the wife is responsible for the animals and the marketing of the surplus. The older children assist their mothers with herding.

Table 5: Division of Labour

Lm = male Labourer; Lf = female Labourer; M = Man; W = Woman; Ch = Children above 15;

Work	usually done by
Land Clearing	Lm (hired bulldozer)
Ploughing	Lm (hired tractor)
Hoeing for land preparation	Lm, Lf, M, W, Ch
Canal cleaning/maintaining	M, Lm
Seeding	M, W, Ch, Lm, Lf
Thinning	M, W, Ch, Lm, Lf
Planting	M, Lm, Ch
Subdividing fields	M, Lm, Ch, W
Irrigation	M, Ch, Lm
1. Weeding	W, M, Ch, Lm, Lf
2. Weeding	W, M, Ch, Lm, Lf
3. Weeding	W, M, Ch, Lm, Lf
Harvest	M, Lm
Harvest of tomatoes	W, Ch, Lf
Stalk collection	W, Lf
Making heaps	M, Lm
Peeling	W, Lf
Application of chemicals	Lm, Ch
Loading harvest	M, Lm, Ch
Marketing	M(large quan.)W(small quan.)
Herding livestock	Ch, Lm

This division of labour represents the average practice on farms up to 10 ha and indicates the gradual likelihood of labour performance.

Farmers who own more than 10 ha do not usually work on their farmplots themselves but hire labour. Moreover, they preferably try to use their surplus for non-agricultural investments such as trading, transportation, livestock etc.

In both areas it is common that the farms not exceeding 3 ha are worked by family labour. Above this size farmers tend to employ paid labour. These labourers (men and women) are most likely members of farm families with less than 1 ha of farm land in Project Area A or less than 3 ha in Project Area B. During periods of high labour demand labourers from various regions immigrate to the riverine areas in search of work. As listed above the division of paid labour is less related to sex than within the farm families.

The leadership and decision making within the families follows the traditional internal socioeconomic structure of the village communities. Each member of the family is authorized to decide according to its specific role and function within the traditional structure of the community. The man is regarded as head of the family and is to represent the family's interests. He is responsible for securing subsistence, for handling or supervising all economic matters. The woman is legally dependent on the her husband, although she can be independent in economic affairs. She is responsible for the education of the children and usually solves problems within the family. All interactions are performed according the regulations deriving from Islamic law, which also defines the individual contribution to the community.

3.2.2 The Village Community Level

After the revolution of 1969 the central government ordered the reorganization of the political and administrative structures of the political system. Within this new organization it was intended to replace the former tribally structured administration by a national administration which could be controlled centrally. Although tribalism had been abolished at the same time the traditional structures did not lose their importance, as the local power of the traditional leaders could not be curtailed as intended. In Project Area B the traditional chiefs are still highly respected, whereas in Project Area A the reorganization favoured the influence of the new formal authorities. In this area scattered villages, with usually mono-tribal organization, have been regrouped in larger settlements in order to facilitate the provision of infrastructural services as well as enabling tighter political control and the breaking-up of tribal structures.

3.2.2.1 Administration and Power Structure

a) **Administration.** Somalia is administratively divided into regions, districts, sub-districts (beel) and villages. Administratively, control is exercised by the Ministry of the Interior, the sectoral Ministries, such as the Ministry of Agriculture (MOA) and the party organization.

The Ministry of the Interior is responsible for the administrative control and maintenance of peace and security within the country. It is also involved in the promotion of rural development. As far as the SHIRA Project is concerned, the most important cooperating sectoral ministry is the MOA and its Department for Irrigation and Land Use (DILU).

The central government is represented by the Governor who resides in Shalaamboot. He is responsible for executing the instructions of the Ministry of the Interior and for coordinating all government activities in his region. The MOA is represented by the Regional Agricultural Coordinator in Shalaamboot and the District Coordinators in Qoryooley and Kurtunwarey (Project Area A) and Afgooye (Project Area B). The Governor is assisted at district level by District Commissioners. Project Area A lies in the districts of Qoryooley and Kurtunwarey, whereas Project Area B lies in the district of Afgooye.

The main villages are designated as sub-districts (beel). Beels have some authority over an area which includes several smaller villages. The arrangement of the beels in Project Area A is still not definite, as certain villages opt to be affiliated with different administrative centres (e.g. Bombaasa Kulub).

The leading villages in Area A are Cabdi Cali, Maanyo Faarax, Gorgaal, Doon Buraale, Bombaasa Kulub and Afgooye Yare. These villages represent newly installed centres, after the physical and administrative concentration of formerly scattered small settlements into larger units at the beginning of the seventies.

The leading village in Area B is Aw Dheegle, with Jawhar, and the sub-beel of Mubaarak, including Daarasalaam.

Formal Organization: Each village has a village committee consisting of seven people. It is headed and represented by the village chief (gudomiye) who has to be approved by the district commissioner. The duties of the village committees consist of executing official decrees on the village level and of transmitting local problems to the superior authorities. The competence of these institutions is limited to administrative duties and to concerns regarding the village community.

There is always at least one representative of the National Security Service (NSS) in the villages, whose main task is to control the political behaviour of the people (and activities of expatriates)

The Somali Revolutionary Socialist Party (SRSP) maintains a party representative group in every village. The group is headed by a chairperson appointed by the district authorities, who is assisted by a deputy and several members often selected by the chairperson after consulting the authorities. Their job is to represent the district local government in the village, to transmit instructions from the district to the village. Likewise the village or individuals can pass requests to the district authority.

The settlements are administratively subdivided into quarters consisting of 50 families at maximum. They are headed by a

representative who has been elected by the population or has been selected by the local section of the party. His duties consist of transmitting the decisions of the village committee to the villagers and of solving or transferring the specific problems of his quarter.

A representative of the traditional village organization (nabadoon = "peace maker") takes part in all discussions of local problems. He is an officially recognized and government paid representative of the village community and is used to pushing decisions. In most cases he also has a leading position within the informal organization of the community.

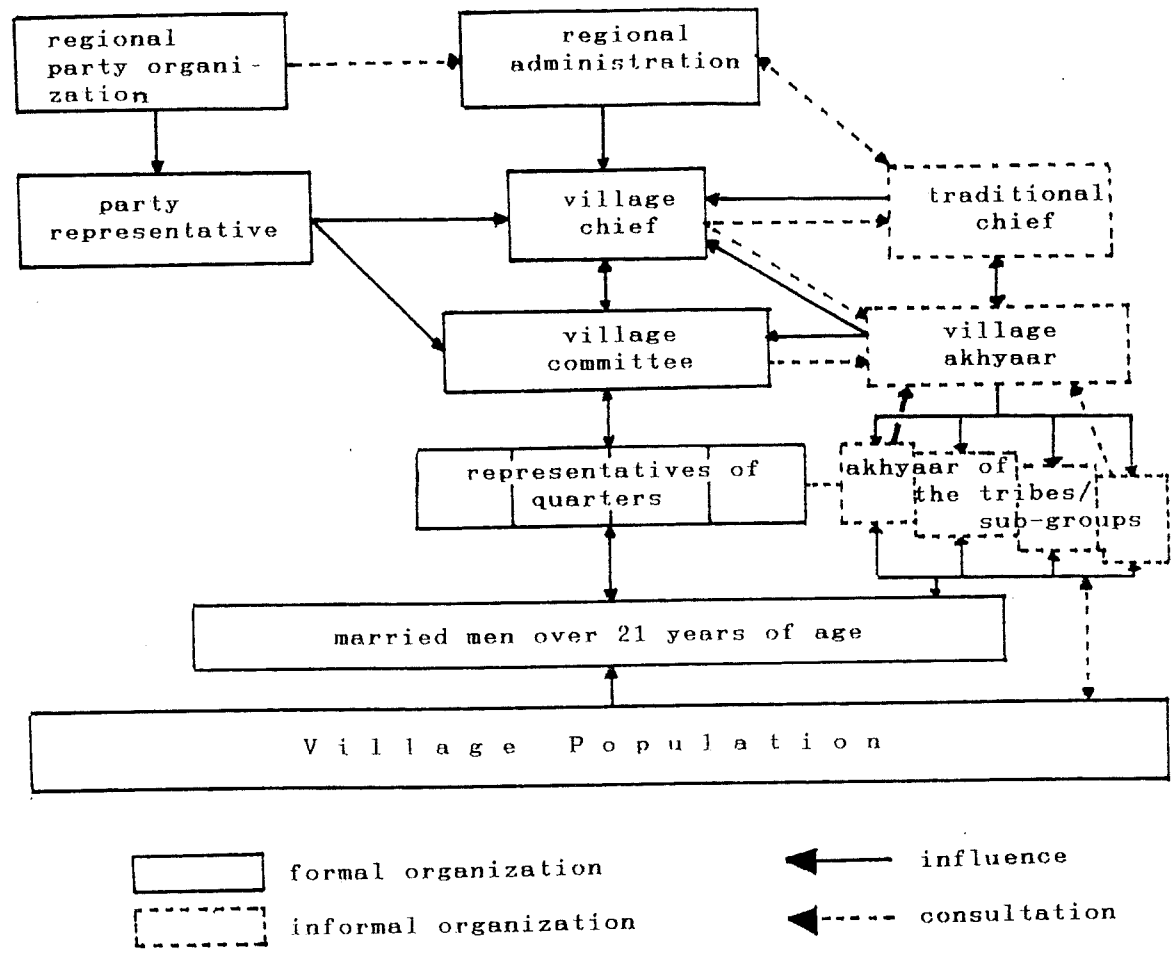
Informal Organization: Besides its informal headman (samadoon) each settlement has a council of elders (akhyaar) which is involved in all decisions concerning internal affairs (e.g. development of the village, measures to prevent external dangers, extension of the agricultural area, problems between tribal groups). The village committee cooperates with the council of elders and without his approval no decision will be commonly accepted.

Each tribal group is guided by a headman who is advised by the respective council of elders. Together they are responsible for all concerns regarding the group. Furthermore, their decisions are to be respected by their group since they are binding.

Moreover, there is a council of elders for each economic section and each irrigation canal. It is responsible for all measures relevant to the respective community and for solving conflicts.

Figure 6 shows a model of the decision-making hierarchy in a village community. The parallel structure within the institutional framework does not necessarily express that both branches have the same power. It depends on the persistence of the traditional structure and the respect of the informal leaders how far they can influence the decision-making process.

Figure 6: Model of Village Organization



Source: ZELF Team 1989

b) **Power Structure.** Traditional Somali society is characteristically egalitarian and the leadership follows patrilineal descent. Decisions of any importance have traditionally been made under the control of a council of elders (akhyaar) and by an assembly of all adult men above 21 years of age in any community grouping. Religious leaders (olumo) played a consultative role in all issues concerning the community.

Traditionally the village elders decide on community matters and mediate in disputes on family problems. This has been changed since the Government established village committees which are composed in accordance with the local party group and approved by the regional authority.

According to the internal socioeconomic structure of the villages the hierarchy of leadership and decision-making shows two levels:

Village Committee: The formal leader of the village and head of the village committee (gudomiye) is elected by the community and approved by the regional authority and the party. As described above, he is responsible for the administration of the settlement. His decisions are discussed by the committee, which controls his work. According to the official policy of the Somali Government the chiefs are not necessarily high ranking informal leaders but most likely members of the party, who support the strategy of curtailing tribal influence.

Ethnic community council: Men above 21 years can take part in the decision-making within the tribal groups. Internal problems of these groups are discussed and advised by the council of elders, whose decisions are binding for all members. The cultivated land used to be subdivided amongst these groups and they therefore have various responsibilities toward their members. They have to mediate and advise on problems between families, they have to approve the agricultural boundaries within "their" area through the ulhaay and they decide on measures on canals, which are operated by their group. But since this formerly strong subdivision became less relevant, their major duty has been to represent their group in the village meetings and the village committee. In this function they decide the group's contribution to fund raising and religious ceremonies and, moreover, they are consulted when outsiders intend to start agricultural production within the reach of their area.

The informal leading group (village akhyaar) consists of representatives of the local tribal groups. This informal institution used to be headed by the village chief (cabo qabiil) or the nabadoon. Besides the above-mentioned responsibilities, this institution controls the village activities, including the work of the formal representative. They have the power to dismiss the gudomiye. In such a case they contact the regional authorities to achieve his demission. It is common practice to consult them if an outsider intends to cultivate land within the boundaries of the village or in case of land registration by absentees. One of the members (ulhaay) of the village akhyaar is traditionally responsible for all matters concerning the agricultural area and its boundaries. Another member has the function of a "lawyer" (garyagaan), responsible of fixing the compensation to be paid for any kind of damage which occurred in the community.

3.2.2.2 Forms of Socio-Economic Cooperation

The traditional forms of self-help lost their importance to the farmers with the increasing monetarization of the agricultural production. Only those farmers with poor access to money, e.g. farmers with less than 3 ha and female farmers, make use of these forms of labour-intensive activities whereas farmers with more land prefer paid labour for agricultural production. This is due to the fact that in cases when neighbours or friends are enlisted to help the expenditure involved is usually higher than employing labour.

Self-help Groups: The traditional self-help groups used to be institutionalized associations for sharing agricultural labour within the tribal groups or the neighbourhood. In this field the most common were:

- 1) Hirin composed of 10 to 40 men and women under a leader who organized the labour (Project Area B) and
- 2) Gamaas used for labour-intensive farm activities among poor farmers (also called kaalmo) (Project Area A).

Farmers who participated in these forms could also ask for assistance on their fields. This mutual help is compensated by food, which had to be provided by the owner of the land during the time of work. In addition there exists self-help where no payment is involved:

- 3) Goob is used as cooperation among friend or neighbours in case of sickness.

This form is widespread in both project areas. In Project Area B there exists also a form of arrangement to ensure agricultural production:

- 4) Larura is used to minimize the risks of production in cases when the Shabeelle River does not conduct enough water to irrigate those fields which are situated in higher places. Farmers then share land along canals with good water conductivity (e.g. village of Mubaarak).

Like in other societies influenced by Arabic traditions, there are members of the community charged with mediating services. These mediators are active in various fields, like transportation, selling livestock, spreading announcements and marketing of agricultural products in small quantities. An increasingly important role have is played by those mediators organizing tractor services and transportation with lorries.

It is general practice that farmers cooperate if they have common interests and if they can expect benefits. Otherwise they prefer to work individually.

The most important form of self-help is the Water User Association (WUA). On each canal in both project areas exists one WUA is responsible for all matters concerning its respective canal. It works independently of the neighbouring WUA and does not interfere with each other's concerns.

In general the task of the WUA is to secure irrigation for the farmers along their canal and to solve problems arising from water distribution. All WUA are headed by an awkeli. His task is to handle all internal affairs and to represent the interests of the group. He organizes the funds for enlarging the canal and for its maintenance. Moreover, he has to supervise all work and he also has to mediate among the farmers to ensure fair access to water. This role as mediator is important especially in the time of high demand for water but insufficient availability of it. During these periods "stealing" of water occurs frequently if the quantity assigned to the individual

farmer seems insufficient to him. To handle the above-mentioned problems the awkeli is elected according to the respect he has among the community of a canal and his ability to solve problems in a reasonable way, since his decisions are binding. The awkeli is assisted by the segaale (Project Area B) or the yirsin (Project Area A) who are charged with assigning and controlling the water offtake of the farmers along the canal. They are to translate the decisions of the awkeli into action and solve minor problems arising during their day-to-day work. These assistants also transmit disputes about the time assigned for the offtake of water, cases of neglect of the regulations concerning the distribution of water and they control the participation in maintaining the canal. Each canal also has an akhyaar consisting of respected elders of the canal who are charged with assisting the awkeli and his assistants in solving major problems. Akhyaars, awkeli and segaale/yirsin jointly decide about the extension of their canal, about the share of each farmer in maintenance works and about the individual contributions for planned works on the canal (e.g. intake structure, bridges).

This form of organization is similar in each village of the project areas with differences according to the influence of the local formal authorities.

In those villages where the formal authorities and the local branch of the SRSP have considerable influence (Aw Dheegle, Cabdi Cali, Maanyo Faarax, Gorgaal, Doon Buraale, Bombaasa Kulub, Afgooye Yare), they intervene in the decision-making process of the WUA most likely in favour of their allies among the farmers. This occurs mostly during periods with insufficient water. Then they tend to distribute it in favour of their relatives and friends neglecting the needs of the other farmers attached to the system. In some villages of Area A the WUAs are almost completely controlled by the leading groups which at the same time are usually those farmers who have the good land near the river (fuyuumo) and easier access to water for irrigation at the same time (e.g. Cabdi Cali, Gorgaal, Doon Buraale). These groups also cooperate with outsiders and support them when claiming land in the existing agricultural area or in the bush areas with possible access to river water. When outsiders intend to irrigate new land these groups influence the WUA of the respective canal leading to this land. The findings of the socioeconomic study also show that they do not hesitate to use their formal power to realize their interests (e.g. oppression of opponents).

In those villages, however, with lasting importance of the informal authorities (Jawhar, Daarasalaam, Mubaarak, Carmooy, Caanoole, Malayley) the WUAs still have their traditional importance which is respected by all sides. In these villages all farmers (including female farmers) have equal opportunities to receive water as the irrigation of the fields is organized according to the time of individual farmer's request for water. The distribution is organized by the awkeli, managed by his assistants and supervised by the akhyaar. The formal authorities can hardly influence the decisions and interfere only if severe problems occur or if the village as a whole faces problems with water (e.g. flood, dam construction on the river bank).

Other Forms of Self-help: It is very common that farmers with neighbouring farmplots cooperate in order to hire a tractor for land preparation.

Presently there are only few forms of formal cooperation practised within both project areas:

1) Registered agricultural cooperatives exist in villages with good relations to governmental institutions in order to facilitate the access to inputs (e.g. credits, tractors and other machinery). As most farmers have no confidence in these institutions these cooperatives are of minor importance in both project areas.

2) Large-scale farmers and absentees most likely found cooperatives in order to register their land. By doing so they avoid trouble with the administration because according to the law an individually registered farmplot must not exceed 30 ha of irrigable land.

3.2.2.3 Relationships outside the Village Community

From the beginning of settlement activities and cultivation along the Shabeelle River the population of the riverine area along the Shabeelle River had relations to non-residents since this area used to be a zone of commercial linkage between the coast and the hinterland populated by nomads.

Also Italian colonization had an impact on the development of both project areas. In Project Area B many settlers were forced to work in the export oriented agricultural production, whereas in Project Area A many started cultivation after the withdrawal of the Italians from their plantations, where many of the new settlers were employed as labour. Since this time in particular there existed linkages of trade between these rural areas to the urban centres along the coast.

The relations to absentees increased after the liberalization of prices for staple crops since 1983. In cooperation with the formal administrators and the local branches of the party, traders, officials etc. from urban centres were encouraged to start agricultural production or to register farm land in order to secure their surplus or to obtain securities for formal credits from banking institutions. These absentees have considerable influence in those villages where the party dominates the administration and the access to the still unregistered areas in the bush. The findings show that in most settlements the individual farmers and the absentees do not cooperate, but since the absentees have better access to machinery (e.g. ONAT), the availability of these equipments to farmers could be improved. In Project Area A it frequently occurs that outsiders who start cultivating bush areas dig canals through the land of the farmers without their approval, but with the support of the authorities. These canals than are not for common use and farmers have to pay money or to work for the absentee to release water into their own farm plot.

All settlements in the project area have regular relations to nomads. They migrate into the riverine zone in search of water and fodder for their livestock during the jilaal season. The relationship is

characterized by reciprocal arrangement. The farmers give their cattle to the nomads throughout the year and the nomads are compensated with agricultural products and farm residues or money. Moreover the nomads sell animal products and goods from the interriverine area (e.g. medical herbs, firewood etc.) on the local markets and buy medium- and long-term goods (e.g. cereals, textiles, utensils etc.) for the period of roaming with their livestock in the interriverine region. Some nomadic groups remain in the reach of the villages the whole year in order to sell animals for slaughtering and dairy products on the local markets. Between those farmers of nomadic origin and their nomadic kinsmen the social and economic relationship is intensive. But there is, for example, little evidence of intermarriage between the socially superior livestock-keeping groups and the sedentary population of Bantu origin.

3.3 Glimpses on the Living Conditions

3.3.1 Family Income

The farmers' income in both areas basically comes from selling part of the harvest, working as labourers (including provision of services), livestock and various other sources of minor importance. Since the infrastructure of the Somali credit system is poorly developed and hardly reaches the riverine villages farmers seldom make use of formal credits through banks etc. According to empirical observations only large-scale farmers or owners of registered farm plots take advantage of the formal credit system.

In both areas credits are available from formal and informal sources. The formal credits are provided either by programmes of development aid or through Somali banks. The informal credits are provided within kinship networks, by friends, neighbours and traders. (see also chapter 4.6)

In general all expenses for their family have to be paid by the husband. But all income generated by the wives themselves can not necessarily be added to the family income as the wives' income normally is at their free disposition. Since the female's income plays such an important role in the rural economy more detailed information about this subject is given in chapter 5 ff.

3.3.2 Nutrition and Water for Household Purposes

The diet of the farm families basically consists of the staple crops produced within the region. Their consumption is supplemented by dairy products, meat and locally produced vegetables commonly traded on the market. The diet is completed by tea, coffee, sugar, spaghetti and rice which are the most common food products sold in the village shops.

The daily food consumption usually consists of three meals, which do not vary much throughout the year. According to the regional habits the major dishes are muffo or canjeero for breakfast, soor for lunch and cambuulo for supper. Since vegetables are not commonly produced, their consumption is infrequent. Meat, too, is not part of the daily diet but consumed more frequently with increasing income. In all households it is common practice to prepare a portion of food in order to welcome a surprise guest. Therefore the meals are usually sufficient, except in the period before harvest¹⁾. The left overs are used to feed the animal kept in the compound.

The diversification of the daily diet is poorer among those households with low income. Their meals mostly consist of carbohydrates (basically maize) and skimmed milk. This way of nutrition can lead to severe avitaminosis of vitamin B₂, also known as "Pellagra"²⁾.

1) Many small-scale farmers of Project Area A reported that their families starve before the harvest of the gu' season.

2) According to: PSCHYREMBEL W. 1977: Klinisches Wörterbuch, Berlin, New York, pp. 914.

The quantity of food prepared for the three daily meals of an average household of 6.5 members usually consists of³⁾ :

For breakfast: a) <u>muffo</u>	or b) <u>canjeero</u>
950 gr maize	300 gr wheat flour
150 gr wheat flour	250 gr oil
125 gr oil	sweet tea
sweet tea or coffee	

For lunch: <u>soor</u>	for supper: <u>cambuulo</u>
1400 gr maize	850 gr maize
1,5 l milk	250 gr cow peas
	200 gr oil
	200 gr sugar

Source: ZELF Team 1989

Besides these basic dishes rice and spaghetti are increasing in importance. Meat is usually consumed in small quantities once or twice a week.

The predominant source of water for both project areas is the Shabeelle River. Although several hand driven pumps had been drilled and wells had been installed by the WHO in recent years, they are not enough to meet the daily need of drinking water. Moreover quite a number of the existing wells supply undrinkable water (see Fig. 2 and 3).

It is the daily task of women and girls to scoop water for their household's need (approximately 25 to 40 litres per household per day). They commonly take it at defined scooping places at the river or, during periods of irrigation, from the canals. This places are also used as drinking troughs for animals and for all washing purposes. Furthermore the women are endangered by crocodiles, which might attack them while standing in the river to fill their containers. Only the village of Daarasalaam took measures to ease this task by constructing a basin which is filled by the same motorpump that serves the mosque. This basin, at the same time, is designed to desilt the water, since it is compulsory to purify it before use, because of its high percentage of sediments carried by the Shabeelle River (between 17 kg/m³ during the high flood in gu' and 50 gr/m³ in jilaal).

According to the findings of the socioeconomic study the population of both areas is hardly aware of the possible risks from using river water. Most interviewees were convinced that the water taken from the river is good because it always has been. Moreover it is Islamic religious tradition that water should be taken from stretches of running water. Nevertheless most opinion leaders favour wells, because they are aware of the problems caused by water borne diseases, especially amongst children.

Actually there are no autochthonous intentions to take measures for public water purification, because it has not yet been identified as a major problem for the village communities. In the village of Banaaney

3) These data were provided by the interviewees and are not based on measurements by the ZELF Team.

there is traditional knowledge (originally from the Bay Region) about the use of a tree (ohive) for washing clothes, against rheumatism after grinding the cooked roots (the effect is described as similar to treatment with a mustard poultice) and the purification of water.

3.3.3 Energy Needs and Supply

In both project areas the major source of energy is firewood from the bush near the villages. It is one of the women's tasks to cut and to collect the amount required for preparing the daily meals. The preferred types of wood to be cut or collected are the various species of acacia (e.g. acacia zanzibarica, locally known as fulay). This work is increasingly important as an income-generating activity for small-scale farmers. They are hired by individuals or groups in order to cut and to collect fire wood in large quantities in the bush area. This work is usually performed during the jilaal season and to a minor extent also during the gu' season. The price to be paid can vary since it is matter of negotiation (up to 25,000 So.Sh. for one lorry load, cut, collected and transported by hired labour). For preparing one lorry load of fuel wood 2 labourers usually need 2 days and receive 2000 to 2500 So.Sh. each (Project Area B) for this work. The amount of firewood needed is said to be approximately one quarter of a lorry load during a period of 6 months for a family with 5 members, whereas an average "backload" of a woman lasts for one week.

In Project Area A the collection of wood is frequently done by owners of donkey carts who cut the fuel wood along animal tracks leading to the bush and resell it in the villages near the river (see Fig. 2). This form of commercialized collection is taxed by the authorities at 100 So.Sh. for each cart load. The cutting and collecting of firewood is limited to specific species of acacia trees and dry wood. This is controlled by government employees who also collect the taxes and the fines for violating the official regulations.

At present the use of charcoal is uncommon even though it is appreciated, since it produces less smoke and does not spoil the taste of the food and tea. Nevertheless it is regarded as too expensive for frequent use.

Electricity is not widespread in both areas, but more common in Project Area B. With the exception of the village of Daarasalaam there is no public network of electricity. The generators are usually privately owned or used to illuminate the mosques. In Daarasalaam the local authority established a public network of electricity, organized and maintained by a group of villagers. The energy is produced by a generator with a capacity of 5 KW/h, which is used to illuminate the major tracks within the settlement and approximately 200 private light bulbs limited to 20 watt each (see Fig. 3).

3.3.4 Health Care

The difficulties arising from the poorly developed medical infrastructure are considered to be one of the major problems in both project areas. Although it is official policy to provide all villages with at least some medical help, no means or medicine have reached the individual settlements so far. Presently medical services are only available in the district centres and even there the facilities are poorly operated and do not meet the actual needs for treatment of diseases.

In most settlements there are 1 to 3 health workers (see Fig. 2 and 3) and some nurses. The latter are supported by foreign agencies (e.g. "Mother and Child Care"; "Save the Children") but have by far too insufficient means for adequate treatment. The health workers freely prescribe medicines like Aspirin, Novalgin, Ulaxin, vitamins, Chloroquine and antibiotics, which are regarded as multipurpose and are very much appreciated.

The hygienic conditions in the villages are poor and worsened by the polluted drinking water and the animals' urine and excrements in the village tracks. These bad conditions mainly affect those children of poor families suffering from malnutrition.

Besides the more western influenced medicine there exists a long tradition of autochthonous medical treatment performed by healers. These persons were instructed by their respective predecessors and use traditional prescriptions for treatment (e.g. herbs against fever and snake bites; red hot nails to treat cholera and malaria; external stimulations in case of paralysis). The treatment of healers is appreciated by the population, since they consult them first before using other means. Since mystical and magic belief is widespread in both areas the healers have considerable influence on medical development within the villages, although there is a tendency to use both forms of medicine, just to be "on the safe side".

During the jilaal season the demand for medical treatment increases, since the nomads, who come to the riverine areas in this period, and most villagers believe that during this hot time their blood becomes more liquid, improving the effects of medicine. The major diseases occurring in both areas are infections, malaria, bilharzia, anaemia, cholera and to a minor extent also venereal diseases.

3.3.5 Education

There are two types of schools in the project areas, the religious quranic and the public schools. While nearly all children attend the quranic school, only some go to the elementary school of the village (see ANNEX I).

The attendance of the public school is compulsory by law, and costs a yearly fee of 100 So.Sh. Children start school at the age of 7. Besides reading, writing and arithmetics, the children learn something about geography, history and some Arabic. In some villages the curriculum for the older pupils is supplemented by teaching basic information about agriculture and livestock keeping.

While the pupil to teacher ratio in Maanyo Faarax reaches 30:1 it is only 60:1 in Malayley. The Afgooye Yare school is the best equipped in Project Area A, whereas there is no public school in Banaaney although one teacher instructs children in basic knowledge, but on a voluntary basis. The number of pupils in this area is growing because of a campaign, started by the Ministry of Education, to push through compulsory schooling. With this campaign the number of girls at school grew, presumably because their parents recognize the advantages of basic education, which might also raise the bride price.

The communities in Project Area B have a better pupil to teacher rate, from 25:1 in Daarasalaam to 40:1 in Aw Dheegle. The directors of the schools expect that the number of pupils will increase considerably in future and that more girls will attend the classes. Presently the sex structure shows a decreasing number of girls from the second class onwards and a decreasing number of boys after the fourth class. This was explained by the fact that girls have to help their mothers to complete their daily tasks and that the boys have to contribute to the family income after reaching 10 years of age.

In general there is still a low consciousness with respect to formal education and a high percentage of children do not attend school at all. Therefore there are very few pupils who go to the secondary school in the respective district capital and only some children become students at the National University in Mogadishu.

Each quarter or ethnic group within a settlement has at least one quranic school. It is compulsory to attend it for at least one stage of teaching the Quran. The curriculum consists of learning the suras by heart, in copying them and learning how to obey the religious discipline. Every pupil has to pay a monthly contribution of money (approx. 300 So.Sh.) and provides the teacher with an additional fee (in kind) after the harvest. The children attend this school usually from the age of seven for a period of 1,5 to 3 years, since some of

them pass the stages of teaching twice. Therefore the daily schedule of a 7 to 8 year old child can look like this:

Begin of the quranic school:	6 a.m.
Public school	: from 8 a.m. until 12 midday
- Break -	: 1 hour
Quranic school	: 1 p.m. until 5 p.m.
- Break -	: 1 hour
Quranic school	: 6 p.m. until 7 p.m.

Source: ZELF Team 1989

Religion is an essential part of the daily live in both project areas and it is compulsory for all children to be introduced to Islamic belief and traditions.

3.3.6 Transport and Communication

Each project area is accessible by one gravel road passing all villages along the course of the Shabeelle River. Their quality is insufficient and they are regularly endangered by high floods or by heavy rainfalls. Moreover they are frequently damaged by holes deriving from poorly designed underpasses of irrigation canals or lack of maintenance. Nevertheless, both areas have regular transport facilities connecting the villages with the urban centres of the region and the capital.

Project Area A is entered by a gravel road parallel to the Shabeelle River at its northern side (see Fig. 2). It connects the areas with the region of agricultural extension downriver (Kurtunwarey, Alafuutow) and Qoryooley, the upriver regional centre of administration and business. This tract is easily passable in the dry season and not flood endangered but hardly passable during the rainy seasons, owing to its very thin layer of gravel and its loamy subsoil.

Access to the agricultural areas is via earth roads often following animal tracks leading to the bush land. Although there are considerable numbers of fields on the southern side of the Shabeelle River up to the Farta Furuqleey there are no roads or tracks leading directly to this area of agricultural production, which can therefore be regarded as an "island". There are small passenger-only ferries connecting the settlements with this "island" and all vehicles to be used there can only pass either over the barrage downriver near Kurtunwarey or the upriver Farkeerow Barrage.

Despite the poor physical conditions of the transport system there are considerable movements of passengers and goods, since privately owned transport facilities reach all settlements. These lorries and pick-ups are based in Qoryooley and are frequently owned by large-scale farmers or a group of farmers investing their agricultural surplus in other sectors of the economy.

Project Area B is entered by a gravel road connecting this area with the regional administrative centre of Afgooye and the village of Janaale, a centre of export-oriented production (see Fig. 2). This track is in poor condition. It is passable in the dry periods of the year but hardly viable in the rainy seasons and badly endangered by

floods. The village of Jawhar is almost completely cut off during these periods and only accessible across the Shabeelle River or by walking.

The tracks leading to the agricultural areas are earth roads or paths impassable for machines after heavy rainfall, since the loamy soils (vertisols) dry up only slowly. Although there are large agricultural areas on the southern side of the Shabeelle River within the boundaries of all villages of this project area, only Aw Dheegle and to a minor extent also Jawhar have adequate viable access to this side. The people of the villages of Daarasalaam and Mubaarak have to pass the barrage in Janaale in order to reach their production zone south of the river. Transport can only be carried out at considerable costs. (It is reported that transferring one lorry load from this zone to the village on the opposite side of the river costs 9,000 to 11,000 So.Sh. for each way, including the tax (soosta) which has to be paid to the regional authorities when passing the administrative border between the districts of Janaale and Afgooye)

There are regular daily transport facilities connecting all villages with the urban centres of the region and the capital. They are served by lorries and pick-ups based in Janaale and Afgooye or owned by farmers of the area who invest their surplus outside agriculture. In Project Area B it happens frequently that a group of farmers own one car which is operated by a hired driver. The income is usually subdivided in three parts, one part for the fixed costs, one part to buy a new vehicle and one part for employees' wages and the benefit of the owner(s).

In both project areas information travels very quickly. As the findings show, news passes from the capital to the areas within hours. It is common practice that operators of vehicles and traders transmit, in the first place, information about current market prices for agricultural products. To a large extent an increasing number of farmers is in need of information about ongoing economic developments, since they are involved in market-orientated production, requiring data on the demand in the various markets of the capital and the exchange rate of the Somali Shilling.

3.4 Access to Land and Irrigation Water - Crucial Factors in the Local Setting

3.4.1 Rights over Land and Land Tenure

The implications of the land tenure, among other things, determine the attitudes to agricultural investment and to strategies of production of the small-scale farmers as well as the medium- and large-scale producers. Land tenure also influences, and is influenced by, the social, economic and political standing of rural households. Furthermore it has an important impact on local development activities, since it affects technical efficiency, economic viability, adoption of new technologies and the size and distribution of income.

3.4.1.1 Traditional Land Tenure Arrangements

The traditional land tenure arrangements provided access to all members of the village community. After approval by the informal authorities bush land could be cleared according to the needs and the labour force of the farm family involved. This included that the members of the community had to defend the village interest against competitive neighbouring communities. The land belonging to the community (gunta) was supervised by the headmen village akhyaar. They could distribute farm plots to those applying for land (villagers and newcomers). One of their members (ulhaay) was made responsible for all matters concerning its distribution and the confirmation of boundaries. Since the agricultural land used to be subdivided among the local tribal groups, he cooperated with their respective leaders and those responsible for the irrigation canals leading to the cultivated area. Today these arrangements are still relevant in the riverine area but they have been modified along with the overall commercialization of agricultural production. The tribal segregation concerning farm land, meant to secure the subsistence of the whole group, is no longer as important as it used to be. But most farmers still rely on the informal institutions which guarantee their ownership. The changes since the Revolution of 1969 curtailed these institutions by declaring all land to be state-owned and administered by the Ministry of Agriculture.

The village community (gunta) often has areas reserved for further extension (gunta land). The village authorities, usually the village akhyaar, can provide newcomers with a farm plot for usufruct on a temporary base, before allowing them to settle permanently in the village. The size of these farm plots is not only designed to meet the respective family's needs, but also rather small, because the villagers expect that the farmer will be available as a labourer (e.g. Daarasalaam). The usufruct is usually given for several years until the farmer has enough means for buying or renting land.

Conflicts over Land: Problems of borders are directly presented to the council of elders. One of its members (ulhaay) is responsible for the determining and the approval of borderlines of the agricultural areas. After judging the conflict he and the council of elders definitively decides the case. In settlements with functioning informal institutions cases of land registration by outsiders are discussed with them in order to prevent landuse conflicts.

3.4.1.2 Land Registration and its Implications

Despite the fact that according to Somali law all land was declared state property, the agricultural production is based on private land ownership. The cooperatives and their institutions, which had been founded after the Revolution of 1969, did not work successfully in the SHIRA Project Areas. They probably work best in those villages with good relations to the formal authorities, securing better access to inputs provided by the various Ministries. In the other villages the farmers individualized the cooperative land, but do cooperate for crop production, basically for inputs. Presently there is a tendency to use this form of organization again for the single purpose of registering land in common within one single registration procedure.

The data on land registration compiled from information provided by the SHIRA Project show that in Area A only 4.1 % and in Area B only 7.3 % of the farmplots are registered. Those farmers who registered their land are predominantly large-scale farmers with 10 ha and more or absentee landlords.

Since the entire process of registration (see below) is too expensive (conservative estimates vary from 30,000 to 50,000 So.Sh.) and too time consuming (up to 1 year), smallholders rarely apply for the documents of their farmland. Moreover, farmers are likely to rely on methods of confirmation by the traditional leaders (e.g. ulhaay, tribal chiefs, responsible for the respective canal).

Absentees and large-scale farmers tend to regard their documents of registration as a mean to secure bank credits for agricultural inputs or business in urban centres, whereas smallholders seldom apply for formal credits from banks.

Farmers in Project Area B are increasingly willing to apply for documents in order to secure their farmland against attempts of land grabbing by outsiders from the urban centres. At present farmers in Project Area A see little if any advantage in registering their land because they have little confidence in the security of legalized tenure or the responsible administration as grabbing of cultivated or registered land frequently occurred.

Data in the following Table 6 must be viewed with caution as they are based on reports of interviewees and not on official documents which were not available during the periods of the fieldwork for the socioeconomic study. Even though the information has been cross-checked by the ZELF Team, differences to the official documents may occur.

Table 6: Land Registration (1988)

Village	Registered Farmplots (%)	Registered Farmland (%)
Project Area A:		
Cabdi Cali	3.9	31.8
Maanyo Faarax	-	-
Gorgaal & Carmooy	4.2	63.4
Doon Buraale	0.3	14.3
Malayley	3.0	42.0
Bombaasa Kulub	2.0	54.7
Afgooye Yare	11.2	58.0
Banaaney ¹⁾	-	-
Project Area B:		
Aw Dheegle	15.0	55.3
Jawhar	5.0	21.4
Daarasalaam	4.5	31.7
Mubaarak	5.0	55.2

1) Local officials reported that all farmland is registered.

Source: SHIRA Project 1989; compiled by: ZELF Team 1989

It is common that small farmers do not know the current laws of land legislation and they are discouraged by various unofficial fees and the difficult bureaucratic procedure with applications at local, district, regional and national levels.

As the land legislation (law 73 of 21st October 1975, article 5/6/7) allows limited size of farm plots, large-scale landholders register their bigger plots as cooperatives with locals or outsiders or under different names. The law allows individuals to register only one piece of land on a 50-years lease. Holdings are limited to 30 ha of irrigated and 60 ha of rainfed land, unless it is a banana plantation; a cooperative or familyland which may be up to 100 ha. (These regulations may have changed in the law "Registration of Small Farms in the Country" of 10th October 1987. At the time of the study this law had not yet been officially released).

The process of land registration requires many different steps and several months to complete.

1. A landholder wishing to register his land must file a letter of application with the District Land and Water Resource Office (LWRO). The application letter must contain: name and age of the applicant, place of residence, length of time the parcel has been held, size of parcel and its location relative to canal borders or neighbouring parcels immediately adjacent to the site.
2. The director of the LWRO accompanies the landholder to the field to verify his claim. A rough sketch of the site is prepared. The landholder passes it on to a draftsman for an official rendering.
3. The map and the original letter of application are formally submitted back to the LWRO of the district. Its director writes a

letter to the police station nearest to the site for them to visit the farm plot and to verify the ownership. They pass a notice on to the LWRO.

4. If no land dispute arises an official title is sent to the regional LWRO. Both the district and regional LWRO send letters to the main department of LWRO in Mogadishu. When everything is correct the director of the LWRO in Mogadishu has a final check before sending the file to the MOA for signing.

5. The original title is then returned to the landholder.

Despite the traditional regulations of land tenure all unregistered land is available for any Somali citizen. In both project areas outsiders took advantage of this fact by occupying large areas surrounding the villages and causing a problem of land shortage for the residents.

Local representatives and farmers reported that there are essential problems regarding the extension of their agricultural areas. As the land at the edge of the production zone is mostly occupied by few large-scale farmers or absentees the small-scale farmers cannot expand within the boundaries of their villages but tend to clear additional areas in other regions (e.g. Alafuutow / southwest of Project Area A). In Project Area B the process of land registration by outsiders is more advanced. All village representatives reported that there is hardly any unoccupied land left for the extension of the cultivated area (see ANNEX 2).

3.4.1.3 Actual Land Tenure Pattern

Farm sizes vary within both project areas, as can be seen in the following table. The majority of the farmers in Project Area A (approx. 87%) own less than 3 ha (<1 ha=48% and 1-3 ha=39%), whereas in Project Area B most farmers (approx. 69%) own 1 to 3 ha and only 3.25% have farm sizes of less than 1 hectare.

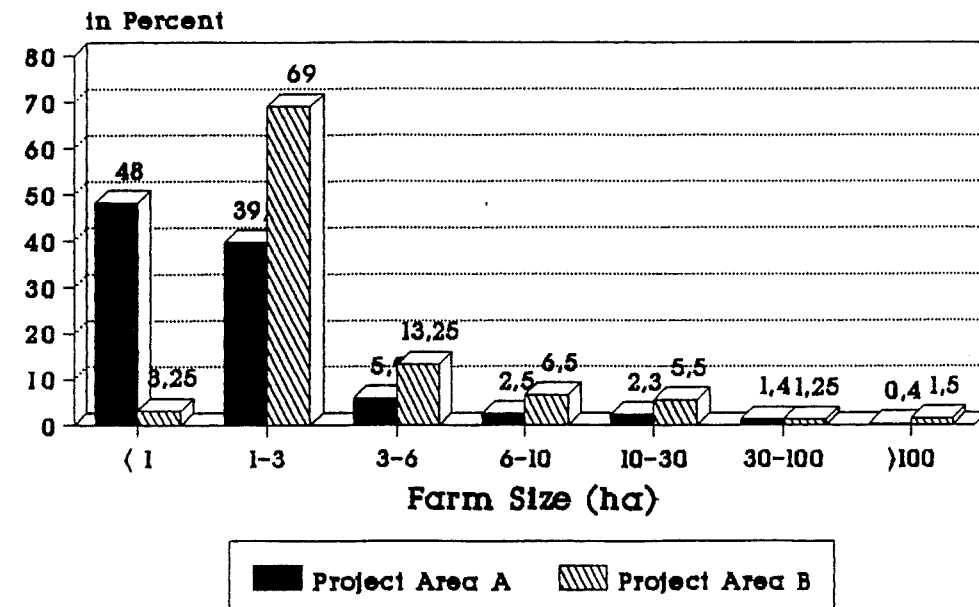
Table 7: Farm Size (ha) Distribution (%)

Village	< 1	1-3	3-6	6-10	10-30	30-100	> 100
Project Area A:							
Cabdi Cali	46	44	6	2	1	0.5	0.5
Gorgaal (incl. Carmooy)	38	54	3	2	1	1	1
Doon Buraale*)	67	29	4	0	0	0	0
Malayley	37	52	8.5	2	0.5	0	0
Bambaaso Kulub	66	28	2	2	0	2	0
Afgooye Yare	36	30	11	5	11	5	1
Project Area B:							
Aw Dheegle	2	52	19	12	11	3	1
Jawhar	0	92	6	2	0	0	0
Mubaarak	7	68	14	5	4	1	1
Daarasalaam	4	64	14	7	7	1	4

*) including Caanoole
Source: ZELF Team 1989

The data of Figure 7 represent the average distribution of the various farm groups. It has already been considered that approximately 30 to 40 % of the farmers in both project areas have two and more farm plots usually situated on different canals. The analysis of the data shows that the farm plots are in most cases owned by the farmers. In the newly settled areas of Project Area A young farmers often start their agricultural production by renting plots, whereas in Project Area B they are commonly given a plot by their parents to start with. It is common that new settlers rent farm land before buying own land.

Figure 7: Farm Size Distribution in the SHIRA Project Areas



Source: ZELF Team 1989

Law no. 73 of 1975 declared all land in Somalia to be state property and only allowed leasehold of land. In practice, however, land is treated as private property that is increasingly becoming a commodity to the farmers. But since trading with land is officially forbidden, farmers sell the usufruct of the particular farm plot. The price of farmland varies significantly according to the access to water, distance from the village and access to transportation. The fertility of the soil is of minor importance since the farmers regard water and good cultivation as the most important factors for good yields.

Table 8: Prices of Farmland (1989) per hectare

Criteria	Price (So.Sh.)	US \$
Project Area A:		
- near river and near road	50,000 - 60,000	100 - 120
- far from river and far from road	25,000 - 30,000	50 - 60
Project Area B:		
- near river and near village	100,000	200
- near road and good water	100,000	200
- near river but far from village	50,000	100
- far from river and far from village	30,000 (and less)	60

(Exchange rate August 1989: 1 US \$ = 494.12 So.Sh.)
Source: ZELF Team 1989

The value of land changes if one or more of the criteria listed in Table 8 change. According to information provided by the manager of the "Genale - Bula-Marerta Project" farmers and outsiders with advance knowledge of meliorations frequently try to buy land in those areas where activities for improvement will take place.

3.4.2 Water Rights and Water Management

Owing to the dam like levee on both sides of the Shabeelle River in both project areas and the periodic high level of water, cultivation can be pursued in the area near the river independent of precipitation. Since its establishment, the canal system has been extended progressively. Gravity based irrigation has made it possible to water the fields and has been the indispensable prerequisite for cultivation for the permanently settled local population.

3.4.2.1 Construction and Maintenance of Irrigation Structures

The work on a canal is undertaken according to need and with the agreement of all the tribal headmen. The individual communities of future beneficiaries are responsible for the construction and their respective leaders (akhyaar of the canal) establish how it is to proceed with due regard to potential conflicts with a neighbouring canal system over its course. They are responsible for the later superintendence of all construction measures, for final arbitration on internal conflicts and representing their group's interests against those of a third party.

For the inspection of the work and regulation of use of the canal, a future user of the canal, who is both experienced and respected on all sides, is elected to the position of awkeli ("father of the canal"). He nominates assistants to help him (segaale or yirsin). Together they draw up a work plan which is binding for all who will use the canal, committing them to partake in the work. The performance expected from the individual is laid down by the size of the ground to be annexed. Owing to the considerable amount of work involved, it is usual for owners of large plots to hire labour. The actual course taken by the canal is based on the experience of the awkeli. In deciding this he is guided by the following considerations:

- The dimensions of the enclosure are settled according to need for the area to be irrigated (estimated by experience);
- The line taken is estimated by sight and in setting this, they guide it over the highest points along the topography thereby utilizing gravity to the maximum in order to cover the greatest possible area on the lower lying areas ;
- The length of the canal is determined by the time it takes to reach the field by foot (approx. 1.5 hours).

The costs of construction which are not offset by the labour of the individuals themselves (e.g. bridges and reimbursement of the awkeli and his assistants for their contribution) are covered collectively by all those who will profit from the canal. Furthermore, a contribution appropriate to the means of each member is made towards the traditional sacrifice of animals before the canal flooding. Frequently large-scale farmers pay the whole sacrifice in order to obtain water first.

Before every period of cultivation, the canal system is repaired. The deposits of sediments are cleared, the growth around the edge removed and potential weak spots are repaired. Each person with a share in the enclosure is obliged to partake in these measures, either with his own

labour, or by paying someone to do it. Should this not be complied with, the guilty party can be refused water or some other punishment may be inflicted. Maintenance work follows a strictly laid out plan. Through his assistants the awkeli gives the word when the users of the canal are to begin work. This is begun at the entrance to the canal and everyone involved is assigned a section. In some villages all users begin together, but each one continues only until his own section has been reached, but in most villages each user is assigned a section the length of which is related to the size of land cultivated by the user. Nevertheless these sections usually do not increase continuously with the size of the farm plot. The findings show that the section maintained by small-scale farmers are most likely larger in comparison with their land.

3.4.2.2 Distribution of Irrigation Water

The organization of water distribution is undertaken by the awkeli and the segaale (Project Area B) and most likely by the yirsin in Project Area A. This right is based on rules which have been created as the need arose for decisions to be made. These have been added to since the founding of the settlements and are modified in the various settlements, but are recognized as binding. On the basis of these the same rights can be operated for all members. The awkeli is charged with seeing that the rules are adhered to, and, in case of conflict, must be able to account for his decisions before the canal akhyaar or the general assembly of the group. In those villages where the formal administration is superior to the informal authorities, the traditional function of the awkeli has been modified since the decisions are frequently influenced by the formal leaders deciding in favour of their political allies, relatives or friends. This influence is most likely to take place when the water level is insufficiently high for equal irrigation of all farm plots.

Generally a canal is flooded on request of those associated with it and after the fields have been prepared for the coming season. In most villages the opening of the canal follows the astrological calendar¹⁾ and is accompanied on the eve before the event by sacrifice of animals and recitations from the Quran, both of which are seen as indispensable to the success of the harvest.

After the first ceremonial flooding the entrance is closed up again. This is done in order to make the walls of the canal watertight and so that any defects can be corrected. About 24 hours later it is opened properly and directs water as long as permitted by the high level of the river. The withdrawal is regulated differently in various villages.

In Project Area B the withdrawal is not regulated according to any spatial sequence. Distribution commences as soon as there is a call for it. The amount varies according to the area to be watered (per 3 ha ca. 24 hours) and the height of the water mark. Under favourable conditions several users can draw off water at a time, whereas when the mark is low their number is reduced by the awkeli. For secondary

1) The first flooding should take place only on specific days. These days are recommended by the religious leaders.

branches off the main canal, one of the canal users is chosen to take responsibility for the distribution and he too must observe the regulations. This system is also used in some villages of Project Area A (Carmooy, Malayley) but varies in other settlements.

In Project Area A the agricultural area is subdivided in the land near the river (jiimo) and the land at the tail end of the canals (fuyuumo). The system of distributing water varies according to its availability:

a) When there is an abundant high level of water, all farmers can irrigate starting gradually from the tail end (approx. 3 hours for 1 dharab).

b) The problems usually arise if there is only little water available. In this case the yirsin, under supervision of the awkeli, groups the farm plots according to the levee of the field. The land which lies higher is served first by damming up the waterflow with a permeable dam at the offtake to the field. The time assigned to receive water depends on the amount available to meet the requirement of all users (up to 12 hours for 1 dharab).

c) In some villages the irrigation starts at the tail end of the canal for a period of approximately 3 days, then passes over to the area of medium distance from the river for the same period, before also irrigating the jiimo area for the same time. This form of distribution is performed in a system of rotation, in order to provide all farmers with water. In addition the land along the river might be irrigated by individual pumps taking water directly from the river.

d) In few villages irrigation during periods of water shortage starts gradually in the jiimo area, usually neglecting the requirement in the fuyuumo land (Gorgaal, Maanyo Faarax, Cabdi Cali).

In Project Area A the awkeli has less importance than in Area B. His function is limited to the supervision of all matters concerning the activities on his canal and to collecting the individual money contributions for the work necessary for maintenance. In this area the formal authorities have considerable influence on the water distribution and the power to interfere with the decision-making process. (for a case study on the "Half-World Canal" see ANNEX 2)