THE DEMOCRATIC REPUBLIC OF THE SUDAN

THE BLUE NILE INTEGRATED AGRICULTURAL DEVELOPMENT PROJECT

A Socio-Economic Study, and a Strategy for Development of the Nomads of the Project Area.

September, 1984.

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GLOSSARY.

ANAJ HAFIRS : Hafirs Assumed to be dug by the Anaj.

ANGARA : Strong animals referred to also as Saiya tagila, normally separated from Raboub to graze at distant areas (See Raboub)

AUR : The Central and the principal person in El Ingassana social organization.

AWALAD RAJEL : A group of families descending from the same father or grandfather.

DAHARA : Land away from the river, normally refers to any open grazing land.

EL BADOBA : Land of extensive clay soil.

EL KURGI : A late maturing sorghum (dura) variety.

EL SARU : Explained in text.

FARISH : Green grass cover often appears on the lands flooded by the river, after water dries out.

FERIG : A nomadic camp composed of a number of Nazlas.

GERIF : A plot cultivated on the flood plain after the river water retreats or subsides.

GHIB : A livestock watering interval of two days.

HARIG : A form of shifting cultivation, based on setting of fire to the dry grasses to burn the new seedlings prior to sowing.

KAGIMAR : A local term used to refer to the wet season grazing area, east of the White Nile. At present it extends from the latitude of Kenana Sugar Factory up to that of Renk. It is 15-20 Km. in width.

KASHM BEIT : A Section of a Sub-tribe in the nomads' tribal hierarchy - a small kins group composed of a number of families decending from same origin.

KERIB : Rugged and dissected land fringing the river.

KHALWA(s) : A traditional Quranic informal school(s).

KHIMIS : A livestock water interval of 5 days.

KHIYAR : A council of elders, selected on personal traits, such as wisdom, leadership, generosity, courage and respect. It is mostly a nomadic organization.

MAYA'A : A kind of an ox-bow lake, detached from the river forming a natural water inundated depression, normally covered by pure stand of Sunt trees and water-loving grasses and herbs.

MUSHRA'A : Easy access site to the river for livestock watering. It may also be any livestock watering centre. Plural Masharie.

NAZLA : Any encampment unit, composed of closer relatives, such as married sons or brothers, and forming a herding and an economic unit.

NOMADs' ASSOCIATION : Nomads' Trade Union.

RABOUB : Animals kept and grazed in the camp vicinity. They include, old, sick, pregenant, calving and young animals.

RIBIA'A : A livestock watering interval of 3 days.

RUSHASH : Early showers of rainy season (Rushash-Kharief-Darat).

SABABA : Middleman in livestock transaction process.

SADIES : A mature male sheep 2 years old or more.

SHEIKH : In this context any Ferig leader.

TANI : 1-2 years old male sheep.

USHAR : Initial start of pregenancy in livestock.

ZARIBA : Thorn enclosure for protection of fields or for keeping livestock.

EXECUTIVE SUMMARY.

1. The Project area is inhabited by two main population types, settlers of multi-ethnic and tribal structure; and nomads who fall into three major categories, again variant in ethnic origin and socio-cultural characteristics.

2. The three main nomadic groups ranked in order of importance are : Ruffa'a El Hoj, El Fellata and El Ingessana.

3. The three groups are found in the project area during the dry period (October-June). During the wet period the project area is unsuitable for nomadic habitation.

4. Ruffa'a El Hoj are concentrated around the two centres of Abu Shaneina and Abu Gemai, while El Fellata and El Ingessana are to be found in the area of Kharen-Kharen.

5. Those of Ruffa'a El Hoj found in the project area at the time of the survey were in the order of 4,000 persons, comprising 655 households.

6. Ruffa'a are ethnically divided into a number of sub-tribes. The main ones are : El Sebeihab, Awlad Hawati and Awlad Midiga.

7. The average family size among Ruffa'a El Hoj is 6 persons.

8. The basic unit of organization is the household. Ten to fifteen household form a larger unit called a nazla.

9. A group, or a cluster of nazlas forms a community called a Ferig headed by a Sheikh. The Sheikh is the representative of the ferig in all governmental matters and is its spokesman.

10. A high illiteracy rate prevails among Ruffa'a El Hoj. This is accounted for by the nomadic nature of the population.

11. Economically livestock raising is the main economic activity of Ruffa'a El Hoj. At the same time a few of them practice cultivation. The two economies are integrated spatially and calender-wise.

12. The main animals raised by Ruffa'a El Hoj, ranked according to economic importance are sheep, cattle and goats. Camels are raised in limited numbers.

13. Based on field survey findings, Ruffa'a El Hoj own : 228,700 head of sheep; 58,860 head of cattle; 26,160 head of goats; and 3,924 head of camels.

14. The average size of sheep ownership is 337 heads, and for cattle it ranges from 80-90 heads.

15. Ruffa'a divide their animals into Raboub and Angara. The former stands for those animals that need special care from the herder, which are usually confined to the Blue Nile river side area close to encampments. While El Angara refer to the stronger animals which can roam away from the encampment sites into El Kerib and El Badiba land. Both types are watered at the river.

16. As a result of this division of animals and the arising pattern of grazing, there is a close association between Ruffa'a El Hoj and the river bank, where they have five camp sites in the area of Abu Shaneina, and three in the area of Abu Gemai.

17. Raising four types of animals and adopting different management practices entails a lot of effort and a division of labour. In only few cases the labour required is supplied by the family, and in the majority of cases Ruffa'a resort to hired herders.

18. Ruffa'a purchase supplementary feeds which are fed to all animals except camels. The main feeds in use are oil seeds cake, dura, and dura stalks.

19. Livestock is the mai supplier of cash. The two types of animals sol in large numbers are sheep and cattle. The s lling of animals takes place in May and June. uyers include middle-men, local merchants, and the agents of big livestock marke ting companies.

20. The flocks and herds gradually build-up by buyers, are then trekked northwards to the main collection points and the major consumption centres.

21. On the average a hou ehold sells annually about 45 head of cattle and occ asionally a few camels. The ave rage family income fro m selling livestock is in the order of Ls.4,500.

22. Considering El Fellat a these are made of six groups; namely : Umm Bara ro, Waiylla, Jafoon, Njara, Sakato and Malli.

23. El Fellata visit the project area during late dry season : March-June. Prior to this time, the majority of them are to b found to the south of the project area. Their larg st concentrations are around Kharen-Kharen.

24. The estimated popula on of El Fellata in the project area, is in the o der of 950 persons, making 135 households.

features with Ruffa'a El Hoj. Paramount among these is the role of the patrilocal residential kind group, formed around a nucleus of close male kinsmen, which is the basic unit of residence.

27. Illiteracy prevails among El Fellata.

28. El Fellata, are predominantly livestock raisers. Only a few of them have recently ventured into agriculture.

29. Cattle is the dominant animal raised by El Fellata, while sheep and goats are of less importance.

30. El Fellata household owns on the average about 114 head of cattle, and 134 head of sheep.

31. El Ingessana as the third nomadic group found in the project area, originate from El Ingessana hills outside the project area.

32. Out of a total population of 41,548 persons(1980) for El Ingessana hills, only 100 herders were found in the project area at the time of the survey.

33. Most of El Ingessana combine farming and herding. Those among them who build large herds of cattle practice a transhumance movement; with herds spending the wet season period in the Ingessana hills, and the later part of the dry season in the southern parts of the project area.

34. El Ingessana operate through a well developed herd management system. Young males from the same village drive the livestock of that village for dry season grazing in the project area. Every two to three months the group of young people responsible for the herd is replaced by another group from the same village.

35. Of the three tribal groups Ruffa'a El Hoj is by far the largest tribe using the project area.

36. They spend all the rainy season in El Kagamer in the White Nile area, and when the rains cease, they start their movement southwards to the project area.

37. In the past the trip back took several months; now due to the expansion of mechanized farming, the journey back is completed in few days.

38. They follow specific routes, however, conflicts often arise when they cross cultivated lands.

39. El Fellata wander within the project area apparently without predetermined routes. They are guided by water and grazing availability. It is difficult to locate them as both herd and camp are always in movement. They usually enter the project area prior to Ruffa'a, and depart from there later than them.

40. El Ingessana migration pattern differs from the two previous groups. They spend the rainy season in El Ingessana hills. In their migrations between wet and dry season grazing, they traverse the project area twice within a one year cycle.

41. The nature of nomadism which involves utilization of extensive range resources bring the three groups in contact with each other and with the indigenous settled population.

42. The current competition between these group shown in exploiting the available resources bring their interests in sharp conflict.

43. All groups claim land, or use right, to the project area; however, they are not of equal status in this regard.

44. In absence of any regulatory system to direct resource utilization, villagers pursue their farming activities where they choose, while nomads roam widely where grazing is available.

45. The settled population is contemptuous of the nomads because they encroach on villagers' property; besides, they are hostile, and their livestock is believed to be disease-carrier.

46. The nomads accuse the settled population of burning the range lands, of cutting valuable tree vegetation that supplies forage and shade for the animals, and of encroaching on the river side pasture land by expanding their gerif cultivations, and of blocking the access to El Mashari.

47. To achieve the integration message of the project, it is essential to resolve these conflicts, and develop harmonious relationships between the three groups.

48. This entails organization of landuse, recognition and registeration of land rights, and initiation of the necessary social development programmes that relate the interests of all groups to the broader objectives of the project.

49. The team opted for few indicators or variables to test the perception and attitude of the sampled population, in order to see the sort of development appealing to them.

50. Respondents perceive the best rangeland as any extensive area with good natural vegetation, secured water supplies, healthy conditions and organized village cultivation practices, as well as controlled mechanized agriculture. In other words they are far away from perceiving that they can keep livestock in a single farm or place.

51. They perceive large scale investment projects in the region as a danger to their mere existence, and not as elements of change to a new life.

52. Relations of respondents with settlers are charged with the misconception that settlers are favoured by the government and are given priority in development.

53. Although respondents attitude towards the project is adverse at the beginning, yet a trend of co-existence with the project management to attract the latter attention like settlers, is growing among the majority of the respondents, who reported willingness to compromise and accept a format that preserve the three partners interests; the nomads, the settlers; and the project management.

54. The development respondents perceive is to go through a phasing process. At the present stage any development that ensures access to the project area in the dry season, and organize wet season movement to El Kagamir, from a recognized base in the project area, is acceptable to them.

55. The second phase is proper location of commanding centres, with all services including cooperatives, to act as a base for future and gradual settlement.

56. The most important results of the perception study are that the nomad's perception is changing favourably, and the perception gap between them and project management is getting narrower than before.

57. Still they have to be carefully approached, through their local leadership, to ensure positive sections of the study.

59. The goals of BNIAP are to increase production and income of traditional farm and herders family in rain-fed areas of the Sudan, by adopting the farming system approach

60. It plans to achieve this through small farm mechanization activity, stimulation of local village and regional organizational capability, and a self-sustaining, parcipatory development process.

61. The targetted population for development is 2,500 small farm and 3,300 nomad families.

62. The examination made of the nomadic ecosystem reveals many features and problems. The three nomadic groups operate within spatial containers that dovetail the project area to other grazing territories away from the project.

63. This complementari y in resources is accorded due weight in the stra egy reached for the development of the nomadic po ulation.

64. The continuous exp nsion of cultivations under different forms of agr culture has expropriated most of the land under trad tional grazing; and in connection to this, th project area stands at present as the last dr season refuge for the three nomadic groups.

65. Equally, and becau e the unliscenced expansion of farming activities n the traditional rainy season grazing area "E Kagamir" are presently witnessing over-stocki g.

66. The present state f confusion undergone by the nomads is attribut d to the wrong policies which have neglected the pla e of the nomads and their role in the regional a d national economies.

67. Despite the unoffi ial recognition of the status of the nomads, all thr e groups have succeeded in establishing some kind of alligence and territorial rights over parts of t e project.

68. Within the ecologi(al frame in which each group operates, each o: them has managed to maintain a viable soci(ty, with strong awareness about its current prob ems, and how these problems could be solved.

69. Ruffa'a El Hoj vie' the project as a development venture incorpora ;ing livestock improvement. They want to s:e a rec gnizable place and role for them in the project pr grammes.

70. They are mostly co ncerned about demarcation of pasturelands, organiza tion of landuse, and provision of water sources a nd veterinary services.

71. They see in co-ope cative development an important aid to the improve ment of their economy.

72. Ruffa'a El Hoj are skeptical about settling in the project area for e cological and security reasons.

73. El Fellata same a: Ruffa'a El Hoj want to have a recognized status o'er the areas they utilize.

74. They have not sho'n interest in co-operative development.

75. El Ingessana on the other hand are keen on finding adequate grazing during the dry period, but not contempelating any other kind of development.

76. In meeting the aspirations and interests of the nomads sketched above, which tie up with the project objectives, the contemporary conflicts stemming from the nomads/settled population relationships have to be resolved.

77. The project objectives tie in many respects with the basic features of the nomadic ecosystem. The project aims at the development of 3,300 nomadic families. The population found in the project area is less than that, and this facilitates handling the nomads' question.

78. Each of the three nomadic groups exists as a farming system. Since the approach of the study rests on the concepts of integrated development, the three farming systems should be taken as the bases for realizing the project objectives as being spelled out previously.

79. The integrated development approach attributes high values to certain principles and procedures of development. It adopts the farming system approach where the physical and human variables are accorded equal weight, and the emergent problems are taken as the essence of the recommendation domains.

80. Within this frame three alternative strategies are presented and weighed.

81. Strategy "I" proposes that nomads be completely excluded from the project area.

82. Strategy "II" contempelates inclusion of all nomads families, with all their animals in the project area.

83. While strategy "III" recommends the accommodation of all nomadic families that presently have access to the project area, however, with lesser number of animals.

84. Of the above strategies the study is recommending the third alternative.

85. Under Strategy "III", the model of development which is most suited to the conditions of the nomads of the project area, is the one which maintains migrations between the dry and wet season grazing area, with commanding centres and with basic services to be developed within the project area.

86. This is adopted as a short term target, with the ultimate goal in the long term, of settling the nomads within the project area, when they become prepared for that.

87. The realization of this model needs action programmes in the area of range livestock improvement, and social development.

88. The range livestock area requires improvement of the range resources, expansion of production and supply of grown fodders, and provision of water supply and health services.

89. The social action programmes entail recognition and upgrading of the status of nomads, systematic building of the data base, organization of the three nomadic groups, development of multi-purpose co-operative institutions, and upgrading of the participatory capabilities of the nomadic groups.

90. The strategy proposed, rests on two interrelated phases : a short term phase and a long term one. Both must lead to a gradual transformation of the nomad economy, ending with an agro/pastoral farming system.

91. Phase one is based on carefully selected commanding centres as focal points of a "development domain". The process of implementation of this phase should be delegated to an operation team, which should adopt a cooperative society structure different from the current settlers' co-operative model.

92. As suggested, Stage "II" should revolve around a highly flexible agro/livestock farming system. The initiation of Stage "II" must be correlated with the maturity of Stage "I". It should have the following main features : partial or complete settlement with a rythmic transhumance; and development of machine aided farming to lead to well integrated, balanced, and a self-sustainable crop/livestock economy.

TERMS OF REFERENCE.

The terms of reference are specified in the objectives of the study. These objectives are :-

1) To determine the existing social structure of the nomadic groups which spend the dry season in the project area.
2) To study the nomads' ecosystem of the project area, along the following parameters :-
   i) Demographic analysis.
   ii) Livestock population, e.g. size, situation of herds, reproduction and income.
   iii) Livelihood and economy, examination of the economic base (pasture, water supply, vegetation species, production and marketing processes).
3) Perception, receptivity to change, nomads' project interaction processes.
4) Proposed model for development and interaction in the project.

In addition to the above objectives, it is understood that the study will include the following :-

1) Any groups selected for the study shall be examined in such a manner so as to facilitate future evaluations of the impact the project will have on the nomad

2) To investigate problems the nomads face such as :-

   i) Access routes.

   ii) Watering points.

   iii) Kerab lands.

   iv) Grazing and range lands in the recessional area.

3) To investigate the causes of conflict and competition for natural resources between nomads and the sedentary peoples.

4) To investigate and recommend the manner of organizing nomads into "grazing units", societies, cooperative associations, or any other organization in order to become a part of the project cooperative union; so that they can receive sufficient identity and status to enable them to benefit from project and other governmental department services.

CHAPTER ONE.

RESEARCH METHODOLOGY.

1. Introduction :

To meet the terms of reference of the Study, an evaluative, deductive and applied approach was adopted. It aims at evaluating the past and present situation to provide basic data about the nomads of the project area; accordingly, to formulate a strategy for the development of the nomads within the broad project objectives.

The scarcity and fragmentary nature of literature about nomads in Sudan in general and those in the Study area in particular, left no option for the investigation team other than depending heavily on field survey. Consequently a three-phase research methodology was opted for.

2. Phases of Research Methodology :

These phases are briefly outlined in the following :-

1.2.1. Consultation of available literature :

This included close examination of literature available about the Study area, nomads at the national level and that concerned with the theoretical setting and

framework in general. Emphasis was made on the concepts of, development, resettlement models, perception, diffusion of innovations and related processes of modernization.

2.2. Pilot Survey :

a. Survey objectives

The investigation team after making the necessary preparation and examination of the results of the first phase decided to conduct a pilot survey. The survey was designed to meet the following objectives :-

i) To comprehend the magnitude of the problem and construct to-date picture of the current situation in the Study area.

ii) To collect baseline data and conduct discussion with the project management and concerned persons and agencies.

iii) To plan for an intensive field survey in matters of sample size, procedure, site selection, time and testing of people's receptiveness as a precondition for questionnaire design at household or group levels.

iv) To examine the nomads' social network, economy, migratory pattern, perception and attitude towards modernization as well as their relationship with settlers and the project.

b. Survey Results

The major results of the pilot survey are :-

i) Valuable exchange of ideas with the project management, individuals and organizations concerned, including Nomads Association, ex-native administration figures, etc..

ii) A wealth of informations was gathered through personal contact or from government records, including reports, maps, local ordinances, etc..

iii) The sample size and sampling procedure were decided. Enumeraters were nominated and were briefed about the task of filling the questionnaire.

iv) Fairly reliable informations and data about camps and ferig, i.e. sizes, location, leadership etc.. of each nomadic community were gathered. Approximate estimates of the human and livestock population were also made.

v) The team was able to check and re-check all gathered informations. The results were ractified in the third phase of the intensive survey which was structured according to these results.

Unlike what was expected, the team found the nomads especially Ruffa'a el Hoj, who form the majority of the nomadic population and who are more affiliated with the

project, more cooperative compared to the other groups in giving informations. Still they need to be approached through their camp and ferig leadership.

2.3. The Intensive Field Survey:

a. Survey Procedure

After examination of the data collected from the pilot survey the team was able to set the basis of this survey. The nomadic camps and ferigs were defined, identified and demarcated. The questionnaire and observation sheet were prepared, typed and revised.

In deciding on the sample, emphasis was given to the three centres of Kharen Kharen, Abu Shaneina, and Abu Gemai from which the project operates at present. The nomads around these centres constitute 564 households, 3,567 persons; representing 70% of the total nomadic households (809) and 71% of the total nomadic population in the project area (5,037).

Accordingly the sample was decided to be 64 heads of household from the nomadic population of the three centres, plus 36 from settlers. It represents 11.3% of the nomadic population of the respective centres and 8% of the total nomadic population in the project area, and

3.5% of settled population respectively.

This sample size was found to be convenient, statistically acceptable, and representative of the total population of both nomads and settlers.

It was decided that the sample should be proportional, stratified and controlled particularly in case of nomads. The major camps of nomadic groups were identified and the numbers and size of each ferig were designated, of which representative ones were selected for sampling. The families of chosen ferigs were stratified according to certain parameters of size, income, etc.. Then from each strata panel families were chosen, proportional to the total number of families in each strata. The panel families for the nomads are shown in Appendix I. The same procedure was adopted in the case of settlers.

The team opted for the above mentioned sample size and sampling procedure for the following main reasons :-

i) The sample size of 100 panel families is convenient and quite representative of the population in question. It represents 9% of the potential population for sampling. Such percent gives a degree of freedom of well over the 95% significant level used as a measure of sample reliability.

ii) The homogeinity of the population, especially the nomadic one, in term of culture, economy, migratory pattern etc. had indicated to the team that a sample of this size would yield the expected results and stands any statistical test. The homogenity of the population is small, yet it provided the data needed to test their experience with the project and the basis for comparison with the nomads' situation.

iv) El Ingessana though are marginal users of the resources of the project were included as a distinctive group which should be considered in any future strategy.

To have a comprehensive picture and support questionnaire findings the team conducted a carefully organized group and opinion leaders' interviews. The findings of these interviews were checked and rechecked in the field with the observation sheet results.

The questionnaire (Appendix 2) was designed according to the theme to be investigated. Depending on the

type of information needed, i.e., factual or opinion testing open or closed ended questions were formulated.

The team was fortunate to find fairly experienced enumerators who have been in close contact with the project and the nomads in particular, and who were recommended by the project management. The enumerators trained by the team members who were in the field for checking and clarification of questions, conducting the group interviews, and estimation of the human and live-stock population, as well as filling of the observation sheet.

In spite of the satisfactory results of the survey the team had faced a set of problems which include :-

i) Though Ruffa'a el Hoj were very cooperative during the survey, their answers were charged with some bias. This is mainly due to the bitter feeling they develop towards the project. This feeling is rooted in their belief that the government is favouring the settlers, and the project to them is symbolizing this favouritism. At the same time settlers answers to questions set to test their relationship with nomads were charged with some bias. This is due to their conviction that nomads are intruders, less law abiding and hostile in their attitude and behaviour.

ii) Citing of El Fellata camps and communication with them had been very difficult. This is due to the highly flexible mobility even within the project area, as well as the language barriers.

iii) Dependence of respondents on memory made a lot of data reported questionable. This necessitated careful sieving and checking of responses.

The team being familiar with such survey problems took all necessary measures to validate the results obtained.

The survey succeeded in securing the following results :-

i) Quantified data for the various parameters investigated in relation to the nomadic and settled communities; covering also the relationships between them.

ii) Basic informations about perception, attitude as conveyed by the above categories of population.

iii) Other informations needed for the report writing, setting of the strategy and the necessary follow-up.

2.4. Data Processing :

The data obtained was organized under :

a) Secondary data from published and unpublished sources.

b) Field data collected through questionnaire and the other survey methods.

The former was carefully scruitinized and drawn from, according to the report plan. The latter, especially data obtained from the questionnaire was organized, coded, tabulated, cross-tabulated manually, to furnish the essential quantification of the various parameters examined. Pertinent data from both sources was used in the preparation of tables, charts, graphs, maps etc. as needed for the report writing. Some of these illustrations are included in the text, while others are however presented as appendices.

Three original maps and diagrams were carefully prepared.

a) A tribal and sub-tribal dry season distribution map of the nomadic groups within the project area.

b) Existing services within the project area.

c) An up-to-date and a detailed map of migratory routes of the three nomadic groups for both the dry and the wet season. It includes the Mushra'i along the Blue Nile and the Kagamir along the White Nile north of Kosti as well as the major agricultural investment projects.

d) A sex-age pyramids of the sampled population.

Modified maps include :

i) a generalized soil map,

ii) a generalized vegetation map, and

iii) a hydrology and drainage map.

On the basis of the research findings and the examination of these maps and diagrams, a proposed future tentative model is attempted within the advocated strategy, of which details are to be investigated later in the proposed follow-up.

CHAPTER TWO.

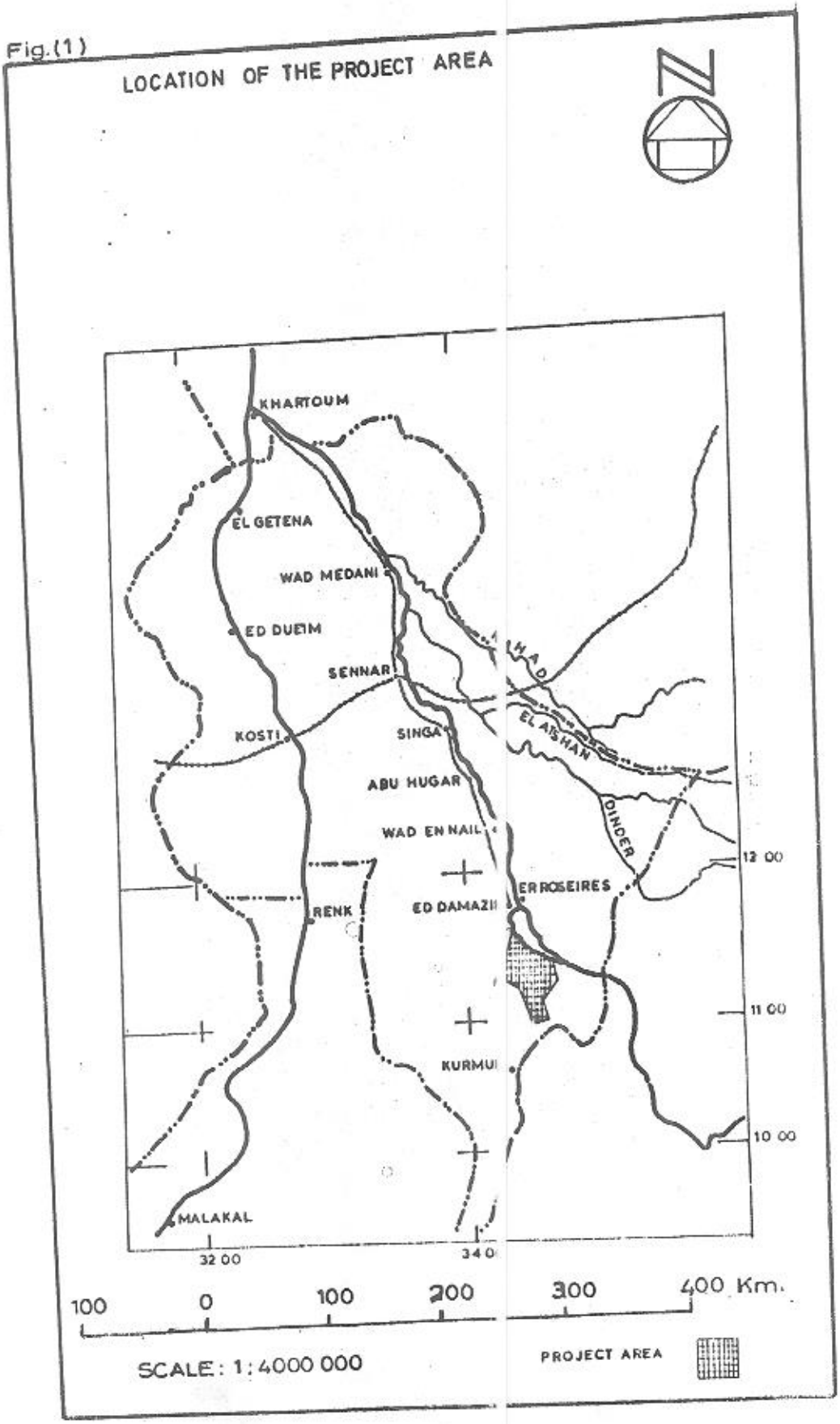
THE PHYSICAL ENVIRONMENT OF THE PROJECT AREA.

1. Introduction :

The project area lies south of Ed Damazin town about 60 Kms. on the western bank of the Blue Nile. south west. Its approximate length between Abu Gemai and Kharen Kharen is 60 kms, with a maximum width of 35 kms between Khor Ed Dom and Ilyas, Fig.(1).

Administratively the project area constitutes the southern part of Er Roseiries People Popular Council and the northern part of El Kurmuk People Popular Council, Blue Nile Province, Central Region. The project forms part of the Region's unregistered land, deemed as government land. The project has been used by the indigenous population, whether settlers or nomads for years. Each of these groups claims customary land rights to specific stretches of the project area.

Fig.(1)


LOCATION OF THE PROJECT AREA
N
KHARTOUM
EL GETENA
WAD MEDANI
ED DUEIM
SENNAR
KOSTI
SINGA
ABU HUGAR
WAD EN NAIL
RENK
ED DAMAZI
ER ROSEIRES
KURMU
MALAKAL
EL AISHAN
DINDER
12 00
11 00
10 00
32 00
34 0
100 0 100 200 300 400 Km.
SCALE : 1 : 4000 000
PROJECT AREA

The settlers are of mul i-ethnic community dominated by the following major ribes : Jabelawin, Watawit, Berta, Fellata, Hausa, Fung nd Ragreig. The nomads are three major groups i.e. Ruff 'a El Hoj, El Fellata and El Ingessana.

Settlers are confined t the eastern and north eastern part along the west rn bank of the Blue Nile, and along the seasonal water courses, and at the foot of the hills where water sup ly is available. The major ethnic and tribal groups are :-

Site	Tribes
Abu Shaneina	Jebel awin, Berta, Watawit, Fellata.
Ilyas	Fung, Jebelawin.
Abu Gemai	Hamag , Jebelawin.
Dan Dan	Berta , Hausa.
Shaira	Fung.
Kharen Kharen	Ragre ig.

They are concentrated i n hamlets and small villages, of which few sprang to centr al villages which are only recently acquiring the form and status of nodes, that are generating change in the settled society. The largest were selected by the project management as commanding centres and headquarters for piloting centres for the

project, namely, Abu Shaneina Abu Gemai and Kharen Kharen.

The nomads who take the project area as the only dry season grazing refuge, are spreading widely in the area, still they concentrate along certain camping axes. Ruffa'a El Hoj have the strongest conventional right to the project area compared with other nomadic groups. They have almost permanent camping sites in locations commanding, the Blue Nile, the major Khors, as sources of water, the Kerib and Dahara as rangeland.

The total population of all occupants of the project area according to 1983 census results was 29,130 persons. They are engaged in primary activities at the minimum subsistence level, due to partial isolation, simple technology and a high degree of conservatism. The 1983 census gave the nomadic population in the project area as 5,735 persons, the investigation team estimate (April 1984) is 5,037 persons. Both estimates ought to be taken with the utmost care because of the fluid nature of the nomadic population.

2. Geology, Geomorphology and Hydrology :

The underlying rocks are of the old pre-camberian non-water bearing Basement Complex. These are igneous rocks, solid and characterized by joints, fractures, and cracks. They are Archean, Crystaline and exposed to the surface as intrusions, outcrops, isolated, residual, and steeply rising hills. The Basement Complex rocks had been subjected to intensive weathering and erosion. They are masked by superficial deposits of heavy clay termed as Gezira formation, which is formed of unconsolidated materials. The Gezira formation is either laid by the Blue Nile and associated drainage system, or formed in situ as a result of the erosion of the Basement Complex with its low permeability, is the main reason for the shortage and deficiency in underground water in the project area.

The general elevation of the project area is about 1,567 ft, 525 ms. above sea level. The highest point is at Jebel Frefeira (7,000ft, 2,334 ms) above sea level.

The geomorphology and associated drainage network are probably the most important physical variables, that shape the economy and control population spatial distribution, type of land use, and future development.

Four geomorphic features could be broadly identified :

a) The narrow ribbon of the Blue Nile flood plain, now extending after the lateral expansion of Er Roseires dam reservoir. It is annually flooded by the river. With its associated drainage system, such an area is providing the best conditions of Gerif cultivation, riverine pasture and recently attracting investment in vegetables and fruit gardens. It is now an area of sharp conflict of land use and disputes between settlers and nomads. The former are using it for cultivation, while the latter would like to have it as semi-green pastures, providing as well free access to the river.

b) The Kerib land was a former flood plain of the Blue Nile during an earlier wetter period. After the retreat of the river during a drier period the flood plain was left uncovered by water. This flood plain being higher than the retreated river, had been disected by a dense network of small and swift streams, khors and rills. Due to its rugged nature, high rate of run-off, the Kerib land is unsuitable for regular cultivation. Therefore the Kerib land is invaded by natural vegetation providing very good pastures. The Kerib land is another area of

building material.

c) The flat clay plains or Dahara land, is constituting the largest single geomorphic unit of the project area. It is an extremely flat, slightly undulating, and intrupted by small steeply rising hills, especially in the south western part of the project area. Dahara is drained by five major khors : Uffat, Tumat, Akhodda, Maco and Shaira. These khors are the main sources of water supply. Hence, they form the main axes of permanent settlement and nomads' dry season camping sites.

The scarcity of water limits the use of Dahara to Angara grazing. Cultivation of any is very limited in the Dahara, consequently friction and disputes over its use are very rare. The heavy clay soil of Dahara can be utilized for a highly flexible water programme based on machine dug hafirs and damming of khors whenever feasible.

d) The small isolated residual Basement Complex hills or jebels are intrupting the monotonously flat nature of Dahara land. From these hills a system of radial drainage radiates in form of alluvial fans. The hills increase in height, number, and association towards the south western fringes of the project area as a natural extension of El Ingessana hills.

Associated with these geomorphic features and the underlying geologic formation is the drainage and the hydrology which are also a function of the climate, soil and vegetation cover.

The hydrology of the project area is dominated by the Blue Nile as the main permanent source of water and datum for seasonal drainage systems. The second dominant feature of hydrology and drainage is the system of the network of the five major water courses, traversing the area from the south west to the north east, Fig.(13). Such systems provide the second major source of water supply next only to the Blue Nile. They act as axes of permanent settlement and camping sites of the different nomadic groups, which can be developed as commanding centres in the initial phase of modernization of the nomads. From these khors Rufa'a el Hoj are able to

graze El Dahara by Anggara, leaving the river basin and Kerib for el Raboub. El Fellata and El Ingessana tend to follow these khors in their penetration into the project area in their dry season movement. Although the major camping sites and axes of movement along these khors are conventionally recognized by all groups, yet friction and disputes are frequently existing particularly in areas of better pastures and water supply.

Away from these khors, particularly in El Dahara water availability is the main limiting factor for the proper use of pastures. Open and surface water supply sources, natural, hand dug or machine dug hafirs are the only sources supplying limited amounts of water. The Rural Water Corporation (RWC) had constructed a number of hafirs in this area; but now only few are functioning.

In spite of the existing water shortage in most of the project area, still potentials for hafir construction are high, because of the impermeable nature and property of the heavy clays dominating the soils of the project area, particularly in the case of El Dahara which suffer now from critical problems of water shortage that limits its full use. The seasonal water courses can be utilized in providing permanent water sources, after a proper study

rangeland and avoid overuse of such land. The masharie as may later on develop into a number of commanding centres to ensure a proper use of the successive landscape pattern of flood plain, Kerib and El Dahara. The masharie can be taken as minor commanding centres within these landscapes as a step for short run measures. These centres may grow later into development units central in the Agro/livestock farming system to be adopted as the long term solution.

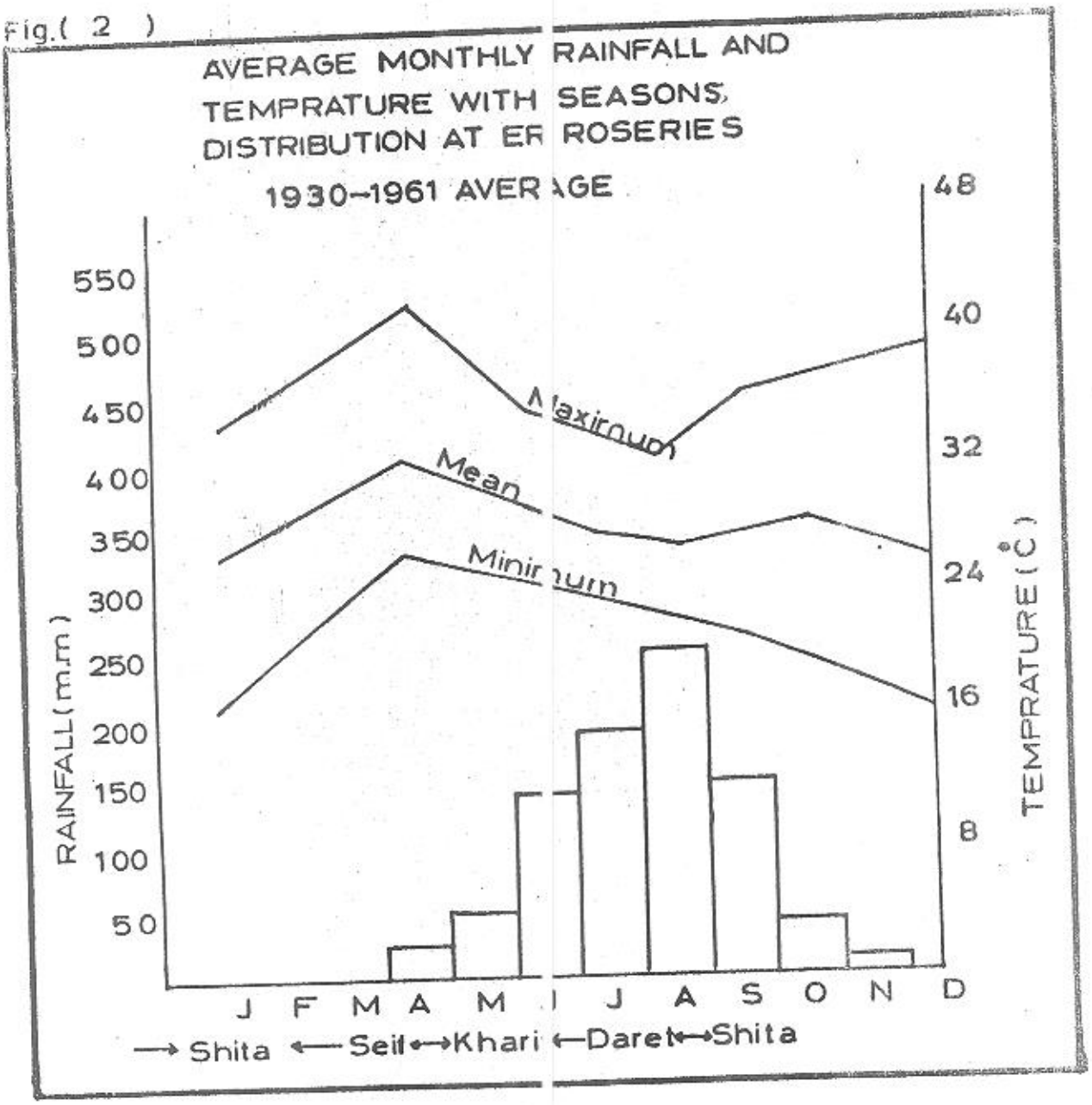
3. Climate :

The project area constitutes part of the climatic and vegetation zone of the low rainfall woodland savana belt on clay of the central Sudan, (Jackson & Harrison 1950s). It has all the characteristics of the tropical continental climate dominating the central part of the country. The project area is within the 500-800 mms annual rainfall which is the average of this extensive belt that extends from lat. 10° to 14°N.

Although the annual rainfall average oscilates from 500 mms to a maximum of 800 mms; yet a maximum of 1,000 mms was recorded (1927),(Lebon 1964). While the minimum of 525 mm (1958) was recorded at Er Roseires. Still the reliable average for a proper vegetative cover and sustainable crop yields is within the 500 mms mark. Recent records of Ed Damazin show an observable decline compared with earlier records, Fig.(2), Fig.(3). The monthly rainfall and temperature records of Er Roseries Fig.(2) are to show the general trend and regime of rainfall and temperature in the periods 1930-1960 and 1960-1983 respectively.

Although rainfall records are very essential in the understanding the climate of such semi-marginal areas, still temperature records are equally important. They determine rainfall effectiveness and reliability through relative humidity, evaporation and transpiration records and values. These variables determine soil moisture, healthy vegetation, and crop growth and yields. The temperature is generally high, though tends to be moderate by northern Sudan standards particularly in the wet season. It reaches a maximum of 40°C in the hottest month of August, Fig.(3). It is marked with a high durnal range amounting to 14°C in August (1984 records). This is

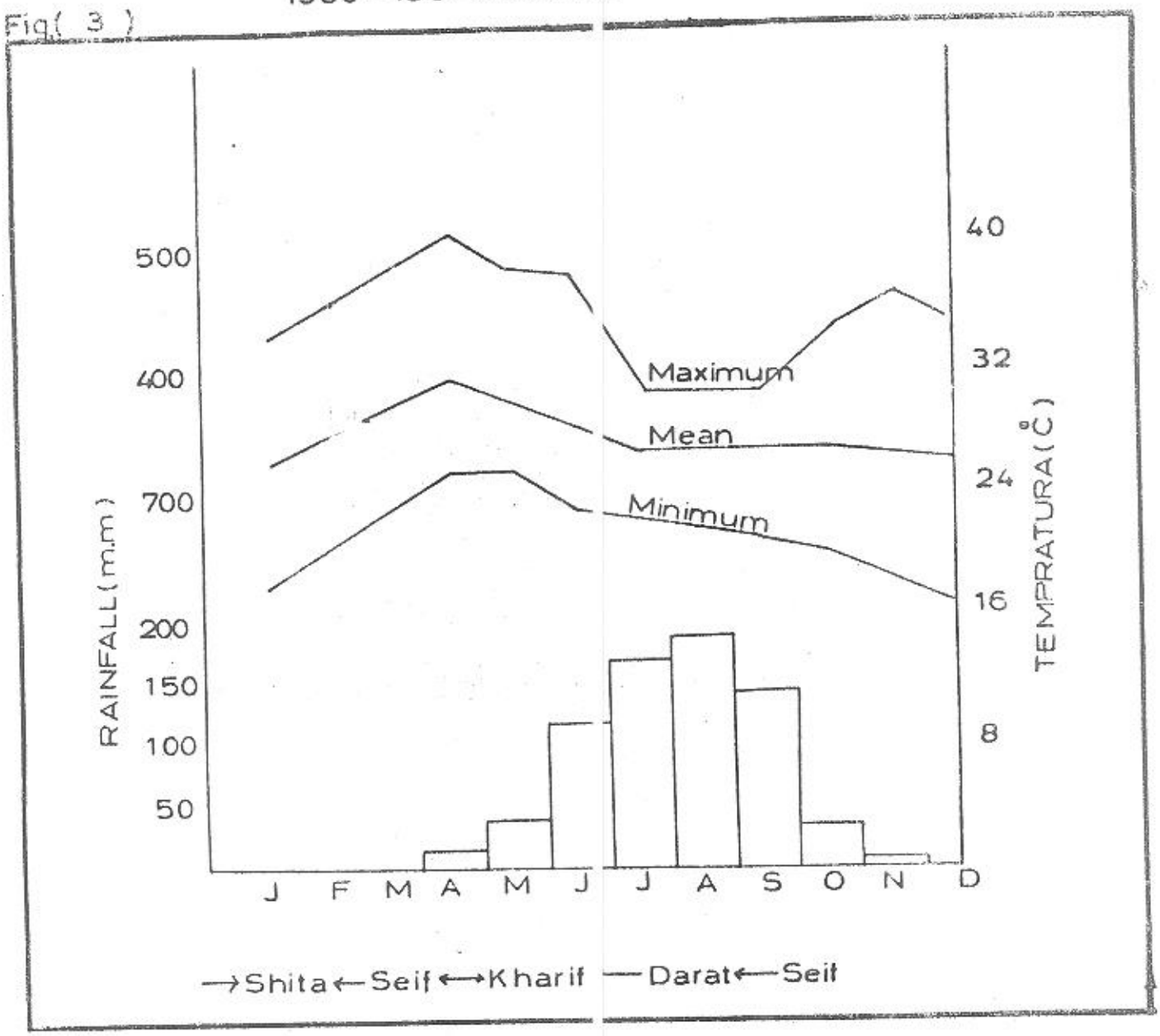
Fig.(2)


AVERAGE MONTHLY RAINFALL AND
TEMPRATURE WITH SEASONS,
DISTRIBUTION AT ER ROSERIES
1930–1961 AVER AGE
RAINFALL (m.m)
550
500
450
400
350
300
250
200
150
100
50
48
40
32
24
16
8
TEMPRATURE (°C)
Maximum
Mean
Minimum
J F M A M J J A S O N D
→ Shita ← Seil ↔ Khari ← Daret ↔ Shita

AVERAGE MONTHLY RAINFALL AND TEMPRATURE WITH SEASONS DISTRIBUTION AT ED DAMAZIN

1960 – 1981 AVERAGE

Fig(3)



surely reducing the rainfall effectiveness especially the afternoon storms, by accelerating surface and sub-surface evaporation.

The most striking characteristics of the climate of the project area and its surroundings are :-

a) Two marked seasons, a wet and warm season of about 4-5 months (May-October) and a dry and hot season for the rest of the year.

b) The total annual rainfall, although has shown a relatively high degree of cyclic variation, is still enough for the present pattern of economy; for maintaining the resource base and the human and livestock populations at the existing level of subsistence.

c) The regime of the climate, like all similar areas within the savanna belt shows a cyclic pattern of wet and dry years with variable deviation from the average. Still such oscillation has not yet pushed the area into the critical point of drought hazard associated with rainfall deficiency. It is the existing landuse practices, i.e. removal of vegetation cover, soil erosion and shrinkage of the land available for both nomads and settlers which challenge the sustainability of the resource base.

d) A critical feature of the rainfall is its spatial and time distribution, that determine its effectiveness. Although the rainy period is fairly long to allow proper seeding of vegetation and crops, yet rains distribution over this period is by no means even or matching the vegetative growth of plants and crops. Spatial distribution is also hectic and uneven particularly of mid-day storms which are more frequent than night storms. The high frequency of mid-day and afternoon storms present another limitation of rainfall effectiveness. The high temperature during the day usually causes higher rate of evaporation and evapo-transpiration which reduce, eventually the amount of rain water available for plant use.

4. Soils :

The project area soil formations are a reflection of the underlying rock types and the processes of fresh water weathering, erosion and deposition associated with the Blue Nile regime and local drainage.

Four major soil types could be identified, Fig.(4):

a) The chromic vertisols or heavy cracking clay soils of El Dahara land which are formed in situ, as

Figure 4.

Attached Seperat ly.

a result of the erosion of the Basement Complex. They have high potential for development of agriculture. At present and due to water shortage they are used for Angra grazing.

b) The lateretic soils of the nolges and high grounds within the vertisols. This is limited in area and use.

c) The tubic fluvisols or old alluvial soils known locally as Kerib soil along the narrow flood plain of the Blue Nile. The Blue Nile flood plain is dominated by recent, renewable alluvial deposits of silt and clay. These are soils of highest landuse conflict, where settlers choose to use it for cultivation; while nomads prefer and would like to have it as pasture land, particularly during the dry season.

d) Eutic Rhegosols or hill catena found down the slopes of the isolated jebels in the southern part of the project area. This soil tends to be sandy to loamy and suitable for special vegetation species. It is found in association with recent deposits by alluvial fans and small streams.

The capability of any of these categories of soils is not studied. It is not the purpose or intention of this study to do that. The aim is to point out the diversity and potentials of these soils as an integral component of the resource base of the project and to stress the need for a proper study of soils as a requisite for any development strategy. A soil capability map and potentials for each type or types of landuse will help very much in guiding future action. From observation, the local people, whether nomads or settlers, assign special use for each of these categories. It is important to investigate the essence of the current practices and to see whether they need modification, restructuring or alternatively to be completely changed.

5. Vegetation :

The project area as stated earlier lies in the low rainfall woodland savanna of the central clay plains. The vegetative cover is dominated by, Acacia species along water courses and depressions, and tall annual grass associations, plus herbs in better drained area. The perennials and annuals vary with the variation in topography, soil, drainage and degree of intensity of use of plants. In areas of intensive tree cutting annual

grasses tend to dominate and the reverse is true when grazing is more intense.

There is a natural succession and association between the geomorphic units and soil types stated earlier.

The following major vegetation zones could be encountered in the project area based on Jackson and Harrison (1952), Fig.(5) :-

a) Woodland Savanna on clay divided into :
   i) Acacia seyal - Balanites alterorating with tall annual grasses at different cover and purity of stand. The ratio of grasses to trees is rapidly increasing as a result of wood cutting, accidental fires, etc..
   ii) Anogeisus, combretum hartmulaum Savanna wood land.

b) Riverine vegetation as an association of evergreen trees grasses and herbs.

c) Special area vegetation mainly hill catenas.

As stated earlier the project area has a wide range of natural vegetation which has equally diverse uses and potentials particularly for grazing and forest products. This can not be properly assessed unless an intensive work

Figure 5.

Attached Seperately.

b) The resource base, and the physical environment provided a delicate state of equilibrium between their carrying capacity, and the human and livestock needs at the subsistence level. This relationship has been disturbed unfavourably due to overstocking, and misuse of resources. To correct this situation substantial measures are needed.

c) The physical environment, in spite of its semi-fragile nature is quite diverse making the strategy of integrated development a rational option. It is this integrated planning approach that will sustain the population at the current rate of growth and ensure the continuity of the resources to meet the needs generated in the future. This could be attainable by careful evaluative interdisciplinary studies that start by producing a landuse map, a soil capability map, and a vegetation map; as well as classification of the different potentials of the resource base.

CHAPTER THREE.

THE NOMADIC ECOSYSTEM.

1. Introduction :

It is the purpose of this chapter to examine closely the nomadic ecosystem in terms of origin, historical background; demographic, socio-cultural and economic characteristics.

Three main nomadic groups are distinguished in the project area. Ranked in order of importance, i.e. population size, land attachment, and impact on the range land of the project area. They come in the following order : Ruffa'a El Hoj widely referred to as the "Arab" due to their ancestoral background - El Fellata, and El Ingessana.

The three groups can be broadly classified as pure nomads (El Fellata) semi-nomads (Ruffa'a El Hoj) and semi-sedentary (El Ingessana), according to the Department of Statistics definition, Table (1).

shall appear in all tables in the text as referring to the three tribal groups in order of the above distribution.

The three groups stay in the project area during the dry months (October-June) spending the rest of the year outside the project. In this respect the project area forms an integral part of the ecosystems of these populations, in course of their annual grazing cycles. Their movements are dictated by the prevalent climatic types plus the other natural elements, which condition the seasonal availability of forage and water supplies, inside and outside the project area. While the project area provides adequate grazing and water for livestock and humans during the dry months, surface topography, soils, heavy rains, and flies, render the project area unsuitable for human and animal habitation during the rainy months.

As a result of the seasonality in use of resources, there emerged the present alternating pattern of grazing, followed by the three nomadic groups. This pattern dovetails the dry season pastures of the project area, with rainy season grazing in remotely located territories. The land in between the two areas is grazed in course of movement; giving a spatial continuity to the two ecosystems. This set-up introduces an important planning concept: That the ecosystems exploited by the three nomadic groups should be viewed as wholly integrated spatial containers, when examining questions related to future mobility and utilization of the range resources of the project area, and the welfare of the nomadic population, Fig.(6).

2. The Three Nomadic Groups :

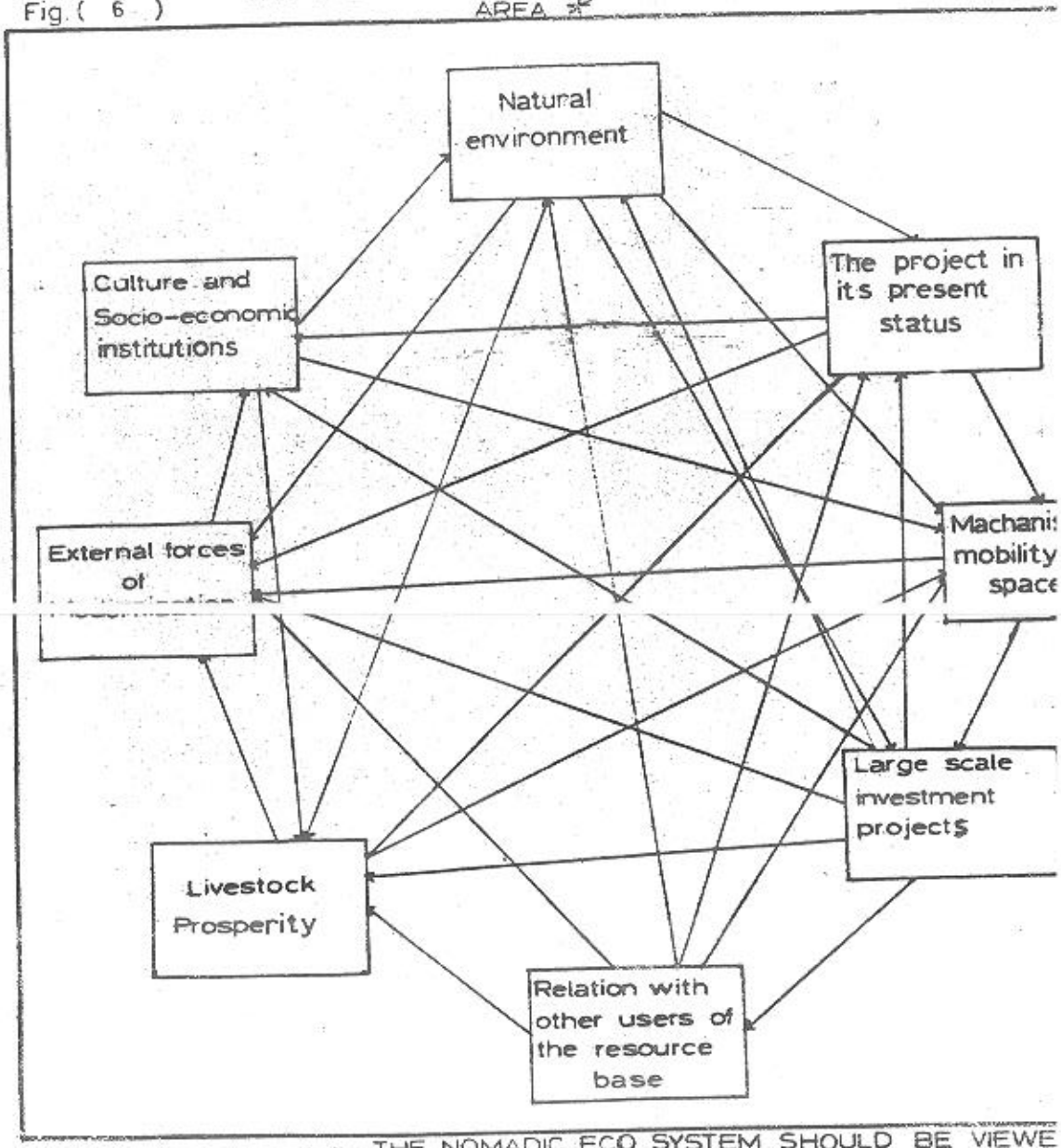
In what follows the three nomadic groups shall be introduced with emphasis, as mentioned before, on their cultural and social features highlighting as well their main economic activities.

2.1. Ruffa'a El Hoj :

2.1.1. El Badia El Shamalia

Ruffa'a El Hoj are divided into El Badia El Shamalia and El Badia El Ganobia. The first stands for the northern

Fig. (6) INTERACTION PROCESS AND CONTROL VARIABLES OF THE PRESENT NOMADIC ECO-SYSTEM OF THE PROJECT AREA *



(*) THE NOMADIC ECO SYSTEM SHOULD BE VIEWE AS A FUNCTION OF THE INTERACTION OF THES VARIABLES AT DIFFERENT LEVELS

nomads, and the second for the southern nomads. The distinction is based on the location of the dry season grazing area of each of the two factions within the Blue Nile Province. El Badia El Shamalia spends the dry season in Er Roseires district, where the project lies, while El Badia El Ganolia spends the dry season in El Kurmuk district which lies further south. Of the two the present study is concerned with part of the population of El Badia El Shamalia i.e. those of them found in the project area, Fig.(7).

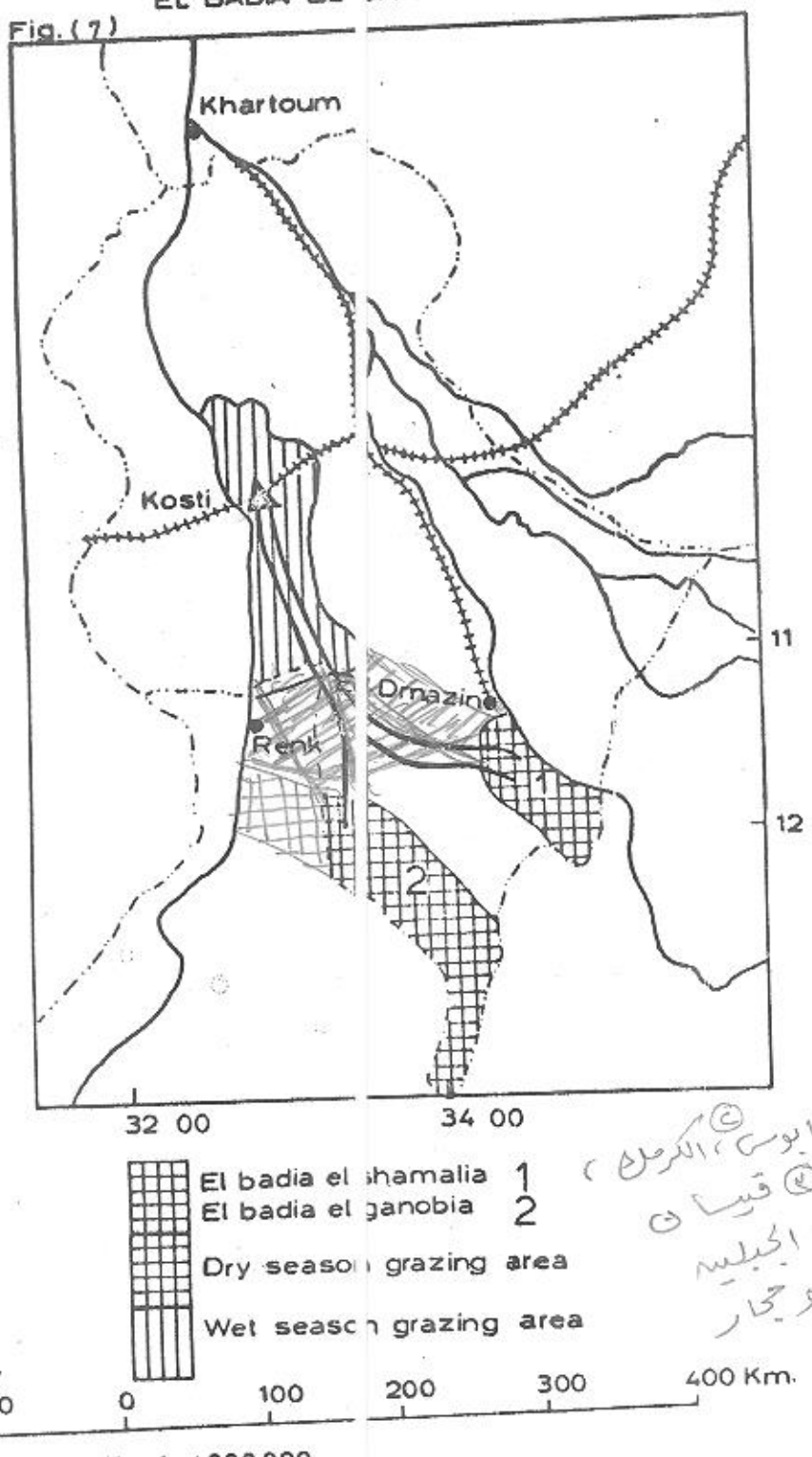
2.1.2. Origin and Location within the Project.

Ruffa'a El Hoj are of an Arab origin. They entered the Sudan through Southern Egypt in late 15th. C. They occupied for some time the area between the White and Blue Nile (Jebel Moya, Jebel Biyout, Jebal Doud) about the latitude of Kosti. From there they gradually penetrated southward, and succeeded in establishing a tribal domain at the neighbourhood of Abu Hugar. From there they pushed further south till they reached El Kurmuk and Geisan in Southern Blue Nile.

For a long time they followed a migratory pattern that linked these riparian lands of southern Blue Nile

EL BADIA EL SHAMALIA AND
EL BADIA EL GANOBIA

Fig. (7)



ضيف : ① يابوس ② الكرمك ③ قيسان ④ الجبليه ⑤ ابو جمار

Province with the area between the Blue and White Nile from the latitude of Kosti and northward up to El Gitaina.

This was the picture up to Independence in 1956. However, after that major changes have taken place which disturbed this system; affecting their dry and wet season grazing patterns. The expansion in horticultural gardens on both sides of the Blue Nile from Sennar to Fazoghli has limited the access of Ruffa'a to grazing and water along the banks of the Blue Nile. While expansion in mechanized farming after 1964, together with the rise of other agricultural investment schemes in the recent decade; have taken most of the land that was traditionally visited by Ruffa'a.

The result of these changes is the intensification of Ruffa'a movement into the project area especially after 1964, which they hold since then as the last dry season refuge left to them.

2.1.3. Population.

The 1983 Census gave 42,800 persons for Ruffa'a El Hoj. Out of this figure El Badia El Shamalia had 30,400 persons, and El Badia El Ganobia 12,400 souls.

Of the above population of El Badia El Shamalia, those who were present in the project area at the time of the survey were in the order of 4,000 persons.

Of the three main centres targetted for development within the project area namely: Abu Shaneina, Abu Gemai, and Kharen-Kharen, Ruffa'a are to be found in the surroundings of the former two, with approximately 1,170 persons in the neighbourhood of Abu Shaneina, and 1,350 persons around Abu Gemai, plus 1,470 around Ilyas, Bakori, Amardalo and Fazoghli, Table (2).

Table 2.

Estimates of the Nomads in the Project Area.

Camping Site	Main Tribe	Sub-tribe	No. of: Fir- igs.	No. of: House- holds	Total Population
Abu Gemai	Ruffa'a El Hoj	Awlad Bidega	12	225	1,350
Abu Shaneina	" "	Awlad Hawati	13	184	1,170
Ilyas, Bakori Amardalo and Fazoghli	" "	Sebeihab	21	245	1,470
Kharen-Kharen	Fellata	Waiyla	23	36	252
	"	Malli	19	39	275
	"	Umm Bararo	20	60	420
	El Ingessana		--	20(*)	100
GRAND TOTAL			108	789	5,027

Source: Field Survey, April, 1984.

(*) It was found the 100 herders come following the livestock of 20 households.

2.1.4. Ethnic Composition.

Ruffa'a El Hoj are ethnically divided into a number of sub-tribal units Khashum beit(s). The main ones found in the two centres are El Sehihab, Awlad Hawati, and Awlad Bidega.

This ethnic composition is based on kinship, where each faction claims descend from the same patrilineal geneology. Belonging to a larger group is one of the characteristics of nomadic societies, where such a status provides for group members protection against the outside elements. This was especially so in the past when the countryside lacked security, and the tribesman depended on the power of his group. The system is still intact, since in camping at different grazing areas, in migrations between the latter, and in the organization of tribal courts, they follow alligence to the different factions. The whole system is based on a hierarchy which is centred in a single leadership, which originates from blood ties.

2.1.5. Social Organization and Tribal Set Up.

The basic unit of organization is the household, which consists of a father, mother plus unmarried sons and daughters. Married sons and daughters will sometimes

ferig is made of nazla Khiyars and the Sheikh. This group does not have a formal structures but convenes as need arisss.

2.1.6. Demographic Characteristics.

a) Family Size

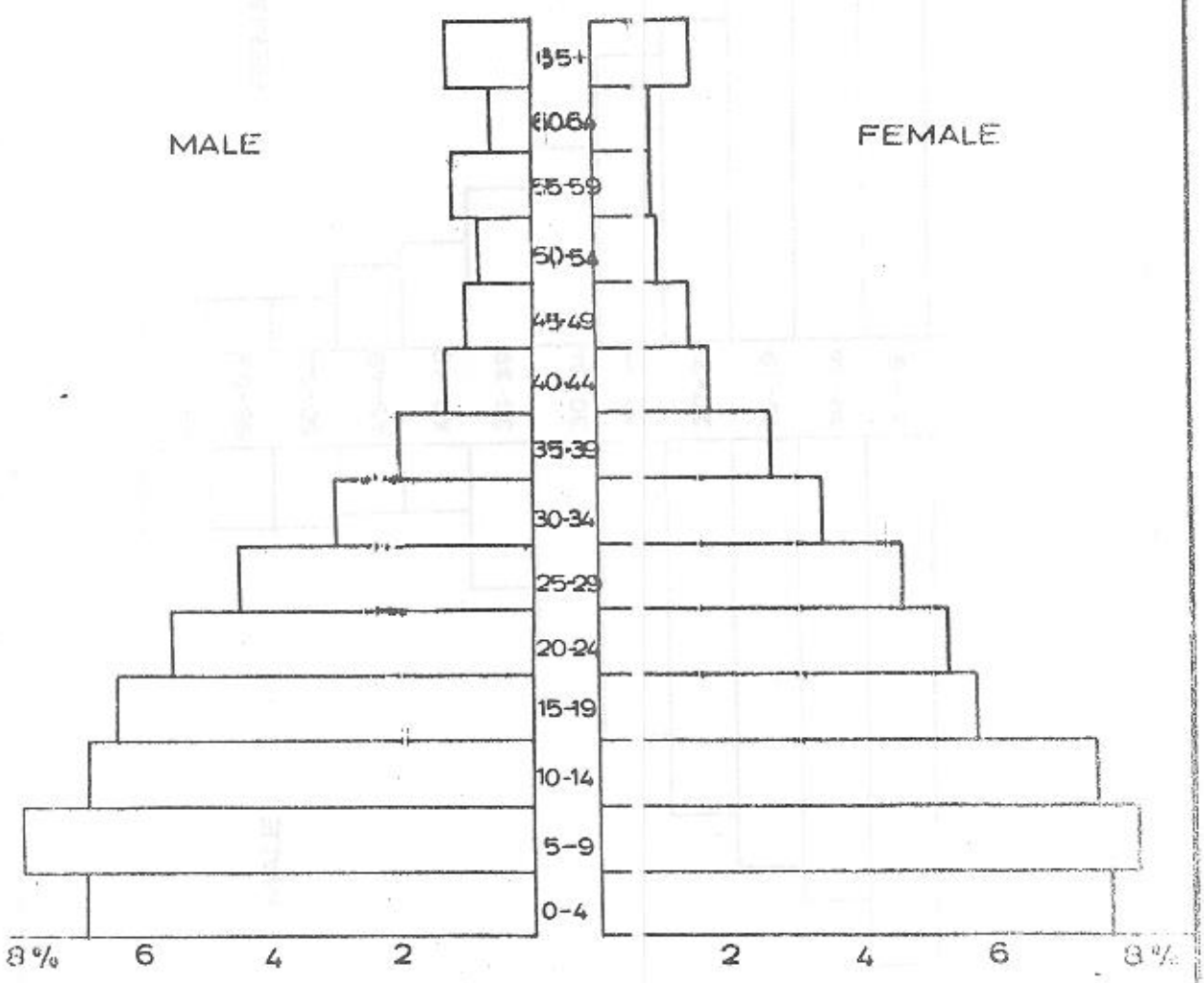
The questionnaire conducted for the purpose of this study furnishes adequate data on this aspect, Table (3).

Based on this data the average family size is 6 persons; composed of the head of the household, his wife, children plus dependants. Generally speaking Ruffa'a are not a polygmous society, since out of the sample surveyed only 4.7% of all households are composed of more than one wife, Table (4).

The population structure of both Ruffa'a El Hoj and all three nomadic communities is shown Fig.(8,a,8b), Fig.(9a, and 9,b), respectively. Both pyramids show clearly the demographic characteristics of a typical traditional society, where the vital events are controlled by purely natural variables. There is a striking balance between males and females at all ages, a feature of a "stable population".

SEX-AGE PYRAMID OF THE SAMPLED POPULATION OF RUFFA'A EL HOJ OF ABU SHANEINA AND ABU GEMAI (1984)

Fig. (8, a)

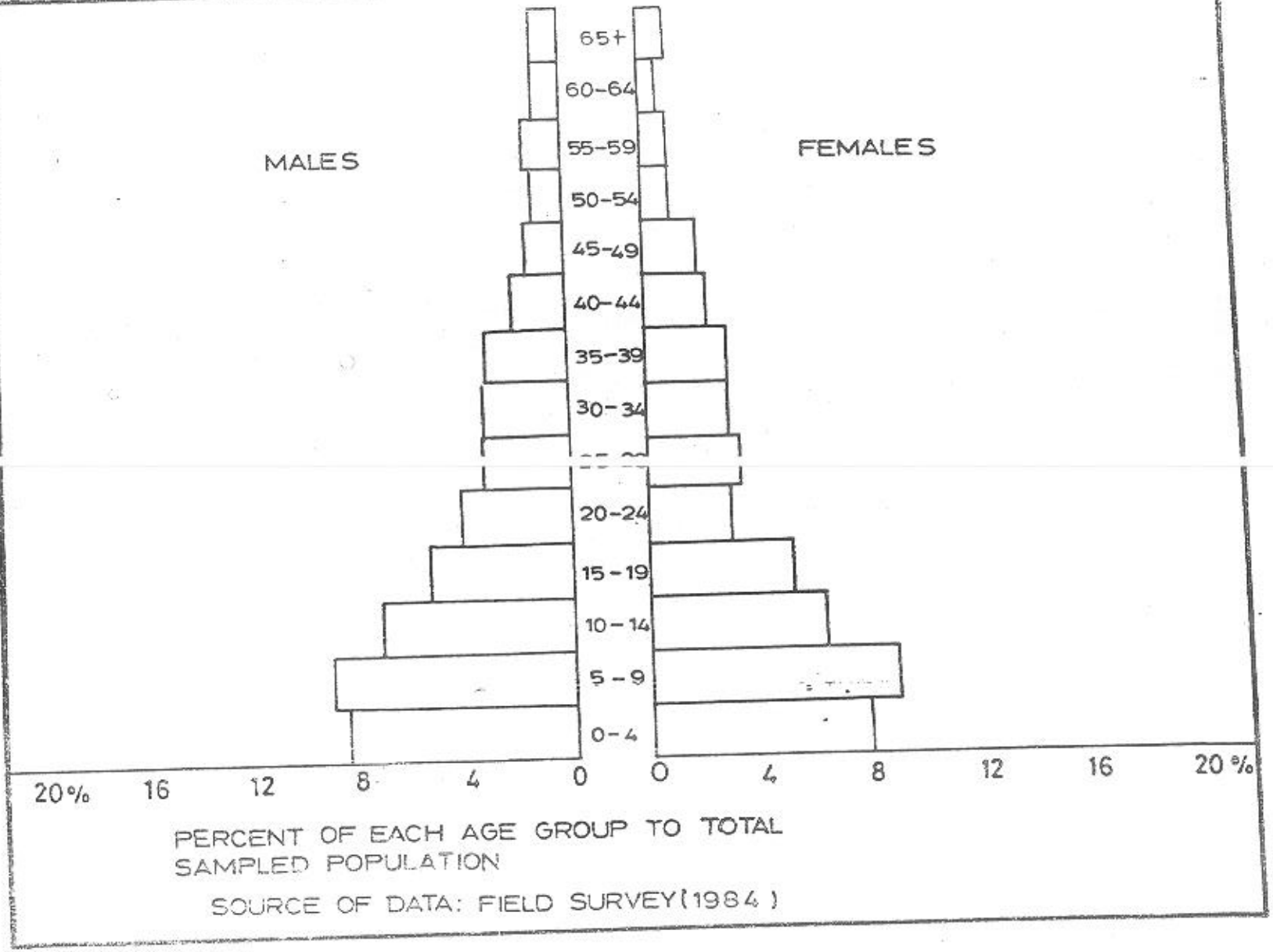


PERCENT OF EACH SEX TO TOTAL SAMPLED POPULATION

SOURCE: FIELD SURVEY (1984)
OF DATA:

Fig.(9 ;a)

A SEX-AGE PYRAMID OF THE SAMPLED POPULATION OF ALL NOMADS OF THE PROJECT AREA (1984)

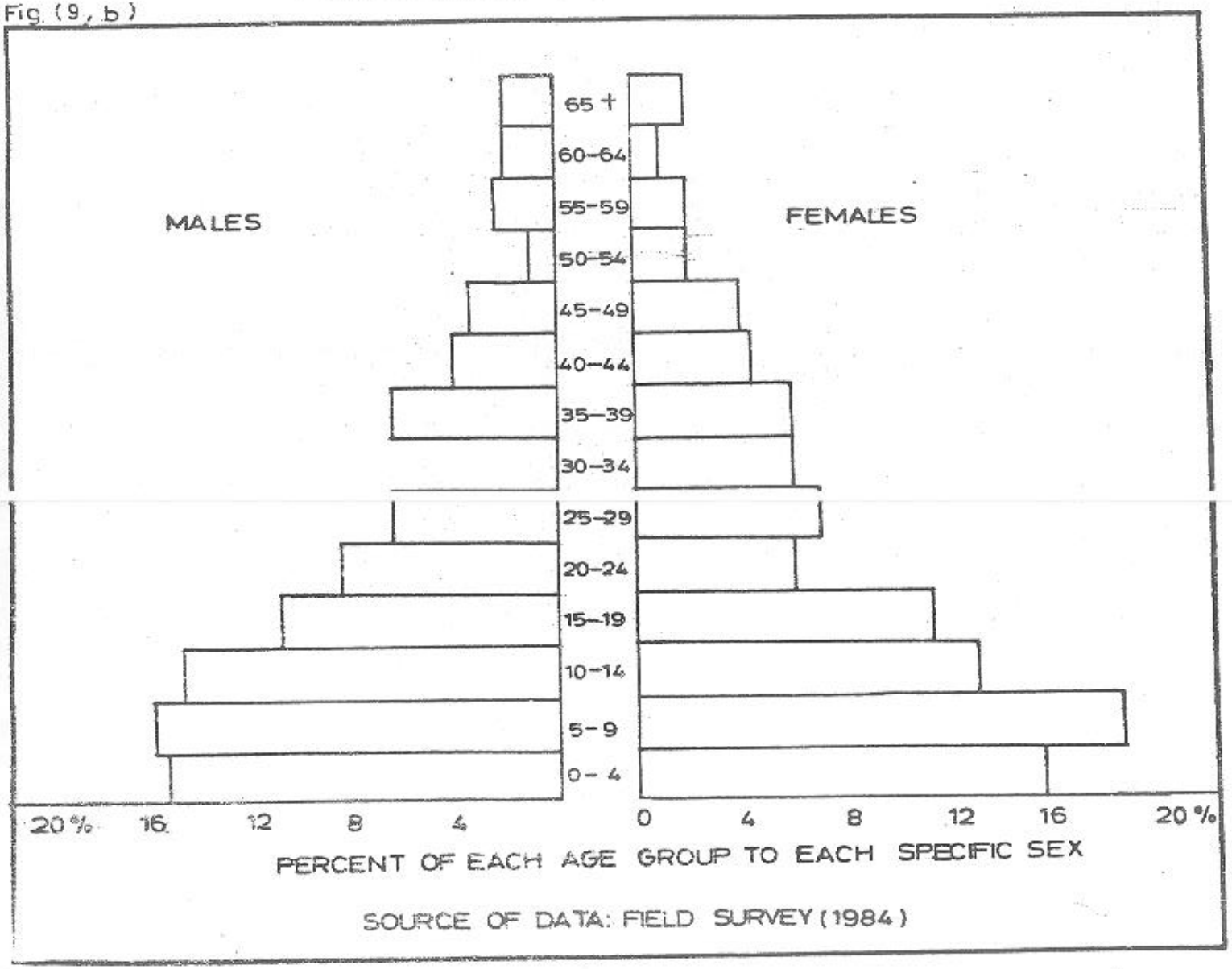


PERCENT OF EACH AGE GROUP TO TOTAL SAMPLED POPULATION

SOURCE OF DATA: FIELD SURVEY(1984)

A SEX AGE PYRAMID OF THE SAMPLED POPULATION OF ALL NOMADS OF THE PROJECT AREA (1984)

Fig. (9, b)



SOURCE OF DATA: FIELD SURVEY (1984)

Table 3.

Family Size and Structure : Abu Shaneina and Abu Gemai.

Sites	No. of Respondents.	Sons					Daughters					Dependents.			
		Don't have	1-3	4-6	7-9	10	Don't have	1-3	4-6	7-9	10	Don't have	1-3	4-6	7
Abu Shaneina	22	2	9	10	1	-	4	10	6	2	-	16	2	3	-
Abu Gemai	21	2	7	12	-	-	-	15	6	-	-	6	11	4	1
	43	4	16	22	1	-	4	25	12	2	-	22	13	7	1

Source : Field Survey, April, 1984.

Table 4.

Marital Status : Abu Shaneina and Abu Gemai.

Sites	Number of Respondents.	Marital Status: Single	Married: One Wife	Married: Two Wives	Total
Abu Shaneina	22	--	20	2	22
Abu Gemai	21	--	21	-	21
Grand Total and %	43	--	41	2	43
			95.3%	4.7%	

Source: Field Survey, April, 1984.

The small base at the age group 0-4 yrs old is a clear evidence of a high infant mortality rate, associated with low level of medical care, hygiene, child care and mid-wife service; normally characterizing such societies.

The male/female balance at the ages of migration risk and proponisity is an observable feature indicating absence of out-migration. This suggests a reliable manpower reserve to be tapped and mobilized for any future development. The sharp tappering of both pyramids towards higher age groups is an indicator of a relatively low level of life expectancy which tends to be slightly longer among females, as a normal demographic feature.

The increase of females in the reproductive age group of 15-49, over males of the same age shows a moderately high level of fertility. The percentage is 25% and 23% respectively. This trend in fertility, coupled by early marriage which initiates a high natural increase, is controlled by a high infant mortality rate as pointed earlier.

2.1.7. Literacy Status :

The field survey data reveals that all respondents among Ruffa'a El Hoj are illiterate. This is accounted for by the nomadic nature of the population, characterised by mobility throughout the year; which usually keep them away from settlement centres where service institutions including schools are located. It is also due to the low value attributed by nomads to education, since it has no function in their day to day life.

The situation has improved a little in recent years; mainly due to the realization by the local authorities of the importance of education to the nomads, and to the receptiveness of Ruffa'a to the idea. This has been much facilitated by the expansion in boarding schools, and the matching of the school calender with the migration cycle of the tribe. At present Ruffa'a send regularly their children to the primary schools located at Abu - Shaneina, Abu Gemai, Illyas, Bikori and Fazoghli.

2.1.8. Livestock Raising :

2.1.8.1. General.

Livestock raising is the main economic activity of the tribe. At the same time, a few of them practice

cultivation as a subsidary activity to supply the sorghum requirements of the household. The two economies are integrated spatially and calender wise. This is made feasible by practicing agriculture in course of migration between the dry and the rainy season grazing areas. They sow the sorghum crop when they are moving for rainy season grazing, and harvest it on the return journey to the dry season grazing areas.

Cultivation is practiced outside the project area mainly at Umm Kherin, Umm Arda, and Mazmoum, which are located at Abu Hugar and Er Roseires districts where, Ruffa'a have traditional rights. At these places, the presence of relatives who settled down encourages many to take up agriculture, since relatives can look after the field of those who are absent. Households which do not have relatives opt for share-cropping.

For those practicing agriculture among Ruffa'a El Hoj, a good sorghum harvest is a guarantee against selling livestock, to purchase the grain needs of the family. Hence crop raising does not only serve the procurement of the staple food of the family; but as well the building up of herds, through safeguarding family livestock from sale. Here lies the essence of integration of the two economies.

2.1.8.2. Livestock Numbers :

The main animals raised by Ruffa'a El Hoj ranked according to economic importance are sheep, goats and cattle, Table (5) and (6) giving respondents' selling preferences verify this ranking. Camels are raised in limited numbers, and are still held as a prestigous animal among those raising them.

It is difficult to furnish accurate livestock figures for the animal wealth owned by Ruffa'a; for reasons we all know including : absence of reliable census records, and the reluctance of nomads to supply the actual numbers they own; for fear of taxation, envoy, and the evil eye. However, we shall attempt supply some figures based on the field survey results.

The survey reveals that the family ownership of sheep is in the order of 350 head, Table (7). Multiplying this by the number of households in Abu Shaneina area (184 x 350) gives approximately a sheep population of 64,400 head. Using the same procedure for Abu Gemai (225 x 350) yields a sheep population of 78,750 head.

Table 5.

Breeders Preferences and Ranking of different animal types for the Three Centres surveyed, given in number of answers received and percentages out of Total Sample.

Sites	No. of Respond-ents.	Preference of Respondents in Selling the Different Animals: Cattle Sheep Goats.		Sheep Cattle Goats.		Goats Sheep Cattle		Sheep Goats Cattle		Goats Cattle Sheep		Cattle Goats Sheep		Cattle only		Goats only		Sheep only.		TOTAL	
		Tot.	%	Tot.	%	Tot.	%	Tot.	%	Tot.	%	Tot.	%	Tot.	%	Tot.	%	Tot.	%	Tot.	%		
Kharen-Kharen	21	10	47.6	1	4.8	-	-	1	4.8	3	14.3	4	19	2	9.5	-	-	-	-	21	100%
Abu Shaneina	22	-	-	4	18.2	3	13.6	12	54.6	-	-	-	-	-	-	-	-	3	13.6	22	100%
Abu Gumai	21	-	-	5	23.8	2	9.5	11	52.4	-	-	-	-	-	-	-	-	3	14.3	21	100%
GRAND TOTAL and %	64	10	15.6	10	15.6	5	7.8	24	37.5	3	4.7	4	6.3.	2	3.1	-	-	6	9.4	64	100%

Source : Field Survey, April, 1984.

Table 6.

Reasons for Ranking different types
Table 5.

Sites	No. of Respondents.	Reasons for Ranking: Great losses in other types as a result of diseases.	Other types are not economically favourable.	TOTAL
Kharen-Kharen	21	8	5	26
Abu Shaneina	22	4	3	26
Abu Gemai	21	3	1	22
Grand Total of Sample, answers and percentage.	64	15 20.2%	9 12.2%	74 100%

Source: Field Survey, April

Note: More than one answer was given to the samege s are computed out of total answers (74).

livestock of the other centres not included in the sample, i.e. Ilyas, Bakori, Amardalo and Fazoghli, is in the order of 228,700 sheep, 58,860 cattle 26,160 goats and 3,924 camels.

2.1.8.3. Herd Structure :

Data on herd structure is not readily available, and no systematic work has been done in this area. To fill in this gap some information for sheep, and cattle was collected during the survey for 20 cases studied at Abu Shaneina and Abu Gemai for Ruffa'a El Hoj, Tables (7) and (8).

In Table (7) the average size of herd of sheep ranges from a maximum of 800 to a minimum of 120 giving an average of 337 for both sites. The herd structure for both sites shows striking similarities as shown by the sub-averages in the table, worked out for each sampled herd size. When such means are arranged they give the averages in number and percentage for both sites.

The following points could be deducted from this table :-

a) A general trend of balance between pregenant and those in lactation, suggesting a steady and all year round reproduction rate.

Table 7.

(a) Sheep. Herd Size and Structure of the Selected Sites of Abu Shaneina and Abu Gemai (1984).

Site	Herd Size of each sample.	Pregenant		In Lactation		Non-Pregenant or dry		1-3 Month old Male		Bulls		Castrated Mature Males	
		No.	% of each herd	No.	% of each herd	No.	% of each herd	No.	% of each herd	No.	% of each herd.	No.	% of each herd.
Abu Shaniena	120	30	25	30	25	15	12.5	30	25	4	3.3	11	9.2
	150	20	13.3	50	33.3	20	13.3	40	26.7	4	2.7	16	10.7
	400	70	17.5	100	25.0	80	20.0	100	25.0	5	1.3	45	11.3
	300	60	20.0	70	23.3	50	16.7	70	23.3	5	1.7	45	15.0
	800	150	18.8	200	25.0	100	12.5	270	33.8	6	0.8	74	9.3
Sub-Av.	354	66	18.9	90	26.3	53	15	102	26.7	5	2.0	38	11.1
Abu Gemai	300	60	20	40	13.3	80	26.7	60	20	3	1.0	57	19.0
	200	30	15	30	15.0	40	20.0	60	30	2	1.0	40	20.0
	500	50	10	100	20.0	95	19.0	130	26	5	1.0	120	24.0
	300	40	13.3	100	33.3	40	13.3	78	26	2	0.7	40	13.3
	300	30	10.0	60	20.0	45	15.0	90	30	3	1.0	57	19.0
Sub-Av.	320	42	13.7	66	20.3	60	18.8	84	26.4	3	0.94	63	19.0
Average size for both sites	337												
Average of each type for both sites.		53	% 16.3	78	% 23.7	57	% 16.9	93	% 26.6	4	% 1.5	505	% 15.1

b) The increase of number of 1-3 month old over those in lactation hints to twin occurrence as indicator of multiple increase in livestock population.

c) The strikingly low number of bulls in relation to herd size may indicate lack of control on reproduction. Nomads to the north have a timely and short period of Ushar so more bulls are needed. Here ushar is uncontrolled so exert less pressure on bulls.

d) The large number of castrated mature male indicate an increasing trend towards commercialization among nomads of the project area. Incidences of herds of pure males for sale were reported by a substantial number of interviewed nomads.

Table (8) gives the cattle herd size and structure. From this table it is evident that herd size at both sites is almost the same, between 80-90 head. The same could be said about structure, giving a similar overall average as shown at the bottom of the table.

The following points could be deducted from this table :-

Table 8.

(b) Cattle. Herd Size and Structure of the Selected Sites of Abu Shaniena and Abu Gemai (1984)

Site	Herd Size of each sample.	Pregenant		In Lacation		Non-Pregnant or dry		1-3 months old		Bulls		Castrated Mature Males.	
		No.	% of each herd.	No.	% of each herd	No.	% of each herd.	No.	% of each herd.	No.	% of each herd.	No.	% of each herd
Abu Shaniena	40	15	37.5	5	12.5	10	25.0	5	12.5	1	2.5	4	10.0
	100	15	15.0	25	25.0	15	15.0	25	25.0	2	2.0	18	18.0
	60	10	16.7	15	25.0	10	16.7	15	25.0	2	3.3	8	13.3
	150	30	20.0	40	26.7	10	6.7	40	26.7	1	0.7	17	11.3
	70	10	7.0	20	14.0	20	14.0	20	14.0	3	4.3	8	11.4
Sub. avr.	84	16	19.2	21	20.6	13	15.5	13	20.6	1.8	2.6	11	7.2
[illegible]	100	18	18	20	20	15	15	20	20	2	2	20	20
	120	40	33.3	20	16.7	20	16.7	2	1.7	2	1.7	18	15
	40	8	20.0	10	25.0	5	12.5	10	25.0	1	2.5	6	15
	20	6	30.0	2	10.0	5	25.0	2	10.0	1	5.0	4	5
	190	30	15.8	30	15.8	50	26.3	40	21.0	2	1.1	35	18.4
Sub. avr.	94	20.4	23.4	16.4	17.5	19	19.1	14.8	15.5	1.6	2.5	16.6	14.7
Average for both sites.	89	18.2	% 21.3	18.7	% 19.1	16	% 17.3	13.9	% 18.1	1.7	% 2.55	13.8	% 11

a) The small herd size indicating a shift among Ruffa'a El Hoj from cattle breeding to sheep breeding.

b) The balance in number and percentage between pregenant and those in lactation indicates a steady increase and lack of seasonal control on reproduction. This is also supported by the percentage of those 1-3 months olds.

c) The percentage of castrated male bulls is an indicator of trend commercialization in livestock rearing still lower than the trend in case of sheep. For both breeds the trend is higher among the nomads of Abu Gemai compared with those of Abu Shaniena.

The wide spectrum of structure of the herds in case of both types and the relatively large size puts more pressure in management on the nomads limited manpower. It may be the main reason for dividing herds into Raboub and Angara.

2.1.8.4. Grazing and Encampment within Project Area:

Ruffa'a El Hoj start entering the project area from as early as late September, all depending on the performance of the rainy season in a particular year. Once they are there they align on the western banks of the Blue Nile from

about the latitude of Er Roseires and southwards to the Sudan-Ethiopian border, with El Badya El Shamalia concentrating at Abu Shaneina and Abu Gemai, as mentioned before.

According to the local terminology used by Ruffa'a El Hoj, the area extending from the Blue Nile and westwards is divided into the following landscape types :-

i	ii + iii	iv	v	vi
The River	El Farish with Maya's	El Saru	El Kerab	El Badoba

where :

i. the river : is the Blue Nile,

ii. el Farish : is the basin of the river south of the dam

iii. el Maya'a : is the surface pools left after the flood recedes,

iv. el Saru : is the high ground flanking the edges of the basin,

v. el Kerib : is the terraculated land from which the river worked its present level, and

vi. el Badoba : is the clay plain proper.

This set up influences both the location of encampments and the grazing patterns of animals. While encampments are located on the Kerib lands, animals i.e. sheep and cattle, are divided into two categories to allow efficient utilization of the grazing and water resources of the 6 types of landscapes. These categories are el Raboub and el Angara. /

The former stands for those animals that need special care from the herder and owner, including : the calving ones, the aged, the sick, the weak, etc.., which are confined to el Farish area close to the encampments. While el Angara refers to the stronger animals which can roam away from the encampments into el Kerib and el Badoba land. The two categories water at el Mayaat and the river proper.

As for camels they graze at both el Kerib and el Badoba land, and water at the river. Being browsing animals they are mostly attracted to Khors where they find lush tree vegetation.

This involves extensive division of labour. The young and middle-aged men of each nazla are responsible for the main herd. If the main herd is sufficiently large, additional shepherds are hired. The herd may be away from the camping site for several weeks. The other members of

the nazla i.e. the elderly, the women, and the children stay back at the camps, tending the roboub and looking after the other domestic affairs.

In the frame of this established pattern, Ruffa'a El Hoj have 8 camp sites: 5 in the area of Abu Shaneina, and 3 in the area of Abu Gemai, Fig.(10).

Access to the river for watering animals is very important for the herds of Ruffa'a El Hoj. The contact points at the river where herds obtain water are locally known as masharie. There are about 5 mushrie between Er Roseires and Abu Gemai, and 17 between the latter and Abu Shaneina area. Fig.(9) exhibits the encampment sites and the masharie of Ruffa'a El Hoj within the project area.

2.1.8.5. Herd Management.

Raising four types of animals i.e. sheep, cattle, camels, and goats and adopting different practices of management for el Raboub and el Angara involves a lot of effort, that entails division of labour. El Raboub which is grazed and daily watered is being kept in the basin area and within proximity to nearby Kerib lands. El Angra penetrates el Badob land as far as Jebel Kadum about 26 Km. from the river. It is normally watered every 4th. day "Khimis" during the cool months, reduced

Figure 10.

Attached Seperately.

to every other day "Ghib", or two days interval "Ribia'a", during the hot period. Camels follow seasonal water courses and visit the river for water every 11 days during the cool period, which is cut to 7 days during the hot months.

In only few cases the labour required for the management of the herds is supplied by the family. The majority of Ruffa'a resort to hired herders. There are many reasons behind that including :-

i) the shrinkage in pasture lands which entails more mobility of livestock to distant and widely distributed grazing area,
ii) diversification of livestock, i.e. four animals with different grazing patterns, and,
iii) the security question related to conflicts with the settled population and with the other nomads.

Herders were in plenty in the past; normally paid their annual fees in kind. Presently there is scarcity of herders and though many are still paid in kind, cash payments are more preferred. As much as Ls.800-1,000 are paid annually to a herder; plus food, clothese and a donkey for carrying his needs.

2.1.8.6. Supplementary Feeds

Table (9) furnishes data on family expenditure. An important item in this regard is expenditure on supplementary feeds which are regularly supplied to all animals except camels. Sheep are supplied with feeds, mainly dura and oil seed cake, mixed with salt from December up to March. By this time the water of the dam lake recedes, and green pastures become available in el Farish area which keeps livestock up to the end of the dry period when Ruffa'a leave the project area for rainy season grazing. The same also applies to cattle which are given supplementary feeds mainly dura stalks plus oil seed cake as from December and on up to June.

For illustration, a livestock owner possessing the following numbers :

Angara

200	sheep
130	goats
5	camels

Raboub

150	sheep
80	cattle
5	camels

purchased this year 1984, the following quantities of fodder:-

Table 9.

How respondents spent annual incomes generated from livestock sale.

Site	Size of Sample Surveyed.	Family needs.	Respondents expending on each of the following items:										
				Herd Expenses									
			Taxes.	Herdsmen	Supplementary feeds.	Salt	Purchasing Animals.	Compensation	Investment in Agriculture.	Drugs and Vaccines	Savings.	Others i.e. (social) obligations
Kharen-Kharen	21	21	21	15	4	2	3	5	4	7	2	9
Abu Shaneina	22	22	14	18	20	10	17	4				
Abu Shaneina	22	22	22	14	18	20	10	17	4	16	2	13
Abu Gemai	21	21	21	10	13	15	9	18	1	16	1	10
Total answers received under each item of Expenditure.		64	64	39	35	37	22	30	9	39	5	32
% of answer from total sample.		100	100	60.9	54.7	57.8	34.4	46.9	14.0	60.9	7.8	50

Source : Field Survey, April, 1984.

Note: Respondents furnished more than one answer.

	Cost : Ls.
i) 80 sacks of dura.....	1,600.000
ii) 60 Qantars of oil seed cake.....	900.000
iii) 10,000 bundles of dura stalks...	300.000
	2,800.000

The cash required for the purchase of these feeds is raised from the sales of livestock, and is actually budgeted for, as part of the household annual expenditure.

2.1.8.7. Livestock Sales.

Livestock is the main supplier of cash for Ruffa'a El Hoj. The types of animals sold in large numbers are mainly sheep and cattle. Goats are usually sold for petty cash needs, while camels are not raised by all families.

Selling of animals takes place in May and June, referred to as the rushash period, i.e. early rainy season. This is the time when buyers including : Sababa (middlemen), local merchants, and agents of big livestock marketing companies visit the area to buy animals. May and June are chosen as the most suitable period for buying, since the flocks and herds gradually built by buyers are then trekked northwards to main collection points and major consumption centres; making use of the available pastures and water supplies generated by the progress of the rainy season. Hence selling starts earlier in El Badya El Ganobia, compared to El Badya El Shimalia, since rains fall earlier there.

The sheep sold are mostly ramps of the age of two years and more; identified in the local breeding terminology as tani and sadees. Table (10) gives data on selling age of sheep as reported by respondents which confirms the above findings. Table (11) indicates ranges of incomes generated from sales of sheep by different groups of respondents.

The selling transaction for sheep is concluded through one of the following systems :-

i) A breeder from the start would choose the animals he intends to sell and breed them as a separate flock, and based on the quality of the animals a price per head is offered.

ii) A breeder would select from his flock the animals he decides to sell and put them before a buyer, and then prices are settled.

iii) A breeder would agree with the buyer on a fixed price that would be applied to all animals bought, and then allow the buyer a free selection from the flock.

In all three cases the animal owner usually bargains to sell more number of animals than the figure expressed by the buyer, to maximize his profit margin by including in the number selected by the buyer less quality size and younger animals.

Table 10.

Ages of Sheep Sold.

Site	Size of Sample Surveyed	Number of Respondents Selling according to following age categories			TOTAL
		Less than 2 years.	2-3 years	3 years and more	
Kharen-Kharen	13	8	6	3	17
Abu Shameina	22	11	20	18	49
Abu Gemai	21	12	17	15	44
Total	56	31	43	36	110
% of each categories to the total.		% 28.2	% 39.1	% 32.7	

Source : Field Survey, April, 1984.

N o t e: Respondents gave more than one answer.

Table 11.

Income Generated from sales of livestock given in Sudanese Pounds (Ls.)

Site	Size of sample surveyed	Respondents by Income Range							
		1,000		1,000-1,499		1,500-1,999		2,000 +	
		No. of Respondents.	%	No. of Respondents.	%	No. of Respondents.	%	No. of Res:	%
Kharen-Kharen	13	6	46.3	4	30.7	3	23.0	-	-
Abu Shaneina	22	2	9.1	4	18.2	6	27.3	10	45.4
Abu Gemai	21	3	14.3	2	9.5	4	19	12	57.2

Source : Field Survey, April, 1984.

Regarding cattle, since the numbers sold by the household are limited, no such long procedure is involved; and prices are fixed per animal.

Usually the buyer pays instantly the seller the value of his animals. However, in some cases, and depending on the degree of acquaintance between the two, some of the buyers would pay part of the money, and settle the rest after they market the animals.

On the average the household sells about 45 head of sheep, 7 head of cattle, and occasionally few goats. The annual income generated from the sales of sheep is in the range of Ls.1,500-3,000, while that generated from the sales of cattle is in the order of Ls.1,000-2,000. Income from sales of goats is in the range of Ls.500-1,000. Hence the average annual family income generated from the sales of livestock is about Ls 4,500.

2.2. El Fellata :

2.2.1. Origin and Location within the Project:

The name El Fellata refers generally to populations of West African origin. When used by locals in the Blue Nile Province linked to nomads people usually refer to the famous Umm Bararo group. However, from the surveys carried out for the purpose of this study it has been found

that there are within the project area five Fellata nomadic groups, other than Um Bararo. These are : Waiyla, Jafoon, Njara, Sakato and Malli.

It seems that all six groups come from the same origin, since they can converse in the dialect of each other; besides, intermarriages among members of the six groups are quite common. Furthermore all six groups claim a common decent and distinguish themselves as different from the Hausa for example.

El Fellata visit the project area to utilize its grazing and water resources during late dry period : March-June. Prior to this time the majority of them are to be found to the south of the project area, operating from places such as Iterig, Moreig, Khor Adar, Khor Hassan and Gunshar, Fig. (11). Hence of the three project centres their larger concentrations are around Kharen-Kharen, being closer to the above mentioned centres where they spend the earlier part of the dry season. The extent of their peneteration north of Kharen-Kharen, to the other two project centres is very much conditioned by the advent of inadequate pastures and water supply in the above mentioned centres.

Figure 11.

Attached Seperately.

All six groups are looked at as alien elements by the local population, being recent comers to the area. By tracing the history of their infilteration into the Blue Nile area it is found that they generally penetrated these lands in the last 40 years. They came in waves that succeeded each other, originating mainly from Western Sudan where they stayed for some time. The indigenous elements, i.e. the settled population and Ruffa'a El Hoj have through time build a hostile attitude towards El Fellata and their presence in the area, as shall be further explored in (Chapter Five) on the relations between the populations of the project area.

2.2.2. Population.

Of the three nomadic groups; Ruffa'a El Hoj, El Fellata, and El Ingessana, it is most difficult to furnish population figures for the latter two for a number of reasons. Firstly, they are not stable populations within the project and the number entering the project area any one year are not consistent. Secondly, they are part of larger census units that exist outside the project area. Last, and particularly in the case of El Fellata, none of the three national censuses enumerated them as separate groups.

Despite the above listed difficulties some estimation of El Fellata population is furnished from the questionnaire results, Table (12).

It is evident from these figures that El Fellata are less in population and make a small nomadic group compared to Ruffa'a El Hoj. Their total number from 1984 field survey is in the order of 950 persons making 135 households.

2.2.3. Ethnic Composition :

Each of the six Fellata groups is divided into numerous sub-tribal units, that claim descent from the same ancestors. Again every one of these units breaks down to extended family groups, the equivalent of "Khashum beit" among Ruffa'a El Hoj. Under the family unit comes the household.

The network of kinship relations plays functional roles in the organization of the nomadic system of El Fellata. At the larger tribal level i.e. Umm Bararo, Waiyla, etc.. The group operates from a series of centres e.g. Moraig and Khor Adar, where they have the aging members of the household settled there, and a tribal head to whom they pay taxes. At the operational

Table 12.

Estimate of El Fellata Population in the Project Area.

Site	Main Sub-tribe.	Number of Ferigs	Number of Households	Estimated Population
Kharen-Kharen - Khor Hassan	Waiyla	23	36	252
Khor Uffat	Malli	19	39	275
Khor Uffat	Umm Bararo	20	60	420
Total		62	135	947

Source : Field Survey, April, 1984.

level of grazing and camping, their organizational set-up is based on the group of awlad rajel, where the descendent households belong to one Sheikh; who collects local taxation from this group and acts as their link with the outside world. In case of conflict the awlad rajel is the group which gives protection for its members.

2.2.4. Demographic Characteristics.

2.2.4.1. Family Size.

The data furnished by the questionnaire for the 21 samples surveyed at Kharem-Kharem is presented in Table (13). Based on this information the size of the family is 7 persons, composed of the head of the household, his wife, children plus dependants.

Table (14) gives the marital status for the same sample, which shows the dominance of the category of those married to one wife, same as it is the case of Ruffa'a El Hoj.

Table 13.

Family Size and Structure of El Fellata.

Site	Size of Sample Surveyed.	Familes haveing the following No. of sons					Families having the following No. of daughters.					Familes having the following No. of Dependents.				
		Don't have	1-3	4-6	7-9	10+	Don't have	1-3	4-6	7-9	10+	Don't have	1-3	4-6	7+	
Kharen-Kharen.	21	-	6	10	5	-	3	11	4	2	1	19	2	-	-	

Source: Field Survey, April, 1984.

Table 14.

Marital Status of El Fellata.

Site	Size of Sample Surveyed.	Marital Status of Respondents Category					
		Single	Widow	Divorced	Married		
					One Wife	Two Wives	Three Wives
Kharen Kharen	21	-	2	2	14	3	-

Source : Field Survey, April, 1984.

2.2.4.2. Family Structure.

Table (13) displays information on the above aspect. It can be established that despite significant differences in language and social structure, El Fellata share a number of socio-economic features similar to Ruffa'a El Hoj. Paramount among these is the role of the patrilocal residential kinsgroup, formed around a nucleus of close male kinsmen, their wives and children. Among El Fellata this is the basic unit of residence. More significant, most of the respondents at Kharen-Kharen were accompanied by dependents which is reflected in Table (13). This is because the aging population is left behind at villages. They come in form small groups when they are in the project area for easy movement and flexible mobility.

2.2.4.3. Literacy Status.

El Fellata in general are famous for the diffusion of Khalwa education in their society. The case is different with the groups of the project area. Field survey data reveals that all respondents among El Fellata are illiterate. This is because of their nomadic nature and unsettled conditions. El Fellata who entre the project area have the feeling that they are foreigners,

and have no right to use the existing educational facilities. Besides, education has no role for them under the present conditions of their life and economy.

2.2.5. Livestock Raising :

2.2.5.1. General.

El Fellata, unexceptionally, are predominantly livestock raisers. Only a few of them and very recently ventured into agriculture. As emphasized by those interviewed animal husbandary is the only art they know and of agriculture they are ignorant. Those who practice cultivation are in the majority of cases hiring labour.

It seems that El Fellata are undergoing the same processes of transformation experienced by Ruffa'a El Hoj but at a different level. From a pure dependency on herds for the supply of food and cash, El Fellata are beginning to integrate cultivation. With livestock raising, on similar motivations as discussed under Ruffa'a El Hoj i.e. the provosion of staple food grains for the family. The shift is being aided by a number of factors, mainly : The appearance of aging population that can no longer sustain the harsh conditions of migratory life and which needs to be settled somewhere, and the gradual

acquisition of right to land at certain localities such as Moreig, Iterig and Khor Adar. Furthermore they experienced in the last decade more frequent contact with the cash economy, and more dissemination of knowledge.

As in the case of Ruffa'a those practicing agriculture among El Fellata sow their crops when they are trekking for the rainy season grazing areas, and harvest them when they are on their way back to the dry season grazing areas. Meanwhile, the relatives residing in the villages where cultivations are established look after the fields.

2.2.5.2.1. Livestock Numbers.

The field survey data presented in Table (15) shows that cattle are the dominant animals raised by El Fellata, while sheep and goats are of less importance. This is mainly due to the fact that their nomadic system is based on a tough breed of cattle, well adapted and tolerent to the harsh environmental conditions of the clay soils particularly during the rainy season.

2.2.5.2. Herd Structure.

Regarding the herd structure of El Fellata it was rather impossible to adopt the same systematic approach applied for Ruffa'a El Hoj. This was mainly due to the

dispersed pattern of encampment of this group within the project area, and the way they water their livestock, which is not organized around focal points, same as Ruffa'a El Hoj. This made it difficult to identify El Fellata herds the way it was carried out among Ruffa'a El Hoj. However 23 cases of household herd size were identified and recorded at Kharen-Kharen as given in Table (15).

The results of this exercise gives an average herd ownership of cattle in the order of 114 heads and a flock size in the order of 134 heads for sheep and goats. El Fellata preference to cattle is evident compared to Ruffa'a. Very few combine sheep, goats and cattle, indicating a trend of specialization in cattle raising judged from sample, as cattle owners is 15 cases compared to 8 cases of sheep and goats.

In spite of leaning towards cattle breeding their herd size is manageable. Based on Table (15) and adopting the same procedure applied for Ruffa'a El Hoj in calculating livestock numbers, El Fellata ownership is in the following order :

Sheep and goats	(134 x 135)	18,090
Cattle	(114 x 135)	15,390

Table 15.

Herd Size Among El Fellata of Kharen-Kharen, based on 8 cases of Sheep and Goat owners, and 15 cases of Cattle owners.

Cases Recorded:	Size of Sheep and Goats ownership.	Size of Cattle Ownership.
Case 1	—	80
2	—	50
3	100	—
4	—	60
5	100	—
6	—	100
7	—	120
8	—	200
9	200	—
10	—	150
11	100	—
12	—	50
13	150	—
14	—	300
15	—	100
16	400	—
17	—	150
18	200	—
19	—	80
20	120	—
21	—	50
22	—	100
23	—	120
Average Family ownership.	134	114

Source: Field Survey, April, 1984.

2.3. El Ingessana :

2.3.1. Origin and Location.

The Ingessana hills are composed of a group of well protected hills, where El Ingessana people are living at present. In these hills El Ingessana found refuge from other tribes. They managed to maintain their continuity and carry out their indigenous economies without much disturbance.

During the Condominium period, El Ingessana lived as isolated groups remote from the direct British rule. In 1922 their territory was treated as one of the closed areas; which meant a limited movement to and from the area. The closed area regulations continued to be applied to El Ingessana Hills up to 1956 the time of independence.

El Ingessana are classified as one of the negroid pre-Nilotic stock. There is no written history of El Ingessana, however, anthropological studies conclude that El Ingessana were the first tribes to settle in this area, and that they lived in isolation for a long time.

Due to their confinement to their protected habitat they developed a distinctive culture.

2.3.2. Population :

According to the 1955/56 Census El Ingessana area had a population of 32,447 persons. This increased to 41,548 in 1980. The results of the field survey (April 1984) show that only 100 herders from the above Ingessana area population were present in the project area. They come mainly from the following villages : Fadimya, Camreig and Gabaneet.

2.3.3. Livestock Raising :

El Ingessana raise cattle, goats, sheep as well as pigs. Household livestock ownership varies considerably. Those among them owning large numbers, particularly cattle practice a transhumance movement, involving a wet and dry season pattern.

The young family members often drive the cattle away from the hills during the dry season. Their dry season movement take them southward up to Khor Yabos, and eastward up to Queisan, traversing the project area twice a year.

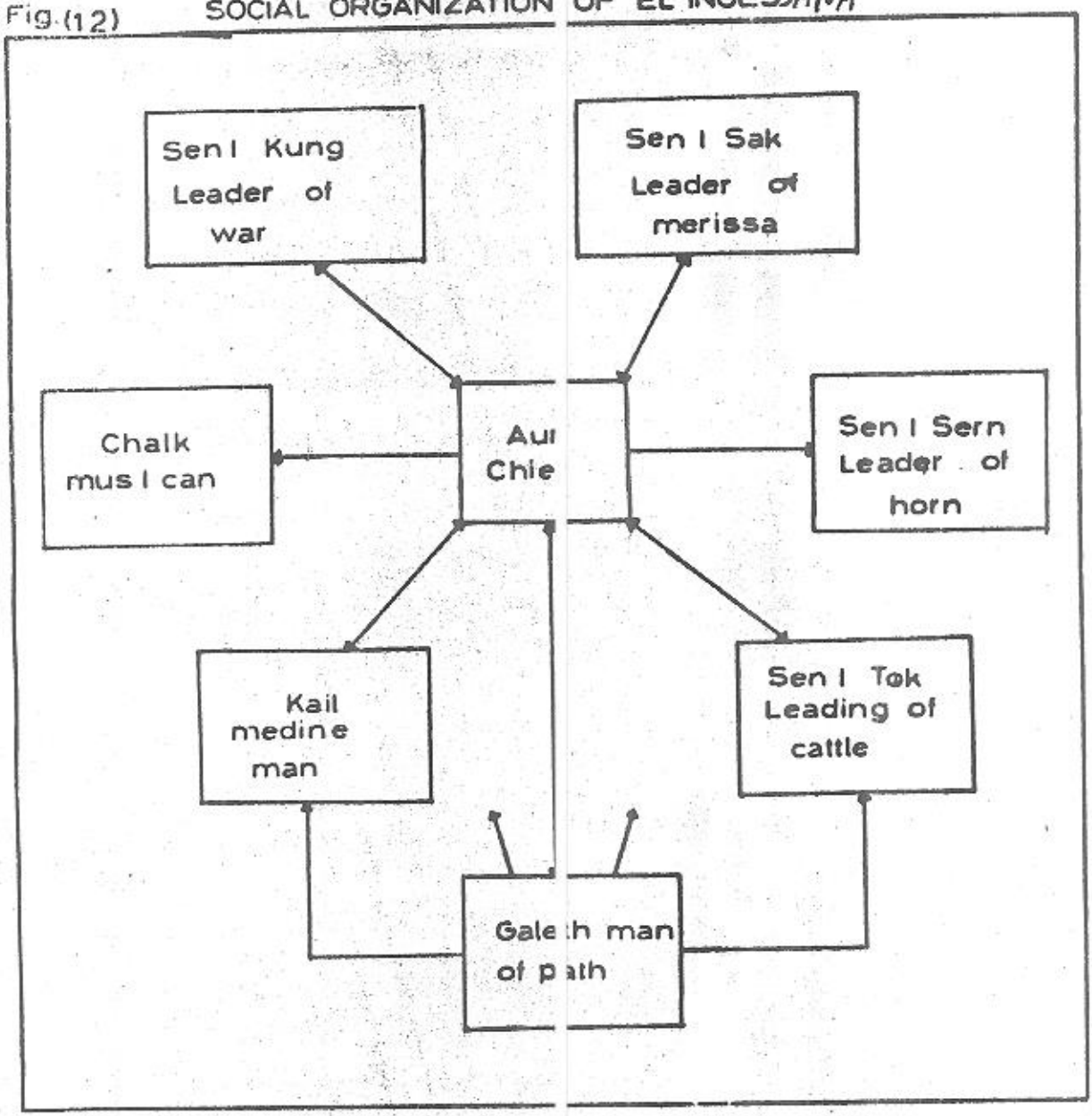
Most of El Ingessana combine farming and herding. Hence their herds spend the rainy season in El Igessana Hills.

El Ingessana operate through a well developed herd management system. This is inherited from the centralized social organization of El Ingessana society, Fig. (12), which is clearly reflected on the behaviour and decision making of herders while in the project area. Young males from the same village drive the livestock of that village for the dry season grazing in the project area. Every two to three months the group of young people responsible for the herds is replaced by another group from the same village. Heads of household stay in villages to care for cultivation activities or sometimes migrate to the surrounding sorghum mechanized farming areas to work as casual labourers.

Herders while in the project area have to take detailed instructions, regarding herd management, and settlement of disputes from the Aur and his agents at home, Fig. (12). Consequently, any approach for developing such society should start from their homeland and work through their recognized social organization.

The total livestock of El Ingessana at the time of the survey was about 2,000 head of cattle, at an average of 20 head/herder.

Fig.(12) SOCIAL ORGANIZATION OF EL INGESSANA



CHAPTER FOU

MOBILITY AND MIGRATI(N PATTERNS

1. Introduction:

As stated in the previous chapters, three nomadic groups of different origins, nd distintive socio-cultural backgrounds are spending the lry season period in the project area. The three grou s were pushed from their traditional grazing territori es through a process of puch and pull mechanism. This pro ess passed through two stages, the pre-investment pr ject development period (1900-1955), and the post-inv stment period (1956 and on) This period includes two stag es:-

a. the stage of modernizat ion of agriculture started in the late tim es of the colonial rule and continued up t early 1970s,

b. the stage of the large scale investment schemes that gained mom entoum in the early 1970's and continued up to the present.

1.1. Pre-investment Proje ct Development Period (1900-1955):

Up to Independence the ec o-systems in which these nomadic groups used to operate were relatively undisturbed. During that era Ruffa'a El Hoj and Kenana nomads were roaming the exte sive area between the two Niles. This area included r verine pasture for the

Raboub animals, and Dahara grazing for the Angra. The camping sites of the two groups were scattered along the banks of the Blue Nile, where small marketing and administrative centres such as Singa, Abu Hugar and Wad En Nayal developed. The nomads were spending the dry season round these centres, supported by good pasture and water sources. Many "Mushra'i" compared to the present situation were existing on the Blue Nile strip, as well as natural pools and Anag Hafirs, were found on El Dahara lands.

The grazing system in that period was characterized by small mobile units with slow and slugglish movement, and limited tribal conflicts. The wet season migration normally started from Wad En Nayal at the begginning of the first showers in July. The nomads moved slowly northward to Kagamir area. The migration routes were as follow:-

a. Wad En Nayal - Tosi - Bosi - Jebel Moya Jebel Doud - Kagamir (Nuri) Fig.(11) for location of these sites.

b. Abu Hugar - Umm Arda - Um Kherein - Dali Jebel Doud - Nuri

Some family members would be left behind at Dali, Bosi, Um Arda for hareig cultivation, which was practiced in small plots of (1-5 feddan).

This journey often lasted for more than three months, while the return journey may take one month. During the return journey some family members would be left behind for harvesting the dura crop.

From this discussion it appears clearly that Ruffa'a El Hoj and Kenana, were the only nomadic tribes utilizing the range resources of the area, and facing no competion from any outsiders. Towards the end of this period some major transformations started to take form, as a result of population growth, development of urban centres, expansion and commercialization of agriculture to meet the increasing food demand. This had limited the space once available for the free movement of the nomads. These development mark the first signs of disturbance of the nomadic eco-system.

1.2. The Post-investment Period (1956 and on:)

By early 1950's many private pump schemes for cotton, and horticulture gardens were executed, in the area from Sennar up to Abu Hugar. By mid 50's the area from Abu Hugar to Wad En Nayal was allotted to Hosi Research Station. By 1960's Ed Dali and Mazmoum rainfed mechanized schemes came into existence. From that period and on, the mechanized crop schemes started to expand rapidly on expenses of the pasture lands.

The fruit gardens, and the Blue Nile Pump Schemes blocked the watering access before the nomads. The rainfed mechanized schemes, and the expansion in area of shifting cultivation, pushed the nomads southward towards Begawi and Er Roseires. This period witnessed the appearance of nomadic groups of West African origin, i.e. El Fellata, followed later by the infilteration of El Ingessana.

Sharp tribal conflicts started to occur more frequently in this area, on water sources and pasture lands.

Ruffa'a El Hoj, and El Fellata began to share the same dry season grazing area i.e. the strech of the Blue Nile between Begawi and Er Roseires into the range land extending westward into the El Badouba.

Since this period was characterized by large agricultural investment schemes, peneteration of El Fellata and El Ingessana, the pasture lands became limited, friction increased between the various groups, and security became a problem. The camping sites started to gather at defined places. The pase and frequency of migration increased. The migration routes were restricted sharply to narrow defined channels, and most of the traditional water sources were obstructed and blocked by the mechanized farms, and a severe conflict arose and continued to gain momentum between the nomads and farmers.

The wet season mobility st rted from Er Roseires in July, via Agadi, Grabeen to erkat and Mazmoum. From there they took two branching r utes. The western route which passed through Abu Gurud, Terro, Ahmerein to Abu Dekheira, ending in the Kagamir The eastern one which passed through Bosi, Sawra, Wag vag. From Wagwag the eastern route divided into two branches, with one group heading to Nuri, and the other to Khodi. Both converged in El Kagamir area.

The size of the mobile uni t was smaller, the rythm was more speedy and the grazing locale became small. Some family members were left behind for harieq cultivation at Agadi, Garabeen and Mazmoum. The plots cultivated were in the order of (1-5) feddans. The crops raised were harvested on the return journey from Kaga nir.

This period witnessed inc ease in numbers of livestock, large scale clearan e of land, and shrinkage and degradation of natural pasture. El Fellata were constantly increasing in numbers year by ear, with their livestock also building in numbers, they deve oped a system of migration that criss crossed the nomads raditional migratory routes.

After the completion of E Roseires Dam in 1964, Ed Damazin started to grow rap dly as an urban centre. This affected the nomads in many wa s:-

a. The sites which were important crossing points for the nomads were occupied by the rise of El Fellata Settlements which extended considerably south of ed Damzin. Around these settlements extensive Gerif cultivation was developed. These settlements formed the magnetic centres of attraction for further waves of Fellata.

b. The transplantation of this urban complex, adversly affected the natural resource base and the nomad resource relationship. This could be attributed to heavy deplition of the resources of the area to meet the immediate needs of the urban eco-system i.e. wood cutting, charcoal production, and the expansion of fruit and vegetable gardens on the expenses of the natural pasture land.

c. The outcome of all these adverse conditions was the pushing of the nomads southwards and squeezing them into the project area, which presently constitute their only dry season refuge.

Presently the nomads are distributed in project area in the following manner:-

Tribe	Sub-tribe	Camping sites
Ruffa'a El Hoj	Sibeihab	Bakori
		Ilyas
		Amardabo
	Awlad Hawati	Abu Shaneina
		Shaira
		Abala
	Awlad Bedeiga	Abu Gemai
		Gabir

Tribe	Sub-tribe	Camping sites
El Fellata	Weiyla	Khor Hassan
	Mali	Dokan
	Umm Bararo	Khor Uffat
El Ingessana	Sakato	Khor Uffat

From the above different camping areas, the nomads start their wet season mobility to El Kagamir, to escape diseases, and the sticky clay soil. The pattern of movement varies from one group to the other.

2. The Pattern of Seasonal Mobility:

2.1. Ruffa'a El Hoj

The wet season movement of Ruffa'a El Hoj from the project area to the Kagami, starts in July following western bank of the Blue Nile. Firstly, the movement is preceeded by scouts to inspect the grazing and water conditions on the routes. Secondly, is the gathering of nazlas of each sub-tribe around the senior Sheikh, and the whole of Ruffa'a El Hoj become ready for the exodus to El Kagamir. Angra and Raboub are put together and looked after as one herd. After that the movement, starts following traditional routes, and tends to be rythmic, relaxed until it strikes Agadi State Farm where the first signs of conflict between the nomads and modern development schemes are encountered. The local authorities have limited the

passage of nomads through this area to a one kilometer wide corridor, so as to minimize tress passing and damaging of crops. Ruffa'a move through this corridor up to Mazmoum; a distance of 75 kilometers, i.e. about $\frac{1}{3}$ of the total length of the route. Afterwards they funnel out into two major routes up to El Kagamir. At this point livestock management becomes less demanding, and the surplus labour is channelled to help in the establishment of cultivations. From here the movement becomes sluggish till they reach El Kagamir in September Fig.(11).

At El Kagamir the general conditions of the livestock improve subistancially, due to good grazing and the resting of beasts. During this period Ruffa'a nomads come in contact with large markets, i.e. Kosti and Rabak, where some livestock selling takes place.

By the beginning of October they start their return journey to the project area. Although this journey follows the same routes, but it is different in many respects from the wet season one:-

i) the former takes two months, while the latter is limited to fifteen days.

ii) while trekking during the rainy season tends to be relaxed, the return journey is swifty, hasty with movement persued day and night. This is mainly due to the expansion of unliscenced (M.C.F. even to the convenctionally recognized corridor supposedly left for movement

When Ruffa'a El Hoj entre he scheme area, each sub-tribe heads towards its tr ditional camping area. Their animals are sorted out into An ra and Raboub. They stay for nine months before the cycle tarts again.

For detailed examination o the whole cycle see Table (16, a,b).

2.2. El Fellata

The wet season movement of El Fellata group from their dry season grazing lands in the southern part of the project area, starts annually n July. They move slowly, heading first southward till t ey reach Kashin Karu and Gunshur, from which they take northernly direction to Bakori, Khor Hassan, Kadum, Mo fa and Moreig. By mid July they start moving out of he project area following Ruffa'a El Hoj, approaching Ag di and passing through the one kilometer corridor to Gara in and Mazmoum. The elder family members are left behind at Moreig, Iterig and Khor Adar to practice shifting and areig cultivation, helped by some hired labours. By the beginning of October they start their return journey, an normally entre the project area before Ruffa'a El Hoj, s e Fig. (11).

Table 16(a).

Wet Season movement of Ruffa'a El Hoj

Distination	Mobile Unit	Driving force	Impact on origin	Impact on Distination	Degree of Selectivity	Acheavment from movement.	Part-time activities.	Duration of movement	Degree of flexibility of movement	Av. Distance from orig. to terminal point	Socio-economic activities
Kagamir	1. Scouts	Diseases.	to save pasture	over grazing	young men	to scape diseases and muddy soil	owing Hariq in the part	movin, slower	very ris mic	250 Km.	Division of labour
area on the White Nile Shore	2. Young men	Unfrm able envir mental cond. itions	to lease presure on pasture	Tageia		water pasture		larger areas	owing tradition- al rout- es.		Universal
	3. Family				Farig	Fatening of animals.		3-2-2½ months of movement			
	4. Fariq				Sub- tribe	get rid of pests		4 northwards.			
	5. Khash meit										
	6. Awlad Ragil	sticky soil									

Table 16(a).

Dry Season Movement of Rufa'a El Hoj.

Destination	Mobile Unit	Driving Force	Impact on Origin	Impact on Distination	Degree of selectivity	Achievement from movement.	Part-time activities	Duration of movement.	Degree of flexibility of movement.	Average distance from origin to terminal point.	Socio-Economic Activities
Abu Gemai Sheira Abala Abu Shoneina	Fareiq Khashm Beit	Lack of water and pasture.	Over grazing	1. Exhaustion of resources. 2. Conflicts.	The whole fareiq	1. Good grazing in open grace areas.	Harvesting their Hareiq cultivation in the past.	1. Very swifty movement. 2. Moving day and night 3. Only 15 days of movement. 4. Southwards.	-very rismic -Following Kemo-routes.	225 Km.	1. Social universals. 2. Selling animals 3. Weddings renewing
Amerdalu Illyas Bakori F-zogli				3. Pressure on the existing services.		2. Good water sources. 3. Flexible mobility. 4. Good social services.					

The pattern of migration of El Fellata differs radically from Ruffa'a El Hoj in the following aspects. (see Table 17,a,b).

i) Having few belongings, they move in small units. Therefore their decision-making is quick and their movement is sponteneous, and unpredictable.

ii) As a result tof this they are selective in grazing and distination. This very often leads to distruction of the range and causes soil compaction.

iii) Their cattle being more adaptive than the other breeds, they can penetrate any terrain, and therefore they are difficult to locate. Hence, any year pattern is not indicative of the following year.

iv) They are intentionally avoided by other nomads, who perceive that they are hostile, practice sorcery, and their livestock is disease carriers.

v) Having their cultivations within the project area, they utilize the remains of their cultivated crops more efficiently than Ruffa'a El Hoj, who have their cultivations outside the project area.

2.3. <u>El Ingessana</u>

El Ingessana dry season movement orignates from their home land on the western side of the project area.

Table 17(a).

Wet Season Movement of Fellata (Weila, Neli, and Umm Berare).

Distination.	Mobile Unit	Driving Force.	Impact on Origin.	Impact on Distination	Degree of Selectivity.	Achievement from movement.	Part-time activities.	Duration of movement and direction.	Degree of flexibility of movement.	Average distance from origin to terminal point.	Socio-economic activities.
Agadi Grabeen Nazmoum	Family Fareig	1. Diseases. 2. Heavy rains and sticky soil. 3. Fires. 4. Wild animals.	Saving pasture.	1. Damaging. ing of fields. grazing. 3. Shortage of water supplies.	The family	1. No flies, and diseases 2. Sandy soil on foot hills.	Practicing Hareig cultivation	1. Slowly and after the Arabs. 2. Starting to move southward at the beginning of the 1st showers. 3. Moving northwards behind the Arabs. 4. 2 months.	-Highly flexible. ined routes. -Changing of routes annually	190Km.	1. Social activities. of animals.

Table 17(b).

Dry Season Movement of Bellata (Weila, Kali and Umm Bararo)

Distination	Mobile Unit	Driving Forces	Impact on Origin.	Impact on Distination	Degree of Selectivity.	Achievement from movement.	Part-time activities.	Duration of movement and direction	Degree of flexibility of movement.	Average distance from origin to terminal point.	Socio-economic activities.
Khor Ufføt Khor Hassan	1. Family 2. Fareiq 3. Khashm	1. Existence of mechanized farms	1. Over-grazing 2. Destroying of farms	1. Exhaustion of resources.	The family.	1. good grazing conditions.	1. Harvesting of Fareiq cultivation.	1. very swifty ahead the Arabs.	1. Highly flexible. 2. The movement is unpredictable in terms of distination time and routes.	165 Km.	1. Social univerals. 2. Selling of animals. 3. [illegible] renewing.
Khor Adar Dokan		2. Lack of pasture & water 3. Conflict with settlers 4. Fires.	3. Pressure on water sources.	2. Conflict on water sources. 3. Diseases. 4. Damaging of crops.		2. Natural water sources 3. Large grazing area.	2. Using the remains of cultivations.	[illegible] ing on different areas. 3. One week continuous moving. 4. Southwards.			
1	2	3	4	5	6	7	8	9	10	11	12

They are confined to the area along the western bank of Khor Uffat, especially around Abeigu, Khor Adar. Mosfa and Banat.

The herd spend the rainy season in El Ingessana hills. During the period, November to January El Ingessana move eastward to Queisan traversing the project area. Their route is usually Mosfa, Kadum, Abeigu, Queisan. On their return journey in June they again traverse the project area approaching Fadamiya, Kumreiq and Gabaneet Fig.(11).

The pattern of movement of El Ingessana differs from the former two groups in the following respects: Table (18,a,b).

i) They intensified their movement into the project area during the last three years, mainly due to the rise of investment projects in the area that deflected their traditional grazing lands into the Dinder area.

ii) They come only as herders, with the rest of the family left behind in the villages, which connotes a transhumane type of pastoral nomadism. They operate through a well developed herd management system where the young males from the same village drive the livestock of that village for dry season grazing in the project area. Every two to three months the group of young people responsible for the herd is replaced by another group from the same village.

Table 15(a).

Wet Season Migration of Ingessana Tribes.

Destination	Mobile Unit	Driving Force	Impact on origin.	Impact on Distination.	Degree of Selectivity.	Achievement from moving.	Part-time activities.	Duration of movement and direction	Degree of flexibility of movement.	Average distance from origin to terminal point.	Socio-economic activities.
Fading Komreig	Young men only	1. Diseases. 2. Heavy rains and sticky soil. 3. Fires.	Saving pasture	Over-grazing Shortage of water Availability of milk.	Young members.	1. Escaping flies. 2. Sgoub	1. Practicing agriculture 2. Rural industries.	Slowly moving to North west One month of movement.	Flexable Recently extended to this	75 Km.	-Social universals. -Selling products -Family moving. -Wedding.
1	2	3	4	5	6	7	8	9	10	11	12

Table 18(b)

Dry Season Movement of the Ingessana.

Destination.	Mobile Unit	Driving force.	Impact on Origin.	Impact on Distination.	Degree of Selectivity.	Achievement from mobility.	Part-time activities.	Duration of movement and Direction.	Degree of flexibility of movement.	Average distance from origin to terminal point.	Socio-economic activities.
Khor Uffot Dokan	Young men rotating every three months	Lack of water and	-over-grazing -shortage of water.	-Exhaustion of resources. -Damaging of fields and crops. -shortage of water	young members rotating.	-good open grazing lands. -Availability of water sources.	Nill	5 days of movement south	-Flexible movement -Recently extended to Uffot	75Km.	Nothing
1	2	3	4	5	6	7	8	9	10	11	12

iii) The decision-making, and organization of movement is more centralized than in the case of the other groups.

iv) They avoid contact with El Fellata for the same reasons mentioned in relation to Ruffa'a El Hoj.

v) Their interest in improving the quality of their livestock encourages them to develop contacts with Ruffa'a El Hoj to acquire breeding bulls, which they normally exchange through barter, system.

It is worth mentioning that El Ingessana are generally peaceful and more disciplined compared to the other groups. These qualities are inheritted in their culture and social organization, Fig. (12).

In conclusion, the three nomadic groups are facing different problems in the project area during the dry season period, which affect their grazing systems and patterns of movement. These could be summed up as follows:-

a. Ruffa'a El Hoj

i) Blockage of Musharie and shrinkage of Farish grazing as a result of expansion in gerif cultivation.

ii) The problem of land rights in the Kerib, which constitutes good camping sites and better dry season grazing for Rabouh.

iii) Conflicts on Dahara lands, resulting from the system of shifting cultivation practiced by the villagers, jeopodizing grazing system of El Angra.

iv) El Kagamir wet season grazing is undergoing continuous degrading in the last decade.

b. El Fellata and El Ingessana Groups

1) They face a problem of water supply, which arises normally during the critical period (March-May), when the villagers prevent them from using existing hand dug wells for watering their animals and this deprive them of available grazing.

ii) The settled population of the Ragreig area are originally mountainous people. They used to burn the vegetation cover on the top of hills during the dry season, due to spiritual beliefs besides hunting game animals. They introduced this culture when they descended to the plain. This practice normally damages the dry season forages utilized by the nomads.

iii) Finally they face the problems arising from the expansion of mechanized farming which leads to the obstruction of migration routes.

CHAPTER FIV :

RELATIONSHIPS OF THE POPULATION GROUPS OF THE PROJ CT AREA

1. Introduction:

It is essential to investig te the relationships between the different populatio groups inhabiting the project area. This is seem imp rtant since any future programmes at the development o the nomads shall involve consideration of this aspect, v ewed from a number of angles:

i. The Spatial Dimension

Nomads, being Ruffa'a El Hoj, El Fellata or El Ingessana, in cour e of their yearly migrations trancend many territories including the project ar a, which stands in this respect as a compon nt of a wider spectrum. Within the Pr ject area the nature of nomadism whic involves utilization of extensive range resources, bring the three groups in cont ct with each other, and with the indigenous settled populations.

ii. All above groups mentione d vary in cultural heritage and attitudes. The current competition they show in exploiting the available resources bring their interests in sharp conflict. This is further intensified b the fact that being at

different levels of progress, their outlooks towards development and modernization are quite variant, Chapter six examines these aspects in details.

iii) Difference in Acquired Rights

The different groups claim land rights to the project area. Ruffa'a El Hoj consider themselves as having equal rights to the natural resources of the project area same as the settled population. El Fellata have vested interests in the grazing lands of the project, though considered by the others as alien elements. El Ingessana on the other hand though closely attached to their home-land regularly visit the project area and claim right over its grazing resources.

Development plans have in finality to be translated in space. The spatial dimension involves acquistion of land rights and use of resources. Not all mentioned groups are of equal status in these regards.

2. Relationships between Population Groups:

Based on these considerations, the relationships between the population groups of the project area shall be examined, with special emphasis on the opinion of each group about the other. The data collected through the guided interview method for the purpose of this examination

shall be substantiated by questionnaire findings. The settled population has the following basic features which are essential for understanding their relationships with the other groups:-

i. They are stable populations, settled in villages, practicing agriculture and raising few animals.

ii. They lead a subsistence economy with high dependancy on land.

iii. They are heterogenous in composition, hence their outlook towards others is not identical.

iv. Settlements could be categorized into old type mostly associated with the indigneous groups, and new type associated with El Fellata immigrants to the area.

The 1983 census gave 24,444 persons for the settled population of the project area, constituting 4074 households. Fig. (13) shows the distribution of settlements and services in the project area.

The settled population receives annually the nomadic groups visiting the project area. In fact there is a very limited social and economic interaction between the two, since there is virtually nothing to exchange in terms

Figure 1 3.

Attached Seperately.

of crop and livestock product . The little that is exchanged is confined to a fe heads of animals, sold by the nomads to the settlers fo slaughtering or breeding purposes. The closed state o the economy of the settled population, with barely any c op surpluses, or cash flows that enter the market economy partially accounted for the slow interaction between the wo groups. Even the few local merchants dealing in li estock, during the selling season are constituted of out side elements.

Nomads when visiting the area benefit from the existing infastructure of com munity services, initially planned to serve the settled population. They share with them the available water sour es, obtain their basic needs from shopping centres, where they also mill their grains; and occassionally mak e use of the institutions present in the area, such as - health and police facilities. At these places some contact takes place between the two population groups; however, l eing passive and of casual nature, does not generate pa ticipative relations between the two.

This passiveness in rela ionship also characterizes the use of the land resource by the two groups. In absence of any regulatory sy tem to direct resource

utilization, villagers pursue their farming activities where they choose, and claim cultivation rights over wide tracts of the country-side. The phenomenon is intensified by the practice of shifting cultivation, which allows the household to lay hand on a large acreage of land to enable alternating use between fallow and farming. Equally, the nomadic groups roam widely where grazing is available, and select the sites of their camps where they have access to water supply and to basic shopping needs. The nomadic camps are often within sight of the village settlements. While their herds roam wherever forage is available, utilizing as well the intervening areas between farms, and the left over from crops after harvest. The uncontrolled use of land resources bring, as mentioned, the interests of the two groups in sharp contrast, signifying some interaction; however, being negative, adds to the passive response of each group towards the other.

It is interesting in this regard, to examine how each group views the others, based on the survey findings, as reported by respondents and detected and varified by the available evidence.

3. The Settled Population View of the Nomads:

They consider both Ruffa a El Hoj and El Fellata as intruders into their land. Though they distinguish the first as the 'arab' and refer to the second as 'fellata' which connote that both are alien elements to the area. They seem to have developed more antagonistic feelings towards El Fellata group. This may be interpreted in that Ruffa'a El Hoj are Sudanese, of old presence in the area, compromising in their relationships, and economically rescoprical with the locals. While El Fellata are considered as non-Sudanese, recent comers to the area, hostile in their relationships, and have a limited impact on the local economy. These outlooks are reflected in the perception of the different groups of each other and as well on their anticipations of the project, as shall be elaborated in the next chapter of the study.

The settled population is contemptuous of the nomadic groups for three reasons:-

i. In utilizing the range resources of the area, nomads encroach on the local property of the villagers, namely the cultivated fields under rain-fed conditions, and the small irrigated

plots "gerif garden" along the river side. They are also accused of damaging land parcels under good grass cover reserved for harig cultivation. Conflict over such property reaches its maximum during harvest time and the period that immediately follows; with claims of destroying crops and grazing the field remains filed in the local courts against both groups: Ruffa'a El Hoj and El Fellata. The late maturing variety of sorghum i.e. el Kurgi grown by the locals, which requires seven months from sowing to harvest, may account in part for the occupation of the fields by grown crops for sometimes up to March; making encroachment on cultivations by nomads' livestock.- mostly unavoidable

ii. Nomads are held as hostile in their dealings with the locals. There is a belief among the settled population that Ruffa'a are armed with modern weapons, while El Fellata are skilled in using the bow and arrow. Being equipped as such, the locals hold them as aggressive and as a source of threat to their peaceful life. Incidences of blood-shed and fued between villagers and nomadic groups, especially El Fallata, are reported by those interviewed at the three centres surveyed.

iii. There is a strong belief among the settled population that the livestock of the nomads is disease carrier, and incidences of loss

of stock particularl[illegible] cattle, by the settled population, due to v[illegible]sitation and contact with the nomadic herd, ar[illegible] specified by villagers. Villagers attribute [illegible]isease occurence among nomadic herds, to the long distance migrations of the latter groups, to the wet season grazing areas, which is not p[illegible]acticed by the local people herds, which u[illegible]sually spend the rainy period at the foot of hills, within the project area.

4. The Nomads' View of the S[illegible]ttled Population:

Of the three nomadic grou[illegible]s El Ingessana are the most peaceful, showing no strained relationships with neither the settled populatio[illegible], nor Ruffa'a El Hoj or El Fellata. Their smooth dealing[illegible]s with the local groups may be explained in part by the sh[illegible]ared characteristics with the indignous population of th[illegible]e area i.e. being of the same ethnic and cultural origi[illegible]n, of similar settled nature, and have long developed neighb[illegible]ourly relationships.

On the contrary the other [illegible]omads i.e. Ruffa'a El Hoj and El Fellata, have of[illegible]en strained relationships with the locals. The former a[illegible]cuse the latter of many violations of property and rig[illegible]ts. The two nomadic groups list the following problems as resulting from their contact with the villagers:-

i. The burning of the range land which is practised by the villagers in April of every year. The practice devastates large tracts of the country of grass and tree cover; at the time these resources are badly needed by the grazing animals; being late dry season when the available fodders undergo a state of shortage. Burning takes place for three reasons: game hunting, spiritual beliefs, and clearing of the land for cultivation. The former is done in a cermonial manner, linked with some rituals. Usually the male population of one or more village gathers together on a fixed day and sets fire to the range lands to uncover whatever game there which is then chased and killed. As for field clearance this is done on an individual initiative, yet sometimes the fire spreads to the neighbouring range. It is reported by both nomadic groups that their herds are frequently cought by such fires, resulting in tribal scrimages, and blood shed.

ii. The cutting of valuable tree vegetation especially in the Kerib land, by the locals, the fruits and leaves of which provide good forage for the animals of the nomads particularly the raboub, kept within walking distance to the river. The cutting is done for many reasons, including: the opening of new lands for cultivation, meeting the

access to El Mashare i since expansion of such zaribas block herd passage to the river. From interviews held with both groups the problem is still lively and remains unresolved.

Conclusion:

The Blue Nile Integrated Agricultural Development Project is being implemented in an area occupied by settled and nomadic populations. Both have vested interests in the land resources of the project area. These interests often conflict, viewed from current practices, and the standpoints of the different groups. To achieve the integration message of the project, one of its main objectives should be to work towards resolving these conflicts; and develop harmonious relationships between the various populations for their own mutual benefits. This needs programmed action from the project management in the areas of organization of land use, recognition and registeration of land rights and properties of the different groups, and initation of the necessary social development programmes that relate the interests of all groups for the achievement of the broader objectives of the project. All of these problems shall be elaborated on, in the last chapter of the study on strategy and policy considerations.

CHAPTER SIX

PERCEPTION, ATTITUDE, ADJUSTMENT AND CHANGE.

1. The Concept of Perception:

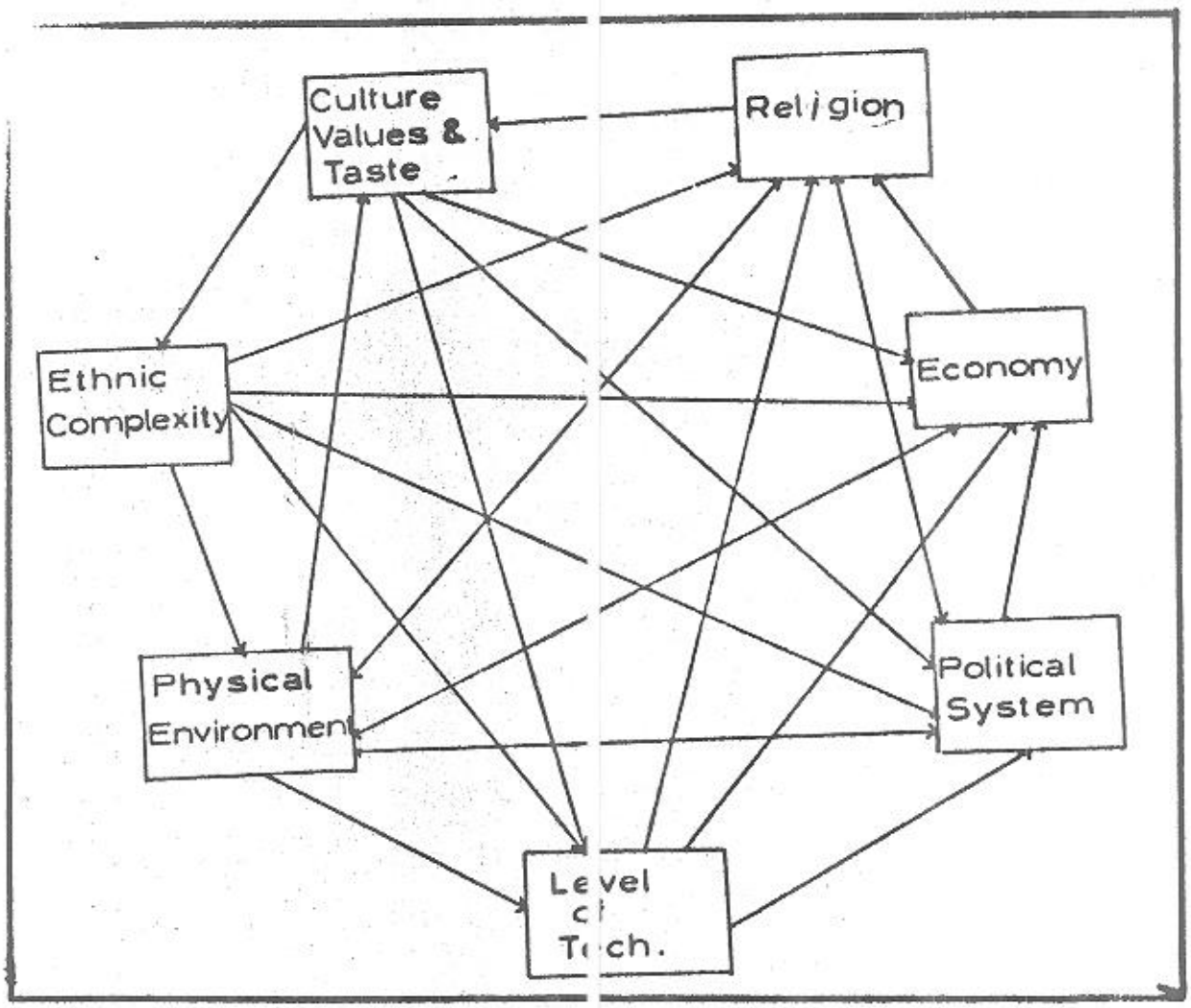
Perception is simply defined as the creation of images of objects or processes in the human mind as a result of stimuli from the surrounding environment. It may be real or imagined, and may not coincide with reality. In both forms it must be of value whether actual or imagined. Percieved images are important in determining individual's or group's attitude towards an interaction with the environment in the process of preference, choice and decision-making.

The individual or the group encounter three types of environments. The geographical, operational and perceptual, which are percieved according to the ability of senses, past experience and culture. The individual or the society operate in the environment through a complex process of adaptation, adjustment, cultural exchange and strategic action. Such behaviour is a function of priorities, time, opportunity cost, marginality of resources and alternative uses.

Perception as a process depends on a set of variables Fig.(14), which affect individual and society's choice of any adjustment or strategy. The choice may have immediate, delayed, or sustained effect in allocation and conservation of resources. Such process is explained in the popular concept of "Game Theory" depending on whether the society is in a state of equilibrum or disequilbrum.

This process varies from one community to the other and even among individuals. Still for any society of homogenious culture within the same environment we encounter what we may call "Group Perception", hence a group behaviour is evident when comparing the nomads with the settlers within the project area. Even within the nomads group, perception differs widely between Ruffa'a El Hoj, El Fellata and El Ingessana. Accordingly what is appealing to one sector of the nomadic group is not necessarily acceptable to the other sector, being of different cultural background. At the same time what is perceived as development by settlers is not necessarily acceptable by nomads. Nomads perceive that any development should start by achieving the welfare of their livestock. This is clearly evident from the findings of the study.

Fig.(14) INTERACTION OF CONTROL VARIABLES OF PERCEPTION PROCESS OF THE NOMADIC COMMUNITY OF THE PROJECT AREA



The relevance of perception in this study may be briefly stated in the following:-

a) Perception studies clarify the individual and group behaviour towards the resource base. If the group perceives that the resources are unlimited, and that God is responsible for resource replacement the group will behave differently from a group thinking otherwise. Such studies explain also the degree of conservation, land attachment and diffusion of elements of change.

b) Planners have their own perception of development which they assume to be the best for the society concerned. Models of development generated with such perception, rarely coincide with that of people's perception, as beneficiaries of such development. The study of perception will enable striking a balance between the perception of planners and that of users of development, and narrow such "perception gap".

In our case study, the understanding of the perception and attitude of each community towards the project, as a venture injected in such a traditional socio-economic setting, is vital for the understanding of the emerging complex relationships. The findings of this study have firmly convinced the investigation team that

for effective involvement of people, and for ensuring success and continuity of any model of development, perception, attitude, and behaviour studies of the people concerned are vital.

2. Analysis of Perception of Study Groups:

To test the perception of the different groups constituting the project population, the team opted for certain indicators. These are:-

a) Perception of good rangeland and degree of land attachment.

b) Perception of the big development project: whether a danger, or grenators of a better and a new acceptable style of life.

c) How expansion in agriculture affects mode of life and what is the best and appropriate development acceptable.

d) Attitude and perception of cooperatives and the most form appealing to people.

e) How each group perceive relations with others and attitude towards project management, controlled verses self-controlled farming system.

f) How nomads/settlers/project relationships is perceived.

Emphasis in testing such indicators, is made on nomads. Connected with perception is nomads' adjustment to changes within their ecosystem.

Based on such indicators it is appropriate to tie the findings from the st dy of perception with the suggested strategy. This de onstrates how perception may be an integral component of ny successful planning experiment for improvement o nomads condition within the project area.

In response to questions related to the best rangeland, respondents' answe rs are stressing that the best rangeland is the extensi ve coverage of natural vegetation with secured wate sources and better regulation of cultivation whether mecha ized or traditional as well as control of diseases. Answers received from respondendants at Abu Sheniena and Abu Gemai with regard to the different questions were similar, becau se of the same cultural and ethnic background, Table (19). Both sites are dominated by Ruffa'a El Hoj sub-section compared with Kharen-Kharen which is dominated by El Fell ta and El Ingessana. Rating rangeland according to the na ural extensive vegetation coverage is normal among resp ndents not well acquainted with grown fodders, concentra es, etc. which could be gradually introduced at a lat er phase in any future development model designed fo the nomads.

in the normal rythmic mobility.

From the answers given in Table (20) it is clear that the main problems are the ones disturbing mobility and restricting access to pasture land, and water sources. This clearly hints to how respondents consider the present rapid expansion in agriculture as the main danger to good range land, and hence their mere existence.

This attitude is clear in response to the questions related to how do they perceive large scale development projects in the region. They consider such projects as the main force that accelerated the rate and frequency of nomads' mobility. They consider them as a future danger to their existence, because they compete with them for the same resource base, Table(21). They even consider them as the cause of the increasing friction between nomads and settlers by occuping more of the rangeland.

Table 19.

Perception of Adequate Rangeland, as reported by Respondents.

Site	Total Respond-ents.	Availability of Extensive Vegetation Cover		Availability of water supply		Regulation of M.C.P.		Regulation of traditional cultivation	
		No.	% of total	No.	% of total	No.	% of total	No.	% of total
Kharen-Kharen	21	12	24	16	41.0	4	--	15	30
Abu Shaneina	22	20	40	12	30.8	22	--	18	36
Abu Gemai	21	18	36	11	28.2	20	--	17	34
Total answer given.	64	50		39		46		50	
Total percent			% 100		% 100				% 100

Source : Field Survey, April, 1984.

Note : In this table and all other tables, and because respondents gave more than one answers, in analysis all answers given are considered.

Table 20.

Problems of Rangeland and Migration Routes as reported by Respondents.

Site	No. of Respondents.	Felling of trees		Diseases				Expansion in M.C.F.		Blocking of water points		Blocking of routes		Interference of new tribes		Fires	
		No.	% of total	No.	% of tot.	No.	% of tot.	No.	% of tot.	No.	% of tot.	No.	% of tot.	No.	% of tot.	No.	% of tot.
Kharsen-Kharsen	21	10	19.6	19	30.6	18	29.5	20	31.7	--	--	21	31.8	16	45.7	21	43.8
Abu Shaneina	22	21	41.2	22	35.5	22	36.1	22	34.9	22	51.2	22	34.4	11	31.4	17	35.4
Abu Gemai	21	20	39.2	21	33.9	21	34.4	21	33.4	21	48.8	21	31.8	8	22.9	10	20.8
Total Respondents.	64																
Total answers given.		51		62		61		63		43		64		35		48	
Total percentage			% 100		% 100		% 100		% 100		% 100		% 100		% 100		

Source: Field Survey, April, 1984.

Note : It is clear that respondents rank the problems in the order shown by the total answer given; rating high factors restricting mobility or initiating it, i.e. blocking of routes, expansion in agriculture, diseases, etc..

Note the ranking of problems associated with such projects from the number of answers in Table (21). The same problems were reported in relation to the expansion of village cultivation. This is because such expansion especially outside the organized project farming system reduce sharply the land available for grazing and leads to more frequent disputes in the project area which nomads consider their only dry season refugee (Table 22).

The response is more evident in Abu Shaniena and Abu Gamai where nomads/settlers contact and friction are more sharp. Respondents ranking of problems associated with expansion in village cultivations are given in the following order: increasing distances to pastures, blocking masharei and water points, and limiting camping sites, which all lead to conflict on land rights and felling of shelter trees, Table (22).

To cope with such problems respondents reported positive suggestions, ranging from regulation and securing proper migration routes, to decrease of herd sizes Table (23). The lowest ranking of decrease of herd size, and the high ranking of securing rangeland, indicate clearly reluctance to shift from livestock rearing in favour of complete settlement.

Table 21.

Problems associated with big investment projects as perceived by Respondents.

Site	No. of Respond-ents.	Loss of grazing land		Limitation of movement		Blocking of traditional water sources.		Blocking of Migration routes.		Creating problems between nomads/settlers.	
		No.	%	No.	%	No.	%	No.	%	No.	%
Kharen-Kharen	21	13	27.1	15	25.9	10	18.9	16	27.1	21	32.8
Abu Shaneina	22	18	37.5	22	37.9	22	41.5	22	37.3	22	34.4
Abu Gemai	21	17	35.4	21	36.2	21	39.6	21	35.6	21	32.8
Total Resp.	64										
Total answers		48		58		53		59		64	
Total Percentage			% 100		% 100		% 100		% 100		% 100

Source : Field Survey, April, 1984.

Table 22.

Problems associated with expansion in unplanned village cultivation as perceived by respondents.

Site	Number of Respondents.	Limiting camping sites.		Felling of shelter trees.		Conflicts on land rights.		Blocking routes to water points.		Increase distance to pastures	
		No.	%	No.	%	No.	%	No.	%	No.	%
Kharen-Kharen	21	2	5.4	3	16.7	8	26.7	--	--	17	32.7
Abu Shaneina	22	17	45.9	6	33.3	12	40.0	20	52.6	19	36.5
Abu Gemai	21	18	48.7	9	50.0	10	33.3	18	47.4	16	30.8
Total Respondents.	64										
Total answers		37		18		30		38		52	
Total percentage			% 100		% 100		% 100		% 100		% 100

Source : Field Survey, April, 1984.

Table 23.

Suggested Adjustment to Exransion of Agriculture and Shrinkage of Rangeland.

Site	Number of Respondents.	Decrease in herd size		Demarcation of special grazing areas		Securing proper migration routes		Payment of Compensation for damage.		Others	
		No.	%	No.	%	No.	%	No.	%	No.	%
Kharen-Kharen	21	3	25.0	--	--	17	38.7	10	26.3	6	35.3
Abu Shaneina	22	5	41.7	22	51.2	13	29.5	11	28.9	3	17.6
Abu Gemal	21	4	33.3	21	48.8	14	31.8	17	44.8	8	47.1
Total Respondents.	64										
Total answers		12		43		44		38		17	
Total percentage			% 100		% 100		% 100		% 100		% 100

Source : Field Survey, April, 1984.

What emerges from such suggested adjustment is the perception of development they opt for. It revolves around securing access to natural or improved rangeland. Only few opt for development in agriculture and related services. For protection they rank security second to development in rangeland Table (24).

Favouring development of rangeland is to them a step towards the welfare of livestock as a focal point of the kind of development they perceive. Acceptance of development in agriculture is conceived by respondents as a means to convince the project management, that they like settlers are equally interested in agriculture. This kind of a strategy is adopted by the nomads for attracting the attention of the project management, This trend is manifested in their response to settlement as a better way of life. Although most of the answers consider settled life comfortable, gives access to better services, less risky, many consider it as the only alternative available to them to compete with settlers for the project facilities and consideration, Table (25). This indicates their realization that the form of model development acceptable to the project management is only attainable through acceptance of settled life. Findings of study, and group interviews,

Table 24.

The Appropriate form of Development that most respondents' interest and aspirations.

Site	No. of Respond-ents.	Development of Agriculture		Development in range land.		Dev. of basic socio-economic services		Develop-ment of security services		Others	
		No.	%	No.	%	No.	%	No.	%	No.	%
Kharen-Kharen	21	2	40	6	20.0	--	--	12	57.2	1	25
Abu Shaneina	22	2	40	11	36.7	2	50	5	23.8	2	50
Abu Gemai	21	1	20	13	43.3	2	50	4	19.0	1	25
Total Number of Respondents	64										
Total answers.		5		30		4		21		4	
Total Percentage			% 100		% 100		% 100		% 100		% 100

Source: Field Survey, April, 1984.

Table 25.

How Respondents see the project as a means of improving their life.

Site	No. of Respondents.	Raising of Living standard.		Provide Veterinary Services.		Recognize Grazing rights.		Solve all Problems		Don't know.	
		No.	%	No.	%	No.	%	No.	%	No.	%
Kharen-Kharen	21	--	--	4	22.2	--	--	--	--	17	80.9
Abu Shaneina	22	2	33.3	10	55.6	7	46.7	2	50	1	4.8
Abu Gamal	21	4	66.7	4	22.2	8	53.3	2	50	3	14.3
Total Respondents.	64										
Total answers		6		18		15		4		21	
Total percentage			% 100		% 100		% 100		% 100		% 100

Source : Field Survey, April, 1984.

confirm that, immediate settlement is not acceptable by the majority of respondents at least at this stage. Still among Ruffa'a a modified form of settlement is fairly acceptable.

Such attitude is manifested in the response to the questions related to how the project in its present form will improve their living conditions. They reported that it will provide veterinary services, recognize and organize grazing rights. In fact this is what they really expect from any development project of its nature Table (26). The form of linkages they visualize with a project of this nature are summarized in Table (27) where the majority prefer to affiliate with it as service users only, and only few prefer to affiliate with it as settlers.

Analysis of previous tables depicts the model of development project the nomads aspire for and is expected to ensure their involvement. In other words, they would like to see a project securing grazing rights, flexible mobility; but within recognized grazing land and equally organized agricultural practices for them and the settlers; and with an acceptable flexibility in settlement as well as, some freedom in decision-making. These objectives are attainable through the direct involvement of opinion leaders

Table 26.

The form in which respondents would like to be integrated in the project in its present form.

Site	No. of Respond-ents.	As settlers		Settlers with limited livestock.		As service users only.	
		No.	%	No.	%	No.	%
Kharen-Kharen	21	1	10	7	77.8	13	28.9
Abu Shaneina	22	4	40	1	11.1	17	37.8
Abu Gemai	21	5	50	1	11.1	15	33.3
Total Respondents	64						
Total answers		10		9		45	
Total percentage.			% 100		% 100		% 100

Source: Field Survey, April, 1984.

Table 27.

Alterations to make the project acceptable as suggested by respondents.

Site	No. of Respondents.	Demarcation of Migration Routes.		Regulation of Village cultivation.		Participation in solving problems.		Coordination of grazing and cultivation.	
		No.	%	No.	%	No.	%	No.	%
Kharen-Kharen	21	1	4.3	10	50.0	7	58.3	3	33.4
Abu Shaneina	22	10	43.4	6	30.0	2	16.7	4	44.4
Abu Gemai	21	12	52.3	4	20.0	3	25.0	2	22.2
Total Respondents	64								
Total answers		23		20		12		9	
Total percentage			% 100		% 100		% 100		% 100

and elders. This indicates c[illegible]early that respondents perceive a model of developme[illegible]t different in objectives and structure from the one no[illegible] adopted for settlers. Such objectives are supported by preference of the kind of community in which they ar[illegible] to be within the project they are aspiring for. The m[illegible]jority prefer a community of the same tribal origin wit[illegible] elders and tribal leaders as a link with the management. Only few reported their interest in entering in modif[illegible]ed cooperatives. While the majority reported their d[illegible]ssatisfaction of the settlers' community model pre[illegible]ently structured by the project Table (28). The low [illegible]core given of co-operatives by respondents, is mainly due to the vague and confused picture of what they view of [illegible] cooperative. To many it is an institution recently introduced in the area and considered as an official in [illegible] public form.

To test the attitude of nomads towards co-operatives as a focal ingredient of the present and future option for any venture for nomads, a specific question was set in the questionnaire. From the answers to this question the idea of the cooperative is generally acceptable, although preferred to be in a manner different from the version for settlers. The majority prefer a cooperative maintaining

Table 28.

The Type of Community Respondents Prefer as Nuclei of Development.

Site	No. of Respond-ents.	Community Preference									
		of same origin.		Centred around tribal leader-ship		Modified co-operat-ive.		Sub-sect-ions of same tribes.		Different from project experiment:	
		No.	%	No.	%	No.	%	No.	%	No.	%
Kharen-Kharen	21	2	28.6	--	--	--	--	--	--	19	63.3
Abu Shaneina	22	3	42.8	6	54.5	2	33.3	5	45.5	6	20.0
Abu Gemai	21	2	28.6	5	45.5	4	66.7	6	54.5	5	16.7
Total Respondents	64										
Total answers		7		11		6		11		30	
Total percentage			% 100		% 100		% 100		% 100		% 100

Source: Field Survey, April, 1984.

ethnic homogenity and inherited tribal culture whenever attainable - Tables (29-33).

The idea and acceptance of the cooperative as a base for development are not coherant in the minds of the nomads. The majority consider cooperatives as an association to provide consume goods (Table 29). Others consider it, because officiall initiated as one of the different formal institutions ntroduced by the government. To correct this belief and to ntroduce co-ops as productive organizations, need a lot of effort from the side of the project authoritie . As a reflection of such confused image a substantial number of respondents reported unwillingness to get involved n co-operatives Table (30). This fact shows that up to now nomads are not fully acquainted with any form of association other than the tribal ones. They conceive that co-operatives are basically settlers' associations and as substitute for tribal and blood relations, Table (31). till respondents set the basis for the co-operatives they perceive in process of formation Table (33), and the form and nucleei to start with Table (28).

It is safe to conclude that nomads prefer a project which secures access to a recognized grazing land, free mobility and a free flexible farming system allowing more room for livestock.

Table 29.

The Opinion of Respondents of Cooperatives.

Site	No. of Respond-ents.	Co-operative are for provision of consumer goods and services: Number	%	Don't have any clear opinion. Number	%
Kharem-Kharem	21	8	21.6	13	48.2
Abu Shameina	22	16	43.3	6	22.2
Abu Gemai	21	13	35.1	8	29.6
Total Respondents	64				
Total answers		37		27	
Total percentage			% 100		% 100

Source : Field Survey, April, 1984.

Table 30.

Willingness of Respondents to get involved in Co-operatives.

Site	No.of Respondents.	Willing to get involved.		Unwilling to get involved.	
		No.	%	No.	%
Kharen-Kharen	21	8	34.8	13	31.7
Abu Shaneina	22	9	39.2	13	31.7
Abu Gemai	21	6	26.0	15	36.6
Total Respondents	64				
Total answers		23		41	
Total percentage			% 100		% 100

Source : Field Survey, April, 1984.

Table 31.

Reasons Reported by those who were unwilling to get involved in co-operatives.

Site	Number of Respondents.	Not settled.		They are members of Co-operative in other places outside project	
		No.	%	No.	%
Kharen-Kharen	10	10	40	--	--
Abu Shaneina	12	5	20	7	58.3
Abu Gemai	15	10	40	5	41.7
Total Respondents	37				
Total answers		25		12	
Total percentage			% 100		% 100

Source : Field Survey, April, 1984.

Table 32.

Suggestion for the best methods of forming co-operatives.

Site	No. of Respond-ents.	Special Co-operatives for Nomads		Modify existing Co-ops. rules to suit nomads.	
		No.	%	No.	%
Kharen-Kharen	21	3	16.7	18	72
Abu Shamsina	22	6	33.3	4	16
Abu Gamal	21	9	50.0	3	12
Total Respond-ents.	64				
Total answers		18		25	
Total percentage			% 100		% 100

Source : Field Survey, April, 1984.

Table 33.

Bases of Co-operatives that convince respondents to join Co-operatives Association.

Site	No. of Respond-ents.	Family		Ferig		Kashm Bait		Any form of membership		Others	
		No.	%	No.	%	No.	%	No.	%	No.	%
Kharem-Kharem	21	6	60	10	35.7	2	11.8	2	50	1	12.5
Abu Shaneina	22	3	30	8	28.6	5	29.4	1	25	5	62.5
Abu Gemai	22	1	10	10	35.7	10	58.8	1	25	2	25.0
Total Respond-ents.	64										
Total answers		10		28		17		4		8	
Total percentage			% 100		% 100		% 100		% 100		% 100

Source: Field Survey, April, 1984.

The nomads/settlers and nomads/project relationships are undergoing a process of change and complexity. Nomads/settlers relations started to be tense after the emergence of the project which the nomads consider to be designed to serve the settlers only. They perceive that the project management favours settlers, and this has given settlers powers difficult for the nomads to challenge. Their only option is to convince the management by claiming land rights on historical grounds, similar to the claim made by the settlers, and follow that by sharing their willingness to cooperate with the management. What confused nomads/settlers relationship is the conflicting interest over the same resource base. However, gradual acceptance of each group of the rights and interests of the other groups was observed by the team. The nomads feel that the project will accomodate both; but with some organization which is the task of the project management, through arriving at relevant model of development which appeals to the various group, within the broad objectives of the project. Such attitude is clearly advocated by Ruffa'a El Hoj at Abu Shaniena and Abu Gamie. It seems that the nomads have changed their attitude towards the project as its implementation progressed.

Their attitude towards the project at the beginning was negative. They considered it as a danger to their only refuge dry season grazing land. When they became convinced that the project could not be challenged, they revised their strategy and opted for showing interest in the project. Not only that, but they are presently fighting to be accomodated within a model acceptable to them.

It is evident from this study, that both communities of settlers and nomads tend to accept the de facto situation of three interested partners (Nomads, settlers and project management), as beneficiaries of the project area. Such feeling is more observable among Ruffa'a El Hoj who rightly claim access to the project area same as the settlers. They are also in more contact with cash economy, less isolated and more organized.

This indicates a trend in change in perception among nomads, to a point of accepting compromises that care for the interests of the other parties within the project area. It is this point of the narrowing of the perception gap between such communities and planners represented by the project management, that makes the situation mature enough for suggesting an acceptable strategy. This will be attempted in the last chapter of this report.

STRATEGY AND POLICY CONSIDERATIONS

1. Introduction:

This concluding section of the report attempts to develop a strategy for handling the nomadic question, and outlining the necessary policies that shall guide the suggested action programmes. The essentials of the strategy stem from the project objectives, as related to the main parameters of the nomadic ecosystem being explored in the preceding sections of the study. A review of both aspects is furnished hereafter as a context within which the strategy, policies, and action programmes shall be framed.

2. Project Objectives:

The objectives of the Blue Nile Integrated Agricultural Development Project (BNIADP) as detailed in Report TM 3:19 (x) could be outlined as follows:

2.1. The Goal

Increase production and income of traditional farm and herds families in rainfed areas of Sudan.

(x) Blue Nile Rural Development, Project Number 650-0018, Symbol AFR, Code 06.

2.2. Purpose

To develop and verify available system approach to small farm and livestock development which will be suitable for replication over larger areas of traditional rain-fed production, through small farm mechanized activity.

2.3. Sub-purpose

- To stimulate local village and regional organization capability to benefit from, and maintain the development process in self-sustaining, participatory manner
- Utilization of co-operatives as primary mechanisim for both distribution of services and development of self-sustaining structure
- Proposed project beneficiaries include some 2500 small farm and 3300 nomad families.

3. Main Parameters of Nomadic Ecosystems:

It has clearly come out from the treatment of the various parameters of the nomadic ecosystems, of the three tribal groups, as developed in the previous sections of the report, that:-

i. The three nomadic groups operate within a spatial container, that dovetails the project area to other grazing territories away from the project e.g. El Kagamir.

Because of the complementarity between herding activities in both areas, throughout the yearly nomadic cycle, the spatial dimension should be accorded full consideration in the strategy aimed at the improvement of the nomads lot.

ii. The continuous expansion in areas under cultivation, especially so with the massive programmes of rain-fed mechanized farming in southern Blue Nile Province, added to that the increase in acreage under gerif cultivation following the construction of Er Roseires Dam, and the recent development of Kennana Sugar State plantation, have exproporiated thousands of acres from the traditional grazing lands of the three tribes.

iii. As a result of the above development, the grazing lands of the project area stand at present as the last refuge for the three nomadic groups during the dry period, when grazing resource became most accute.

iv. Equally, and because of the unliescenced expansion of farming activities in the traditionally rainy season grazing areas i.e. El Kagamir are presently witnessing over stocking which is increasing year after the other resulting in the degradation of the ecological cover of these lands.

v. The above reporting on the state of grazing within the project area during dry period and El Kagamir during wet period verify the essence of a comprehensive spatial treatment of the nomadic question.

vi. There is a general consensous among government officials, as well as those interviewed among the nomads, that the present state of confusion as highlighted above is attributed to, the wrong policies which have their roots in the neglegence of the place of the nomads in the local society, and their role in the regional and national economies. Time has proved that such an outlook towards the nomadic society if continues unchallenged, shall lead to the full extermination of these populations.

vii. Despite the unofficial recognition of the status of the nomads and their strained relationships with the indigenous populations all three nomadic groups have succeeded in establishing some kind of alligence and territorial rights over parts of the project area. Of the three: Ruffa'a El Hoj and El Ingessana are of Sudanese origin. El Fellata are not. Yet there is no way to overlook El Fellata on these grounds and not incorporate them in the project.

viii. On examining the other parameters of the nomadic ecosystem at the micro level of the project, each of the three groups emerges as having an established domain in a certain area of the project: Ruffa'a El Hoj on the river side centred at Ab Shaneina and Abu Gemai, El Fellata and El Ingessana in the southern fringes of the project area.

ix. Again each has a rythmic movement, which involves timely activities geared towards the maximum utilization of the grazing and watering resources of the project area.

x. Within the ecological frame in which each operates, the three has managed to maintain a society with viable herding systems, productive economies, distinctive cultures, strong social organization, and identifiable leadership.

xi. The same societies have strong awareness of their current problems and their own perception of how these problems could be solved. They have shown keen interest in the project, and each of the three groups is visualizing certain goals to be served by the project.

xii. Ruffa'a El Hoj view the project as a development venture, incorporating livestock improvement as one of its main ingredients. They want to see a recognizeable place and role for them in the project activities and programmes. In their search for recognition they are most concerned about the demarcation of pasture lands, the organization of land use and the provision of water resources at both the river side and El dahara land. They accord a high priority to veterinary services and see in co-operative development an important aid to the improvement of their economy.

xiii. Ruffa'a El Hoj are skeptical about setting in the project area, for ecological and security reasons. The river-side strip and El dahara lands where they spend the dry period are inhospitable for man and beast during the rains because of: flies, insects, and diseases. While the lived experience of raiding, and blood fued, inflicted by unidentified gangs from the local elements and others infilterating persons from the southern and eastern reaches of the area, induce Ruffa'a not to leave families behind during the rainy period.

xiv. El Ingessana and El Fellata, as survey findings reveal, utilize the limited strip of land on the southern

borders of the project area. They have intensified their movement to this area during the last decade, as grazing and water resources in the areas further south became unreliable. Same as Ruffa'a El Hoj they want to have a recognized status over these areas; coupled with improvement of pasture, water supply, and animal health services. They have not shown interest in co-operative development. While El Ingessana are keen on finding adequate grazing during the dry period, however, not contempelating other kinds of development i.e. co-operative.

xv. In meeting the aspirations and interests of the nomads sketched above, which tie up with the project objectives as shall be discussed, the contemporary conflicts stemming from the nomads/settled populations relationships need to be resolved. The roots of most of these conflicts lie in the losely defined rights of each category over the land resources of the project area, coupled with contrasts in the agricultural calenders of farming and grazing, as well as differences in cultural background. Hence organization of land use entails a comprehensive treatment that accomodates crop and livestock raising in an integrated fashion at the level of the project.

xvi. Physical planning that aims at the organization of land use within the project area is only one component of many, that are required to bridge the gap between the nomadic and settled communities. For the creation of viable integrated societies, social action programmes are highly needed for attaining any projected prosperity of the two populations.

4. The Project Objectives in the Context of the Nomadic Eco-system:

The project objectives as narrated above tie in many respects with the basic features of the nomadic eco-system under study. The project aims at the development of 3,300 nomads families. From the study, the existing nomads families (809 families), is far less than their target nomadic population the project is expected to accommodate. The basic spatial, ecological, cultural, social, and economic dimensions of these populations, were explored, quantified and reported.

From the findings of the study it has emerged that each of the three nomadic groups exists as a farming system with its own distinctive characteristics; while meeting with the others in some common traits. Since the approach of this study eminates from the philosophy of

the project which rests on the concepts of integrated development, the three farming systems should be taken as the bases for realizing the project objectives, as spelt out in: increasing production and income of traditional farm and herder, stimulation of nomads organizational capacity to maintain the development process in self-sustaining participatory manner, and utilization of co-operatives as primary mechanisim for both distribution of services and development of the above goals depends the success of the model, and hence the possibility of replicating it over large areas of traditional rain-fed production.

The integrated development approach attributes high values to certain principles and procedures of development. It adopts the farming system approach, where the physical and human variables are accorded equal weight, and the emergent problems are taken as the essence of the recommendation domain that planners and researchers have to labour to solve. Hence any strategy aimed at the development of the nomadic groups of the project area should be founded on these grounds.

5. The Strategy:

The above disposition reveals the prevailence within the project area of nomadic ecosystems that are economically and socially functional. However, these systems are strained in many respects. Equally the preceding discussion stressed the concern of the project about the development of nomadic populations and economies as established in its objectives. Within this frame three alternative strategies shall be presented and weighed.

5.1. Strategy I

Nomads are to be completely excluded from the Project area. This looks impractical for ecological, economic, social, and political considerations. It is explored as strategy I on hypothetical grounds, to prove the impracticability of such a proposition, on a number of considerations. First, the three nomadic ecosystems have traditionally evolved within the project area, and are presently operating as identifiable entities. Secondly, that the project area forms an integral part of the grazing territories of the three tribes, and that the exclusion of the nomads from the project area shall lead to a total collapse of the three systems. Thirdly, there is a place for the nomads in the project plans, which aim at the development of these traditional communities, side by side with the settled cultivators.

Hence it becomes clear tha there are no grounds to support the alternative of xclusion of the nomads from the project area, and as menti ned this alternative is stated and discussed on hypoth tical grounds.

5.2. Strategy II

This alternative contempel tes inclusion of all nomads 809 families (5037 pers ns), with all their animals, 58,860 head of cattle; 228,900 head of sheep; 26,160 head of goats, and 3,924 head of ca els in the project area. There seems to be no problem a out accommodating the above human population. However, im lementing such strategy shall be faced by problems suc as: incompatability between the available fodder base and he present livestock numbers, the unwillingness of the nomad to accept a sudden change, and the incapabilities of the roject to handle the foreseen volume of work in a s ort time span.

The above mentioned proble s make it unfeasible to adopt alternative II, proposing acco odating all nomads with all their animals in the project a ea. Even if the current size of nomadic livestock can e managed at present, the increase in animal numbers, sh all cause ecological degradation, as experience has shown with nomadic herds, in other areas.

5.3. Strategy III

This alternative recommends: the accommodation of all nomadics families that presently have access to the project area, however with lesser number of animals. All nomads means acceptance and equal treatment by the project of all three groups, however, in a prioritorized programmes that accommodates first Ruffa'a El Hoj, followed by El Fellata, and lastly El Ingessana. This principle should be stressed to exclude any possibility of local political upheaval as a result of favouritisim to any of the three groups, or to a faction within each. With the project being initiated for the development of the traditional economies of the area, and the advancement of the prosperity of the local communities there, there seems to be a narrow scape for favouring one group over the other. Partial development, if adopted shall only add to the confusion and stresses, presently exprienced by the three populations, as a result of expansion of mechanized farming, for example; or even the way the project is currently favouring the settled groups on the expenses of the nomads.

It is easier for the project to pick a controllable number of families as a target population for development,

and exclude the rest, however his is unrealistic planning which overlooks the local cond tions of these populations, and questions the philosophies and approaches on which the project is founded.

Accepting the principle of accommodating all of the nomadic populations tha have access to the project area according to the scheme o priorities that came above, leaves us with the other issue of decreasing the number of the nomadic herds to optimuim figures that match the carrying capacities of the range. As it is unfeasible to eradicate the excess numbers of livestock instantly, or in a short span of time to match the avail able fodder resources, reaching the optimuim livestock size can only be achieved through a long term programme. Such a programme entails two basic development inputs: improvement of the fodder base of the project area and social and economic transformation of the three nomadic populations. These are the main cornerstones of the suggested programme under alternative III endorsed by this study; which shall be elaborated under the forthcoming sections on modelling and the action programmes.

6. The Model of Development:

Under strategy III a model for the development of

the three nomadic groups shall be explored. There is a rich world experience in modelling nomadic development.

The Russian work among the nomads of central Asia, adopted a model of settling the nomadic families at certain centres, while livestock accompanied by herders maintained seasonal migrations between the different seasonal grazing areas. At these centres the settled communities are enjoying all the amenties of settled life, with major transformations being brought on the nomadic economy, which is oriented towards local and regional markets, resulting in the industrialization of these communities.

The Iranian experience has adopted a different approach not based on fixed settlements, but on injected improvements on the traditional migratory system of the nomadic groups. The different groups are allowed to maintain their annual cycles of movement, between the various grazing lands, with services provided at some fixed centres on the routes, or as mobile units accompanying the families in course of their migrations.

In Algeria a different model based on what has been termed as the "pastoral co-operative" is being developed. The idea of the "pastoral co-operative" takes

the form of a ranch where a group of nomadic families is settled, with a fixed number of herds that are matched with the carrying capacity of the ranch. The group of settlers operate through a co-operative that organizes grazing, provides for the basic services, caters for the required inputs, and is responsible for animal marketing.

A fourth experience is presented by the Masai Renches in Kenya which carry some of the features of the Algerian model.

In all of these experiences there have been direct intervention from the side of the governments of these countries, in providing for the planning and the essential financial and technical resources which backed the development of these models. In our case this backing is provided by the project resources.

Since settlement within the project does not find acceptance at present from none of the nomadic groups studied, it should be deferred as a long term strategy. The model that is suited to the present conditions of the nomads of the project area, is the Iranian example which maintains migrations between the dry and wet season grazing areas, with commanding centres for basic services to be

developed within the project area. This should be adopted as a short term target, with an ultimate goal of achieving the Algerian model as a long term target, when the nomads become prepared to settle down within the project area. The apparent concern of the short term target is the development of the livestock economy of the nomadic groups. The long term concern should go beyond that to speculate an agro-pastoral model when nomads get settled. In this respect each of the three tribal groups should be treated as a separate entity, by according the necessary weight to ethnic and cultural homogenuity, so as to avoid unnecessary conflicts created by differences in cultural origins, as it proved to be the case in New Halfa Scheme for example.

7. Action Programmes For The Realization of the Short Term Model:

7.1. Range Livestock Improvement Programmes

This involves improvement of the range resources, expansion of production and supply of grown fodders, and provision of water supply and health services. These basic inputs will require:

i. Registeration of the project land as a private property of the project to guarantee control over its resources and organization of its use by the project authority.

ii. Demarcation of the grazing territories of the three nomadic populations, guided in that by the acquired traditional rights of each group over these territories. The involvement of nomadic leadership and local government councils, plus the project authorities in forming committees for laying out the boundaries of the different grazing territories is essential. The support of the regional government for such an action should be secured.

This shall satisfy the requirements for zonation, and the identification of the different recommendation domains, which are basic for the application of the farming system approach and the replication of models.

iii. Within the flood lands of the dam basin the conflict between Ruffa'a El Hoj and the gerif cultivations needs also to be resolved. A programme of land registeration according to property right and category of user is to be initiated, under a special committee constituted of users representatives, the councils authorities, and the project management. All land identified for grazing use is to be registered as project property.

iv. A review of the state of scientific knowledge, that accompanied the planning of the project, reveals eminent

gaps in many areas. Basic ecological surveys in the frames of the suggested zonation are highly needed; to assess the grazing resources of the three recommendation domains, to direct the present use of these resources and to suggest the necessary improvements; involving developmental as well as conservation measures.

v. Of the three groups, Kuffa'a El Hoj supplement the natural forage grazing resources of the project area with grown fodders; in the form of dura stalks which they purchase from the settled cultivators, and oil seed cake which they buy from the local merchants. With improved breeding programmes the need for both supplements shall increase in future. Plans should be set to facilitate the access of nomads to the crop remains produced under the mechanized farms of the settled population managed by the project. This shall foster the relationships between the two communities since each shall benefit from the presence of the other. As for the oil seed cake, the project can organize the importation and distribution of the amounts needed. Both items i.e. dura stalks and oil seeds cake, can be handled on co-operative basis by both the settled population and the nomadic groups as shall be elaborated later.

vi. Since livestock movement for grazing within the project area, and between the latter and the rainy season grazing lands away from the project area shall be maintained, as a requisite of the short term development plan, improvement of the nomads conditions in these areas should be initiated. Priority in this respect should be given to programmes of water supply, health and control of diseases; so as to guarantee timely mobility of herds and optimum utilization of the range resources. In case comprehensive programmes of development in the rainy season grazing areas, are unfeasible at present, at least control points for checking the spread of diseases should be established at strategic places, where the nomads enter the project area, on the return journey from the rainy season grazing lands.

7.2. Social Action Programmes

The start of these programmes lies in the recognition by the project authorities, that the three nomadic groups have a place in the projects plans of development, and a role to play in the realization of the objectives of the project. The project management should take all possible opportunities to upgrade the status of the nomads in the local and regional circles, and give them

equal access to the resources of the project, same as the settled communities. The main components of the social action programme are:-

i. Basic socio-economic data is essential for effective planning. The present study has laid the basic for that. However, systematic collection of data should continue in future, especially that programmes such as: agriculture extension, home economics, and co-operative development can only be founded on sound scientific data. Full enumerations of the three nomadic groups, coupled with household surveys to furnish reliable data on the various socio-economic and demographic parameters, should be catered for.

ii. A programme for the organization of the three nomadic groups should be immediately started. This is to be based on the existing social set-ups, that presently give these groups their social coehsion and societal integrity. Tribal factions whithin each group which reflect their presence in the distribution and location of encampment sites, and the organization of grazing rights, provide the essential cells for building these tribal systems, at the level of each group. With the adoption of such a procedure a heirarachical order can be

developed, with community leadership identified at all levels.

iii. Once the leadership is identified, and the organizational heirarachies are built, these same set-ups shall provide the frames for co-operative development; which received a stronger response among Ruffa'a El Hoj, where a start should be made, compared to El Fellata and El Ingessana. Special surveys for the identification of target populations, for co-operative organization, judged on: receptiveness to the idea, ability to contribute shares, and leadership capability, should be conducted at Abu Shaneina and Abu Gemai.

iv. With the identification of leadership at community and co-operative levels, and the organization of communities being achieved, a two-way communication system should be opened, between the three nomadic groups and the project management. The substance of these dialogues should be the plans formulated by the project, and the responses of the nomadic communities to these plans. This procedure shall generate social action, which is essential for building the participatory capabilities of the nomads.

v. The formulation and guidance of integrated development programmes require the formation of integrated teams, that operate from centres where development concepts are assimilated and integrated. It is suggested that two such centres be developed immediately: one at Abu Shaneina, and the other at Abu Gemai. Each centre should be staffed by an integrated team, that includes: a veterinary officer, a range and pasture especialist, a co-operation officer and a socio-logist. The plans developed by these teams should aim at a comprehensive treatment of the problems of the nomadic farming system, and not opt for monolithic approaches.

8. Guidelines For Programming And Implementation

The strategy proposed rests on two interrelated stages:

Stage I; as a short term measure draining from the Iranian model and should maintain the present pattern of mobility which needs to be properly organized. This pattern should radiate from commanding centres especially selected within the project area.

Stage II: as a long term measure draining from the Algerian model, and as an ultimate end product of the first stage, leading to an Agro/pastoral farming system.

These stages must ensure a gradual transition of nomads, from the present stage of pure nomadism to sedentary life. (Fig. 15).

The central point of stage I is the selection of the commanding centres within the project area. In the following is an attempt to list the basic criteria for the selection of these centres:-

i. Such centres should have the potentials that accommodate the development increment or input, from the resources of the project and the local population.

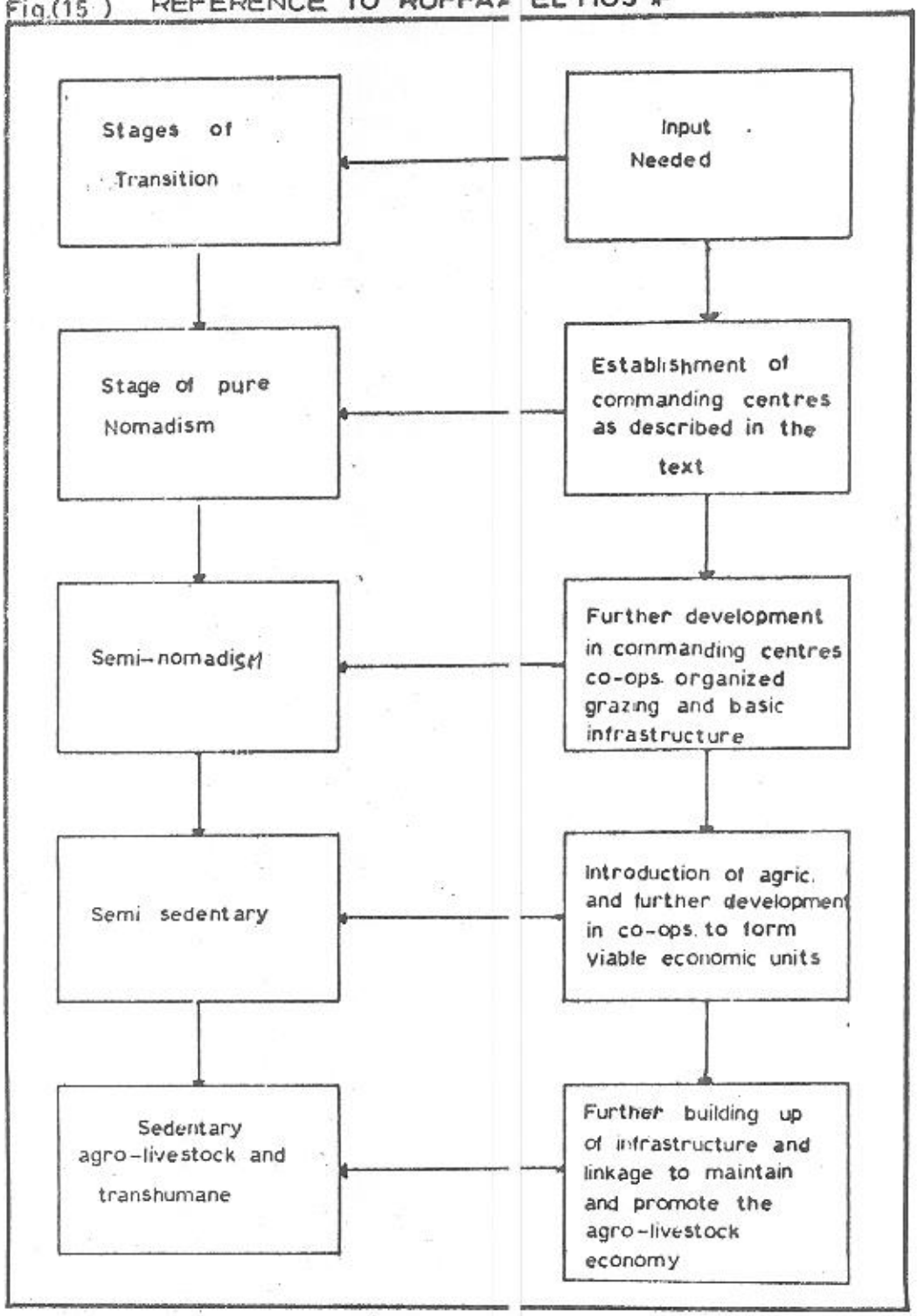
ii. They must maintain the acquired or legalized land rights for the users, controlled and organized by the project management. Private ownership through a system of charges, rents or sale is to be introduced when possible.

iii. The commanding centres need to be properly distributed in the sparsely or unpopulated sections of the project area, in domains that have good grazing potentials, minimum conflict, with good prospects for development of water sources, better chances of organized grazing and agriculture in the future.

iv. They should have suitable habitat for the household i.e. with excess to water supply, wood for building and fuel, pasture, market places, flour mills etc plus other

A PROPOSED PHASING STRATEGY OF TRANSITION OF NOMADS OF THE PROJECT AREA WITH SPECIAL REFERENCE TO RUFFA'A EL HOJ *

Fig.(15)



* This simplified model of action is tentative so open to any modifications that suit the Purpose. It is assumed to Provide the guide-line for action only.

services and access to agricultural land for crop remains; and later, for the implementation of agro/pastoral farming Fig. (16).

v. Such centres should ensure homogenity i.e. ethnic, social and cultural harmony, in order to maintain the nomadic social hierarchy, leadership and psychological satisfaction.

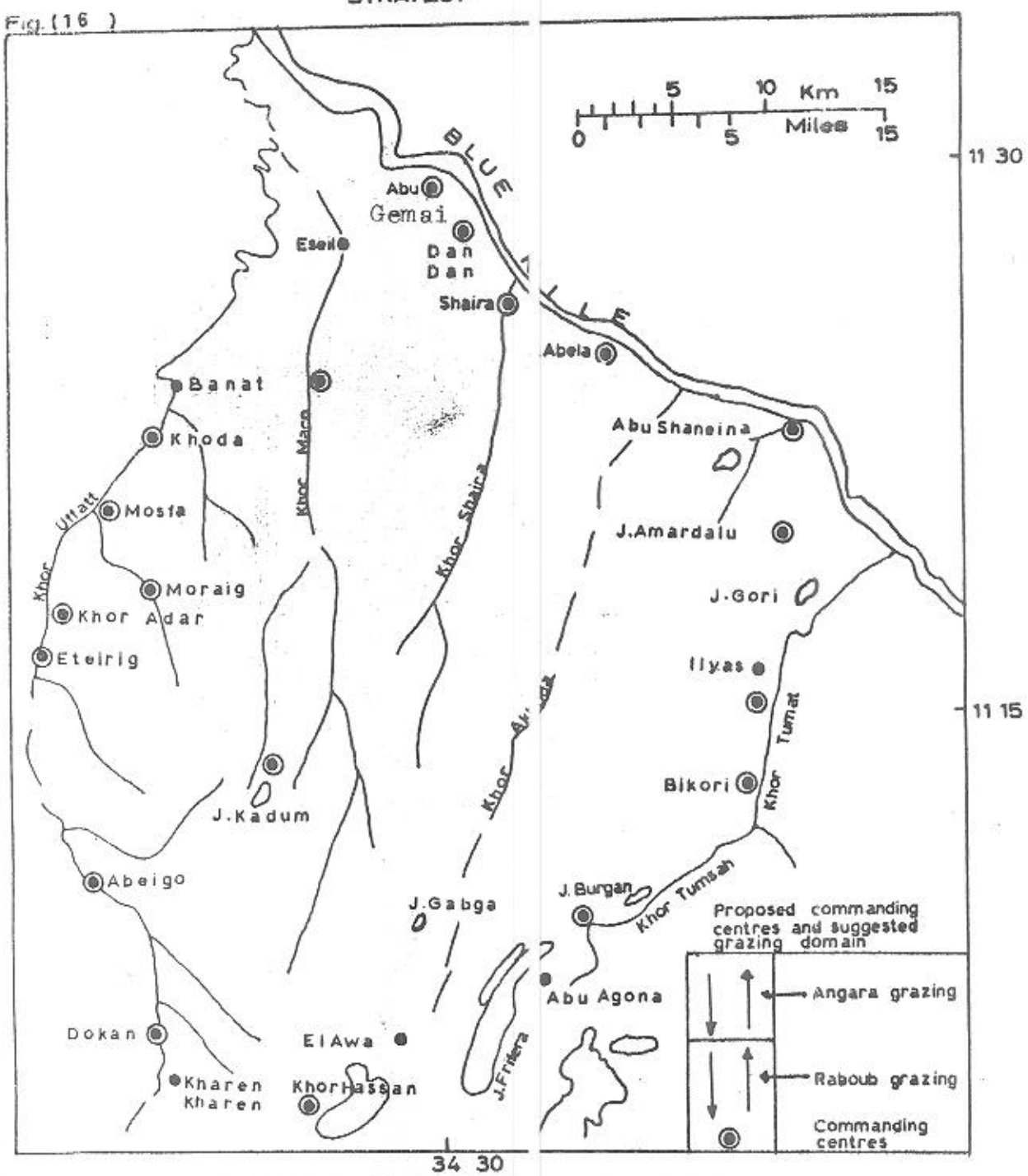
vi. Provide security which is inherited in the nomadic social organization, supported by security provided by the government, concerned institutions.

vii. The centres should ensure accessibility to the project management for building the basic infrastructure, implementation of programmes, future follow-up, evaluation and mobilization of the community for the efficient use of resources.

viii. Centres are to be selected in such a way to reduce grazing overlap; therefore they not be of the same size. The size and spacing of centres need to be determined according to the carrying capacity of the range, the number of animal units to be accommodated and the optimum human population; laking into concideration the potentials for future introduction of the agro/pastoral farming system advocated for the second stage.

PROPOSED COMMANDING CENTRES
OF PHASE(1) OF THE PROPOSED
STRATEGY

Fig. (16)



The most appropriate locat ons of suggested centres to satisfy the above c iteria are: the major Khors, the Blue Nile, and the streams radiating from the different Jebels. The selecti n and spacing of the centres should be in such a way to dev lop a paralled mobility, radiating from these centres i to El dahara, along organized routes and within pr perly demarketed grazing zones. From these centres mov ment into El Kagamir needs to be facilitated and organize at this stage.

Based on the above describ d pattern, possible sites that show potentials for development as commanding centres are given in Fig. (16 . Each of these centres is targeted to be the focal po nt of a "development domain". The illustration giv n at the bottom of Fig. (16) is meant to dominstrate the m chanism of planning and operating a "development domai ".

After the proper selection of the centres, the following steps are essent ial:-

i. The formation of an op ration team through a proper selection of project representatives, and local leadership; supported by service staff i.e. livestock specialists, community development officers etc.

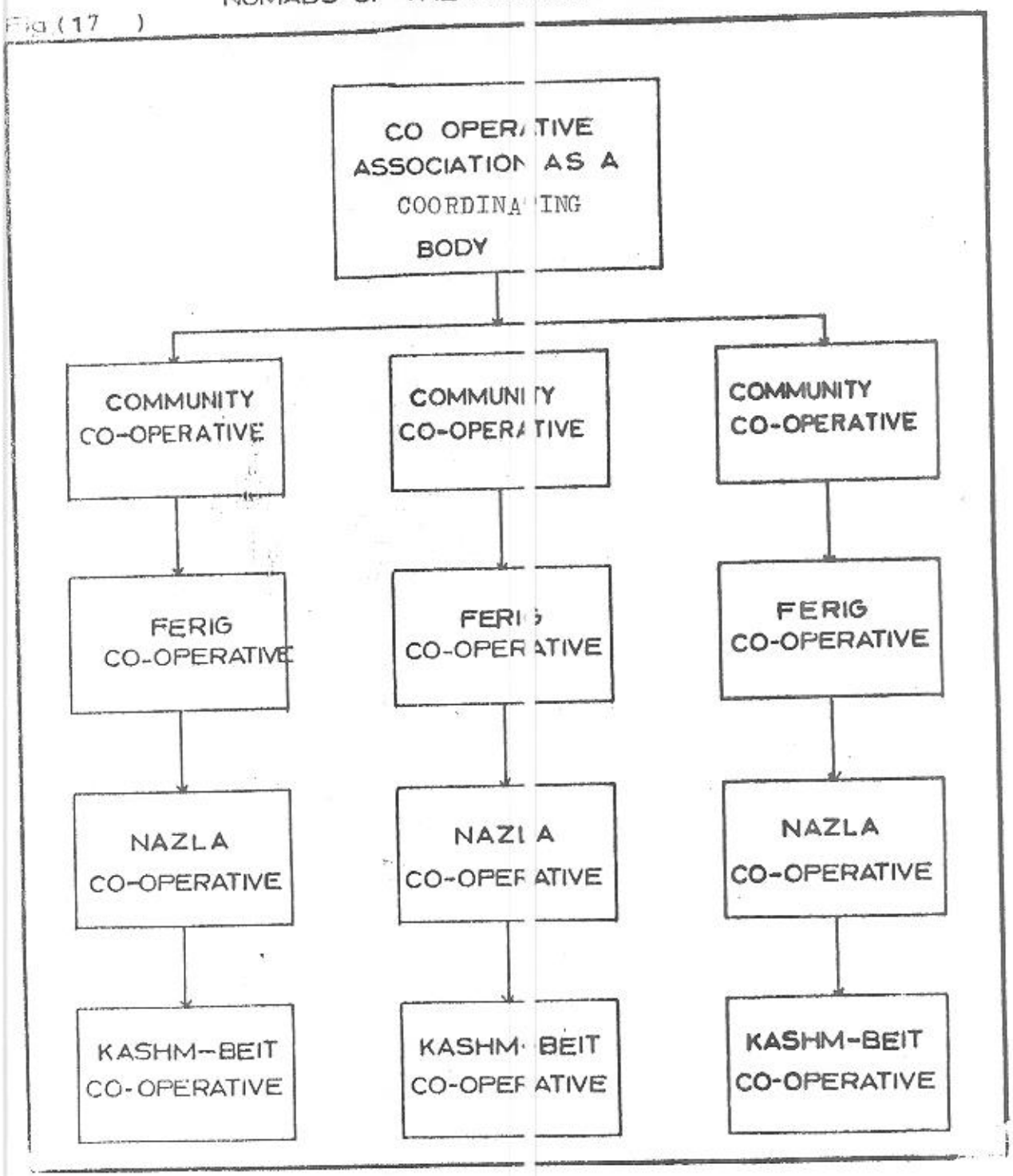
ii. The building of the basic infrastructure according to the priorities suggested by the operation team. The cooperative societies should have a top priority concurrently with establishment of the commanding centres.

The cooperatives should be founded on the demographic and the social structure of the nomadic community. The cooperative is envisaged to have a hierarchical order ascending from Kashm el Beit, up to the Nazla and Ferig. Accordingly the membership, the organizational structure and the management should be based on this order; paying special attention to the local leadership generated by the nomadic social setting Fig. (17). Since the size of these factions (Kashm Beit, Nazla, Ferig) is variant from one community to the other, the size of the cooperatives is to be determined by the operational team.

In this connection indepth sociological surveys are necessary for answering receptiveness of the nomads to the cooperative idea, size of membership, election of committees, share value, capital formation, by-laws and procedures etc. Following that the contribution of the project towards establishing of the cooperatives with

A TENTATIVE MODEL OF A PROPOSED CO-OPERATIVE HIERARCHY FOR THE NOMADS OF THE PROJECT AREA

Fig (17)



regards to: extension work, organization of the activity, financial and technical support and monitoring, should be properly set. It is believed that the present study has laid the foundation for a proper start in this direction, especially in exploring people s perception of the cooperative acceptable to them

The function of the cooperatives should be:-

i. Provision of consumer goods needed by the nomads. The co-operative are to be housed in the commanding centres, and should be separate from settlers' cooperatives; with minimum official intervension. The project authority should provide the connection, ensuring flow of goods and provide advice and cash when needed at this initial stage.

ii. To take the shape that enables it to get involved in the nomads' economy. The co-operative should act as an agent or company to handle livestock marketing, provide loans, feeds, storage facilities, and even help in subsidizing services, especially veterinary ones.

iii. The function of the cooperative should develop with the stages of the transition of the community. When it attains maturity it should take over all operations of the agro/livestock farming system, as a semi-independent organization to which all activities should be handed.

iv. In all stages of its development the cooperative should take over the responsibility of collection of shares through the organized system of leadership of the community, with the help of small accountancy units and with administrative assistance.

In conclusion, this comprehensive approach to development should emerge from the complete interaction between the planners and users, for any project to maintain the sustainability and gradual transformation, that is clearly stated in the project broad objectives. This is attainable by the physical existence of the planner in order to generate a dialogue between the planner and beneficiaries to achieve a comprehensive resource development. It is one of the job of the planner to establish a data bank for recording the processes of transformation.

The proper execution of stage I is expected to lead automatically to the stage II, depending on the pace of progress and response of people to change in each commanding centre. In other words passage from stage I to II need not be the same in all centres.

As suggested, stage II should revolve around a highly flexible agro/livestock farming system. The initation

of stage II should have the following broad features as indicators of maturity of stage I:-

i. Partial or complete settlement with a rythmic transhumane into recognized ranching areas supplemented by produced or purchased feeds, with the help of the cooperative as a viable economic institution.

ii. Development of mechanized or machine aided farming, with selection of crops suitable for human and animal use. Small units of crop protection, disease control etc. may be attached to each centre, linked to a main research centre within the project area.

iii. A proper and a balanced system of crop and livestock integration as an ultimate goal of the long run strategy.

To conclude it falls within the task of the investigation team to suggest these lines of action, the details of which entail costing, proper phasing, definition of responsibilities, and specification of linkage which need further indepth investigation. This may be achieved through a specially formed research unit, whose job is to build a data bank and mobilize local and foreign experties whenever needed.

It is believed that this study has put the datum and foundations for the development of the nomadic population of the project area. Its major contribution is the provision of the initial data from which the advocated strategies are developed and implementation phases are generated.

APPENDIX (1)

THE PANEL FAMILIES.

Sites	Camping Area	Fareigs	Sub-Tribe	Panel Families
Abu Shameina	Khor Abu Khada	Yousif El Tai	Sebeihab	1.Mohd. Ahmed Ali Ahmed
			"	2.Ahmed Ali El Imam.
			"	3.El Hag A/Rahman.
			"	4.Ali El Bashir El Bela.
			"	5.Mohd.Yousif El Tai
			"	6.Yousif Ahmed El Tai
			"	7.Agab Yousif El Tai
			"	8.Mohd. El Zein El Madih
			"	9.Bashir Mohd. El Shobali
	Ilyas	Wad El-Shobali	"	10.Mohd. El Amin Ahmed.
			"	11.Idris Ahmad Iddris.
			"	12.Sadig Ahmed Daw El Nour
	Mardia	Wad Daw El Nour	"	13.Sadig Ahmed El Badwi.
			"	14.Mustafa Mohd. Ali
	Amardalo	Wad Hamad El Neel.	"	15.Ibrahim Ali Hamad El Neel
			"	16.Sadig Yousif.
				17.Hamouda A/Radi.
				18.El Bella El Bashir Mohd.

Cont....

Sites	Camping Area	Fareigs	Sub-Tribe	Panel Families
	Shaira	Wad Mohd. Ahmed	Wad Hwati	19. Ahmed Mohd. Ahmed Mohd.
			"	20. Mohd. Ahmed Ali
			"	21. A/Rahman Mohd.
			"	22. Mohd. Ahmed Mohd.
Abu Gemai	Khor Mako West.	Wad Kua	"	23. Mohd. Ahmed Iddris
			"	24. Mohd. Ahmed Eisa.
			"	25. Iddris Sahal.
			"	26. El Zein Osman.
			"	27. Ali Iddris Ali.
			"	28. Rabih Abu Zeid.
			"	29. A/Rahman Iddris.
			"	30. El Naeim Abu Zeid.
			"	31. Mohd. Ahmed Iddris.
			"	32. Mohd. Abu Zeid Iddris.
	Khor Mako East	Wad Gubara	Wad Bidega	33. Ali Gubara Mohd.
			"	34. El Awad Mohd. Ahmed.
			"	35. Mohd. Ahmed Guma.
			"	36. Abd Ellahi Mohd. Iddris.
			"	37. Musa Abdel Radi.
			"	38. Ahmad El Badwi.
			"	39. Yousif Mohamed.
			"	40. Mohd. Hamouda Iddris.
			"	41. El Amin El Hadi.
			"	42. Mohd. Adam Gubara.
			"	43. Musa Fadl Alla.

APPENDIX (1) Cont..

Sites	Camping Area	Fareigs	Sub-Tribe	Panel Families
Kharen-Kharen	Khor Hassan	Sleiman Yousif	Fellata	44. Ali Abakar Abdalla.
			Malli	45. Adam Yousif.
			"	46. Abdel Allahi El Hag.
			"	47. Adam Mohd. Abdel Allahi
			"	48. Ibrahim Adam.
	Khor Hassan		Fellata	49. Soleman Yousif.
			Waiyla	50. Mohd. Musa Osman.
			"	51. Mohd. Adam.
			"	52. Adam Yagoub.
	Dokan		Umm Bararo	53. Mohd. Abakar.
			"	54. Abdel Allahi Babo
			"	55. Abdo Mohd. Sado.
			"	56. Bashir Babo.
Gumreig	Khor Uffat		Ingessana	57. Sandoul Gor Toom.
"			"	58. Ali Digeis.
Gabaneet			"	59. Mesmeas Ging.
"			"	60. Korda Kere.
Fadimya			"	61. El Tayeb Guma'a.
"			"	62. Sirdar Sim Neem.
"			"	63. Ahmed Hamza Ali.
"			"	64. Jackolo Ladeik.

APPENDIX II:

QUESTIONNAIRE FOR STUDY OF NOMADS OF BLUE NILE INTEGRATED AGRICULTURAL DEVELOPMENT PROJECT

1. Identification:

1.1. Questionnaire No.: _____

1.2. Date: ( ) ( ) ( ) ( ) ( ) ( )

1.3. Place: _____

1.4. Location: _____

1.5. Category:

Nomad( ) Semi( ) Settled( )

2. Basic Data about Respondent:

2.1. Name of Respondent: _____

2.2. Tribe of Respondent: _____

2.3. Khashum Beit of Respondent: _____

2.4. Number of other households living at this site:

_____

2.5. Relationship of respondent to these households (to be explored more in note book):

_____

2.6. Number of years respondent has been visiting or settled at this site:

( ) ( )

3. Demographic Characteristics of Respondent:

3.1. Age of respondent: ( ) ( )

3.2. Sex of respondent: Male( ) Female( )

3.3. Marital Status:

Single( ); Married( ); Divorced( );

Widowed ( ).

3.4. In Case married, how many wives and ages?

One ( ) ( )

Two ( ) ( )

Three ( ) ( )

Four ( ) ( )

3.5. How many children do you have?

Sons( ) ( ); Daughters( ) ( ).

3.6. Ages of Children living presently with you

Age Group	Number S	Number D
0 - 4	( )	( )
5 - 9	( )	( )
10 -14	( )	( )
15 -19	( )	( )
20 -24	( )	( )

3.7. Do you have dependents living with you at same home?

Yes( ) No( )

3.8. If yes, specify:

- Number ( ) ( )
- Sex; (How many) Males( ); Females( ).
- Age; ( ) ( ) ( ) ( ) ( ) ( )
- Relationship: M( ) F( ) B( ) S( )

Others:_____ _____

3.9. Educational Level of Household members:

Members of Household:	I	K	E	In	S	PS
Head Household	( )	( )	( )	( )	( )	( )
Wives:						
1st. Wife	( )	( )	( )	( )	( )	( )
2nd. Wife	( )	( )	( )	( )	( )	( )
3rd. Wife	( )	( )	( )	( )	( )	( )
4th. Wife	( )	( )	( )	( )	( )	( )
Sons: Age						
1st. Son	( )	( )	( )	( )	( )	( )
2nd. Son	( )	( )	( )	( )	( )	( )
3rd. Son	( )	( )	( )	( )	( )	( )
4th. Son	( )	( )	( )	( )	( )	( )
5th. Son	( )	( )	( )	( )	( )	( )
6th. Son	( )	( )	( )	( )	( )	( )
7th. Son	( )	( )	( )	( )	( )	( )
8th. Son	( )	( )	( )	( )	( )	( )

Cont..

	I	K	E	In	S	PS
9th. Son	( )	( )	( )	(	( )	( )
10th. Son	( )	( )	( )	(	( )	( )
Daughters:						
1st. D	( )	( )	( )	(	( )	( )
2nd. D	( )	( )	( )	(	( )	( )
3rd. D	( )	( )	( )	(	( )	( )
4th. D	( )	( )	( )	(	( )	( )
5th. D	( )	( )	( )	(	( )	( )
6th. D	( )	( )	( )	(	( )	( )
7th. D	( )	( )	( )	(	( )	( )
8th. D	( )	( )	( )	(	( )	( )
9th. D	( )	( )	( )	(	( )	( )
10th. D	( )	( )	( )	(	( )	( )

3.10. For those who attended education, where they had attended it ?

Place:_____ Location:_____

3.11. Why the above place was preferred ?

_____

3.12. For those who had no education, what were the reasons ?

_____

4. Livestock Raising:

4.1. Do you own animals ? Yes( ) No( )

4.2. In case "Yes" What types and numbers ?

Sheep ( ) ( ) Cattle ( ) ( )

Goats ( ) ( ) Camels ( ) ( )

Donkeys ( ) ( ) Chickens ( ) ( )

Dogs ( ) ( )

4.3. Which of above animals was the original livestock of the family ?

_____

4.4. Is it still the main one ?

Yes( ) No( )

4.5. If "No" What type became the main( ) ?

_____

4.6. What grazing systems you follow for different types of animals ?

Sheep:

a) Raboub _____

B) _____

Cattle:

a) Raboub_____

b)_____

Goats:

_____

4.7. What is the manageable herd size ?

	No.
a) Sheep	( )
b) Cattle	( )
c) Goats	( )

4.8. Grazing conditions with regard to different animals

Sheep:

a) Raboub _____

b) _____

Cattle:

a) Raboub: _____

b) _____

Goats: _____

4.9. Which of different grazing lands (Kerab, badoba, gerif land and Khor) have shown signs of shrinkage in area and disturbance in ecology in recent years ?

_____

4.10. Why ? _____

4.11. What are the main diseases of animals losses, replacement during last year ?

a) During dry season:

Sheep: _____

Cattle: _____

Goats: _____

Camels: _____

b) During Wet Season:

Sheep: _____

Cattle: _____

Goats: _____

Camels: _____

4.12. What animals you sol last year ?

	No.	Age	Return(LS.)
Cattle:			
	( )	( )	
Sheep:			
	( )	( )	
Goats:			
	( )	( )	

4.13. Rank above animals sold according to preference of selling: (1, 2, 3) :

Cattle ( )

Sheep ( )

Goats ( )

4.14. What are your reasons for above rankship ?

4.15. When did you sell and at what market places ?

Month	Market Place
_____	_____

4.16. Howyyou spent your income from sales of livestock ?

- Family needs _____
- Taxes _____
- Herd expenses _____
  a) herdsmen _____

b) Supplementary feeds _____

c) Salt _____

- Bought animals _____
- Compensations _____
- Investment in Agriculture _____
- Drugs and Vaccines _____
- Savings _____
- Other (Social) _____

5. Agriculture:

5.1. Do you cultivate ? Yes( ) No( )

5.2. If "No" Why ? _____

5.3. If "Yes" where do you cultivate, and why have you choosen that place ?

Place	Location
_____	_____

5.4. When did you start cultivating for first time, and how many times have you cultivated since you started ?

_____

5.5. Types of crops and acreage, last time you cultivated ?

Type	Acreage	Amount
_____	_____	_____

5.6. Rank above crops according to importance, 1, 2, 3.

Type	Rank

5.7. Give reasons for above ranking ?

5.8. Which family members are involved in agriculture ?

5.9. What did you do with crops produced ?

Type	Use

5.10. In case sold crop, how much cash raised ?

5.11. In case produced dura as staple food, had quantity produced met family needs or purchased additional amonnt ? What was that amount ?

5.12. Do you usually buy from market, relatives, or non-relative settlers ?

5.13. Have you increased the plot you cultivated during the last five years and by how much ?

5.14. If "Yes" reasons for increasing ?

5.15. In case "Yes" have you used machinery or still depend on hand tools ?

6. Services:

6.1. What types of services exist in this area and utilized by respondent ?

Water Supply:

Type	Site	Date

Veterinary:

Type	Site	Date

Schools:

Type	Site	Date

Health:

Type	Site	Date

Security:

Type	Site	Date

Courts:

Type	Site	Date

6.2. State problems you face when you use these services ?

6.3. If you are asked to rank services according to importance to you, state your ranking order ?

_____

6.4. If above important services are to be provided where to be located:

_____

6.5. Are you ready to contribute to the provision of these services ?

Yes( ) No( )

6.6. Which kind of contribution do you prefer ?

Cash ( )
Cash and Labour ( )
Labour only ( )

6.7. Do you prefer purely nomadic services or to be shared with settled communities ?

_____

6.8. If shared which settled tribe do you prefer ?

_____

7. Nomads Association:

7.1. What is your relation with nomads Association ?

_____

7.2. If you are not satisfied with the nomads Ass., what is the best form you suggest ?

_____

8. Model:

8.1. If you are asked to suggest a place for services provision, e.g. health, education, co-op. etc. in this Damaring centre, which place(s) you suggest ?

_____

8.2. What are the most suitable sites you suggest for settlement in this area ?

_____

9. Perception:

9.1. How do you perceive adequate pasture land ?

_____

9.2. List problems that are facing grazing lands and migration routes during the last 10 years ?

_____

9.3. Do you think that land appropriated for big ivestment schemes is creating problems to you ?

(Yes( ) No( )

9.4. If "Yes" in what way _____

9.5. Do you feel, any increases in areas cultivated by settlers,

Yes( ) No( )

9.6. If "Yes" in what ways ? _____

9.7. What kind of adjustment you have taken in facing these problems arising from expansion in agriculture ?

_____

9.8. What form of development you consider as most appropriate to meet your interests and those of investors ?

_____

9.9. How do you perceive settlement as a way to better life ?

_____

9.10. How do you perceive the scheme as a model for improving your life conditions ?

_____

9.11. In what form are you ready to enter in this scheme ?

- As a settler ( )
- As a settler with a limited number of livestock ( )
- As a service user only ( )

9.12. If the scheme under present form does suit you, what alterations you suggest in making it acceptable to you ?

9.13. In case made acceptable to you suggest the kind of community you prefer to live with ?

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10. Villager's opinion about the nomads:

10.1. Which nomadic groups come to this area regularly ?

10.2. What are the problems created by nomads in this area ?

10.3. What kind of suggestions you make to solve the problem of nomads in future ?

10.4. Do you agree to have nomads settled with you in this same village ?

Yes( ) No( )

10.5. If "No" why ?

10.6. If "Yes" which group you prefer ?

Ruffa'a El Hoj( ) Jmm Bararo( ) or Ingessana( )

10.7. Do you object to nomads being settled at separate sites within the scheme area ?

Object( ) Don't object( )

10.8. If object Why ?

_____

10.9. Are you ready to share services with nomads ?

Yes( ) No( )

10.10. If "No" why ?

_____

11. Co-operatives:

11.1. What do you understand by co-operative ?

_____

11.2. Are you willing to get involved in a co-op. association ?

Yes( ) No( )

11.3. If "Yes" why ? _____

11.4. If "No" why ? _____

11.5. State the best method of forming a co-operative association ?

_____

11.6. On what basis you made your suggestion ?

_____

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