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# ADAPTIVITY AND RATIONALITY
## The Didinga Ethno-Agrarian Mode of Adaptation

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Abstract

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Farming systems analysis is a generic term including various approaches to the "systemic" study of agriculture, but with one aspect in common: interdisciplinarity. Farming systems analysis has been very important in order to comprehend the bio-physical and economic context within which local farmers operate. There is, however, one deficiency that is common to most of the farming systems approaches, namely that the cultural variable is missing. Although the concept "ethno-agrarian mode of adaptation" is meant to comprise the most important aspects of the multifaceted relationship between nature, people and culture, it implies an approach to farming systems analysis where the cultural component is given a prominent position. The concept maintains that among particular human groups sustaining their livelihood within given environmental constraints, an "adaptive" technology will be generated. The technology is here seen as a part of the total cultural pattern specific for a given ethnic group. Ethno-agrarian modes of adaptation indicates a systemic approach to the understanding and analysis of human groups in various agroecological settings, and it asserts that the relations between human groups and nature are basically rational recognizing the cultural premises and the natural surroundings. According to the concept, culture is perceived as an "operative system" governing the other societal "programmes", including, among others, the "programme" for agricultural cultivation. The concept is applied on a study of Didinga farmers in the Equatoria Province of the Sudan. The Didinga are agricultural producers founding their livelihood on an agro-pastoral adaptation pattern. The Didinga farmers are perceived as rational producers but not necessarily in the way that the conception of rationality is applied by Western economists. The rationality signifying the Didinga is analysed in the perspective of the articulation between economy and ecology where economy is conceptualised as a culturally-mediated field of human activity. In the articulation between economy and ecology, adaptivity is the ultimate concern. Consequently, rationality is conceptualised as the human capacity to adapt, and, further, that the human capacity to adapt is fundamentally related to human culture. Hence, the conception of "culturological" rationality.

Key words: African agriculture, Farming systems analysis, Ecological adaptation, Culturological rationality, Didinga, the Sudan, Equatoria Province.

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To Syver -
my father and son

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## Preface

In the period November 1983 to May 1986 I worked for the Norwegian Church Aid/Sudan Programme (NCA/SP). The NCA/SP's area of operation was the East Bank of the Eastern Equatoria Province, the Sudan (see Map, below). The first ten months I held the position as Administrator of the Agricultural Project (AP). During this period I was embarking on the assignment of establishing an agricultural extension system covering the East Bank. To have the opportunity of devoting more of my time to extension, I was in August 1984 appointed Head of Extension within the AP. A position I held up to January 1985. After the whole NCA/SP had been reorganized with Sudanese staff taking most of the leading positions, I became the counterpart to the Sudanese Head of Extension, titled Extension Advisor.

My interest for agricultural extension was raised when the "father" of the "Training and Visit System of Agricultural Extension" ("T&V-system"), Daniel Benor, visited the Agricultural University of Norway in October 1983. With my background in Social Anthropology, I felt that extension was a field within agricultural development particularly suited for social scientists.

This dissertation is a result of the information I gathered when performing my duties as an extensionist. During the whole period I was working for the NCA/SP I travelled extensively, and made frequent visits to all the different ethnic communities on the East Bank. During these visits I had many discussions with farmers, chiefs, elders and governmental staff. I had the opportunity to follow closely the production processes. I also participated in meetings, court trials, weddings and village dances. Through this informal process of data gathering I gained a rather substantial amount of information.

When the Agricultural Project embarked on the practical introduction of the T&V system into the different ethnic communities, it was felt that more information were needed both regarding sociocultural factors, farming systems, and agro-ecological adaptation patterns. So, to lighten the task of fitting the T&V system into the local social and natural environments, a community survey using a formal survey methodology with questionnaires was performed.

It was an interesting experience for me personally that the longer I worked together with the local farmers, and the closer I came in contact with their way of acting and thinking, the more I realised that the farmers operated within a farming system framework which was very "logical" and very efficient taking their bio-physical options into consideration. But it also became evident to me that what the farmers did was fundamentally linked to important features of their society and culture, and that any effort to assist in the development of their agriculture had to take these factors into thorough consideration.

The reason why the Didinga became the main topic of this presentation is mainly related to the fact that in January 1984 I was transferred to Kapoeta. This meant that the major part of my activities were connected to the eastern groups: the Toposa, the Didinga, and the Boya. My initial aspiration was to write about all these three groups, but I soon found out that that task became to great. I then decided to concentrate on the Didinga.

## Acknowledgments

The accomplishment of this dissertation is truly a result of the common efforts performed by a great number of actors. First of all, when working in the Sudan, I had the opportunity to co-operate with a large number of co-extensionists, researchers and others without whose help neither my work nor this dissertation could possibly have been materialised. Two among my colleagues, Francis Buke and Cesar Okumoro, are now dead. Francis was, together with Barnabas Okot, my closest associate when working in Didinga and Boya, and together we toured the Didinga- and Boya-land throughout several times. Barnabas lead the work with the field measurements, and did an excellent job. Other close companions were Secondo Igga (who later became Head of Extension), Hicks Ambira, Cirino Oketayot, Jackson Tokwiny, Albino Ukech, Anisia Achieng, Joyce Muja at the Headquarters at Hilieu; Mamur Ben, Andrew Laxton Athiba, Marko Lokale and Musa Lonyia in Toposa; Odwa Amwal, Aloisio Clement and Nicholas Odwa in Lotuko, Lango, Lopit, Lokoiya and Lokoro; John Ochan, Richard Okot and Alfred Adali in Acholi; and Savio Androga and Joseph Drani in Madi, Lulubo, Southern Bari and the refugee camps.

Although one or two of the expatriate staff were a bit hesitant to the new extension system, I had, altogether, a good and fruitful co-operation with them all: Sigurd Bjørtuft, Erik Dahl, Erik Torskenæs, Per Grimsby and Lars Kvalvåg.

I would also like to thank the other expatriates at Kanachakori in Toposa. It was a lonely place, so we had to make the best out of it (and we did): Erling Njøs, who was turning the East Bank into a flourishing garden, Gunvor Holtet (who has kept up her work on the East Bank up to now), Kirsten Nesset, and Bjørn Utkilen (the only one I've beaten in Chess more than once).

I must say that without the full backing of my two "bosses" in the Agricultural Project, Roald Øygard and Trygve Berg, it would never have been possible for me to go ahead with my "grand" project. I am thankful for the confidence they showed me when giving me free hands to follow up my plans and aspirations. Trygve Berg has later, as a colleague at NORAGRIC, read my manuscript and given valuable comments.

I am also very grateful to Oddvar Espegren, the Director of NCA/SP and the administration at the Headquarters in Oslo with "Jappe" Eriksen in the lead. They did an enormous job to release me after I was taken hostage (efforts which, of course, was an essential precondition for the accomplishment of this dissertation).

It has taken about nine years since I arrived Sudan up to present. My wife, Astri, has been with me for the greater part of this time. That she is still with me is

something close to a miracle, and I am so grateful. My son, Syver, was born two and a half year ago, approximately at the same time as I started the process of compiling my data. The last year or so he has barely seen his father. I am sorry Syver, but from now on you will get a higher priority.

Per "Mac" Bratterud has been most valuable in the lay-out and printing process, my sister-in-law "Lose" has helped me with the figures, Ingrid Nyborg has assisted me with the language (don't blame her) and other piece-work. A great hug to all of you, and to all my colleagues at NORAGRIC.

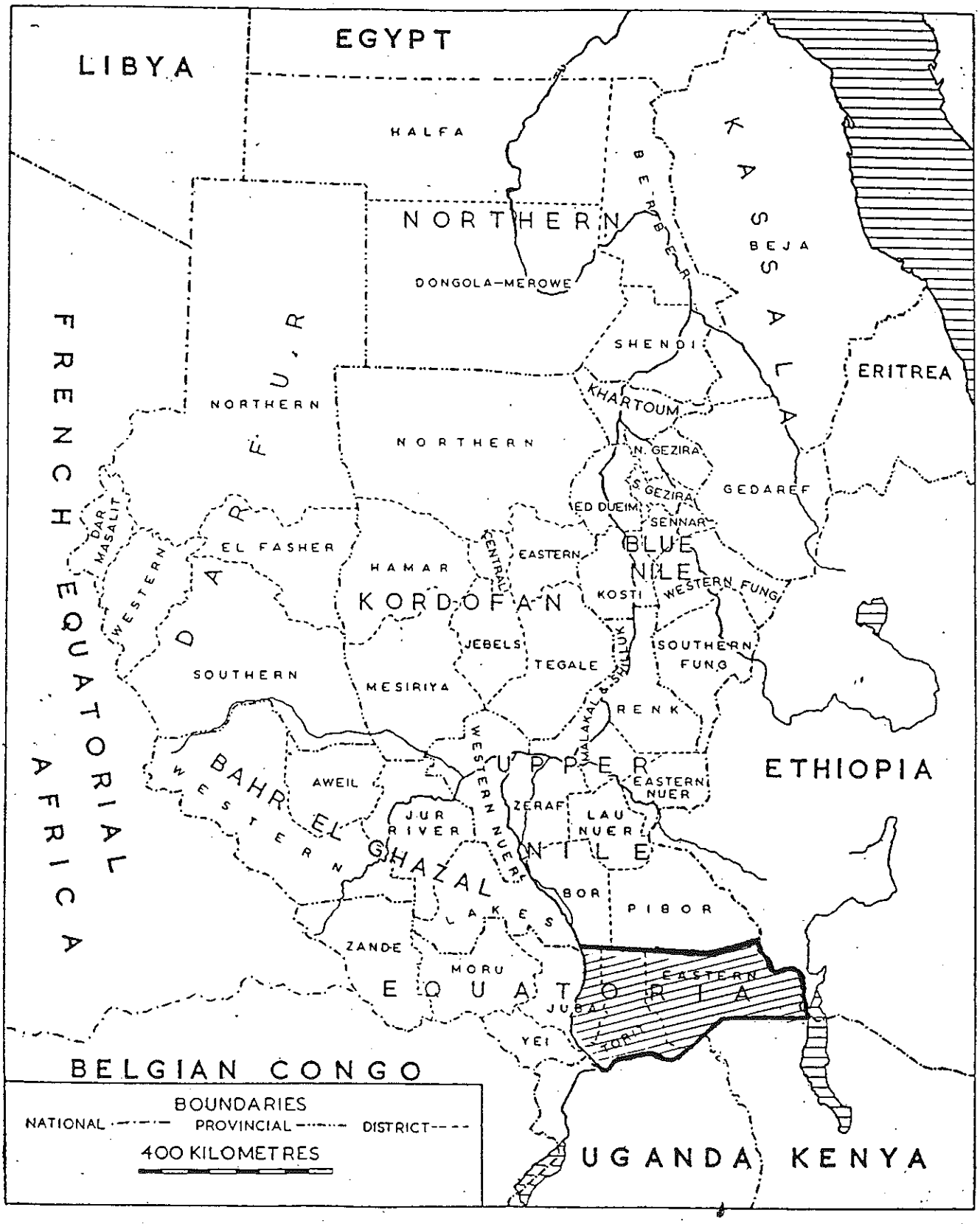
Thanks also to Ragnar Øygard, who, as an economist, has had the ungrateful task of supervising an anthropologist. I don't think it has been all that easy for you all this time.

If I should mention all the Didinga that in one respect or another have contributed to my work, it would have been an insurmountable task. I will, however, mention some few among the most crucial: Head chief Joseph Nakua, chief Jerofacio of Lorema, chief Benjamin Atau of Lotukei and sub-chief Raymondo Lokiro of Kikilai who were my main informants about the "Didinga way of life"; the Didinga farmers Joseph Lokong, Lauro Lobocho, Christopher Komalem, Mateo Lokitore, Valeria Naboy, Peter Gothil and Birimina Lukuja who were my main agricultural informants; Peter Lojana and Ejidio Awai, who, through discussions and written comments, have virtually lead me by their hands through the Didinga "sociocultural environment"; Father Dario, Paul Lonyia, Maurice Aporu, James Lomilo, Maurice Lokonyen, Simon Loboi, Alfed Timai, Rino Loremo Arungole, Ajeo Lomor Loki, Marino Tiboi, Arkanjelo Kamilo Logi, Albert P. Lowala, and Ignatius Louta who have answered all kinds of possible and impossible questions.

Lastly, I will mention the Norwegian Research Council for Sciences and Humanities, NAVF, for funding my research, and NORAGRIC for having supported me with the necessary infrastructure.

**Thank you all so much!**

Map: The Sudan and her provinces (the East Bank of the Equatoria Province is shaded).




From Sudan Surveys Topo. No. S 813-55 (adapted from Barbour 1961, fig.1).

# I

# INTRODUCTORY PART:

# SETTING AND MODEL

# CHAPTER 1

# INTRODUCTORY REMARKS

The paramount ambition of this dissertation is to conceptualise the Didinga mode of ecological adaptation. The Didinga is an ethnic group inhabiting the south-central area of the eastern bank of the Eastern Equatoria Province of the Sudan (hereafter called the *East Bank*) (see map above). Their mode of adaptation is monitored "systemically" in the context of the prevailing social, cultural and natural conditions. Through these efforts, I hope to achieve two principal objectives: Firstly, to describe and analyse the actual "systemic" character of their mode of adaptation. To accomplish this objective, I will first present a model where the various parts of the system are discussed. This model borrows many of its basic features from other models belonging to the tradition of "farming systems research". As those models, generally, are too little concerned about typical cultural patterns and social institutions at the local community level, I have added some new features to accommodate what I conceive to be relevant explanatory factors.

After the presentation of the model, I proceed by introducing a rather detailed empirical case study of the Didinga, displaying what I conceive to be the most notable features of their system of adaptation. As I consider culture to be the "operating system" of any type of ecological adaptation, much emphasis will be placed upon the cultural/sociocultural factors.

The Didinga mode of adaptation can be conceived as a "homeostatic" system consisting of natural, social and cultural processes operating together in a self-regulating manner. As any other such system, the Didinga mode of adaptation consists of particular processes creating a system with its own inner logic. According to this, my second objective is to describe and analyse the inner logic, i.e. the rationality, underlying the Didinga mode of adaptation.

In accordance with these objectives, the dissertation is divided into three parts. The "Introductory Part", comprising this chapter, and chapters 2 and 3. In chapters 2 and 3, two contextual parameters are presented: the East Bank "setting"; and the systemic model of the mode of adaptation. In the second part, comprising chapters 4, 5, 6 and 7, I am introducing the Didinga "case study", a monographic presentation containing descriptions both on the natural (agro-ecological)

environment, the agro-technical conditions, and the sociocultural "livelihood" of the Didinga. While the presentation of the natural and the agro-technical factors are rather forthright and empirical in character, the presentation of the sociocultural factors is more complicated, and of a greater analytic importance. This because I perceive culture to incorporate the "cybernetic" features controlling the entire system, i.e. the mode of adaptation. It is my intention to present social institutions and cultural values and beliefs that quite considerably pattern the Didinga's "way of life".

In the third and "Conclusive Part", comprising chapter 8, I am concluding by focusing on the rational character of the Didinga mode of adaptation, admitting the powers and influences stemming from both social, cultural and natural factors. To simply my analytic task, I concentrate primarily on the articulation between economy and ecology. In order to grasp the essentialities of the rationality signifying the Didinga economy, I do, via a discourse, contrast a typical neo-classical type of rationality with a more typical "culturological" type of rationality. To sum up this discussion I introduce "scheduling", a concept that makes it possible to compare various types of rationality. Even if I in Part III apply some idealised examples from Didinga, the broad empirical presentation in Part II is also meant as a background for this part of the dissertation.

# CHAPTER 2

# THE EAST BANK SETTING

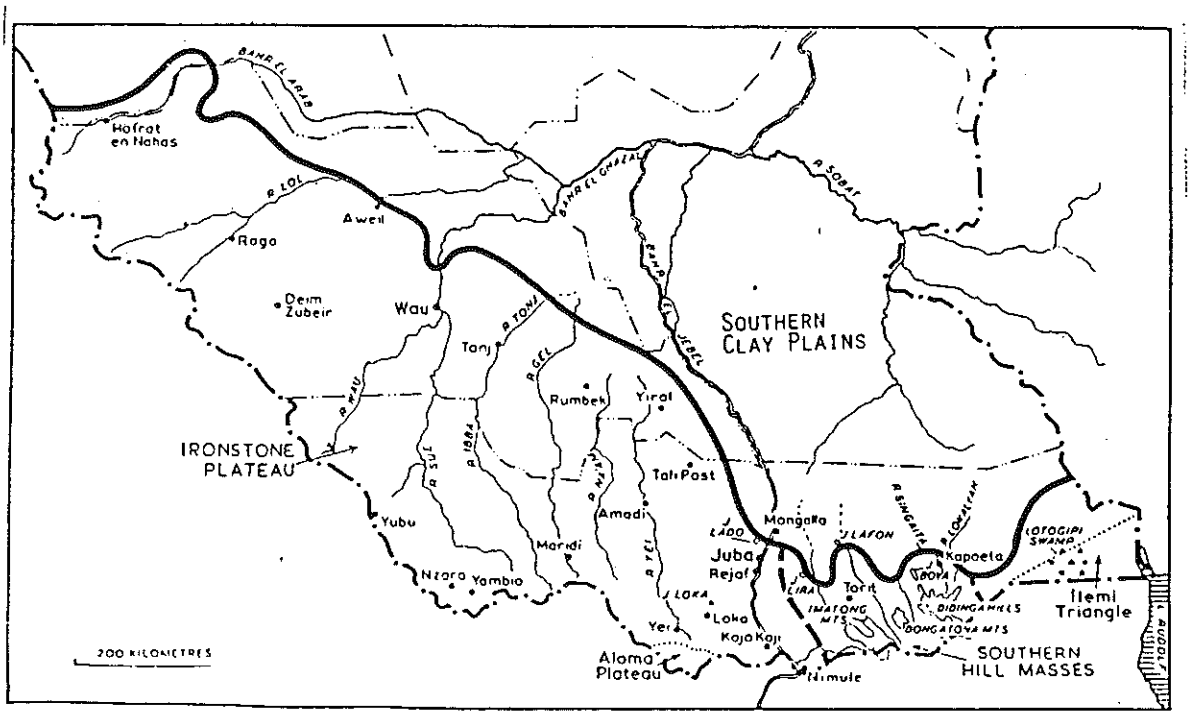
As the Didinga are very much integrated in the total East Bank setting both economically, politically, socioculturally and ecologically, I will in this part of the description look at some background factors which are of significance in order to illuminate the position and the situation of the Didinga more comprehensible.

## 2.1 BIO-PHYSICAL CONDITIONS

### 2.1.1 Geography

The East Bank is situated approximately between 4° and 5° Northern latitude and between 32° and 36° Eastern longitude. The area covers something around 100.000 $km^2$, and borders the river White Nile (Bahr el Jebel) to the west, Uganda to the south, Kenya to the south-east, Ethiopia to the east, and the provincial border of Upper Nile to the north. From the Nile to Kapoeta (roughly between 32° and 34° E) the area is dominated by a series of mountain ranges (see "Topography", 2.1.2, below), especially along the southern border. North of these mountain ranges (roughly between 5° and 6° N) there is a plain (the "Northern Plain") merging with the vast "Flood Region" (dominating most of the Upper Nile and Bahr el Gazal provinces). Within the "Eastern Plain", the area from Kapoeta to the Ethiopian frontier (roughly between 34° and 36° E) where the escarpment of the Ethiopian mountains makes a natural boundary, there are no larger mountains or hills. Together the Eastern and the Northern Plains constitute between half and two-thirds of the total East Bank area. According to Barbour (1961), both these plains are situated within the "Southern Clay Plains" (pp. 235-250). On these plains hardly any cultivation takes place, and we find no permanent settlements. The area is extensively used as grazing grounds by pastoralists from both Equatoria and Upper Nile provinces, and the pastoral Toposa have raised semi-permanent cattle camps both in the Eastern Plain and in the eastern part of the Northern Plain.

Fig. 2.1: The major geographical divisions of Southern Sudan.




From K.M. Barbour (1961): Fig. 97, p. 250.

Based on physical conditions (soil, climate and vegetation), we may, by applying Barbour's classifications, divide the East Bank into two major regions: 1) The Southern Clay Plains (largely covering the northern half of the East Bank), and 2) the Ironstone Plateau and Southern Hill Masses (largely covering the southern half of the East Bank) (see Barbour 1961: fig. 92, p. 235, and fig. 97, p. 250). The Southern Clay Plains are "extremely" flat and characterised by "exceptionally" small differences in relief. These natural features together with a combination of considerable rainfall occurring in the summer and the Nile's habit of overflowing it banks at the same season, causes various degrees of flooding, and "It is this which determines the type of natural vegetation, the utility of the land for grazing or cultivation, and indeed the whole nature of the region as a field of human occupation" (Barbour 1961: 234). Among the East Bank groups, the Lokoro and the Toposa are the ones utilising the land in this region most extensively. Both groups utilise only small parts of the land for farming, exhibiting a rather simple cropping system with sorghum as the dominating component. The major

importance of this area is related to its importance as pasture for the herds of several ethnic groups, including, in addition to the two already mentioned; Dinka, Mundari, Lotuko, Boya, and groups living at and around the Boma Plateau.

While the Ironstone Plateau extends into a relatively small area of the East bank (the area closest to the Nile), covering mainly the ethnic areas of the three agricultural groups, the Madi, the Southern Bari and the Lulubo, the Southern Hill Masses include a significant proportion of the East Bank, namely the central and south-eastern parts of the East Bank, i.e. the areas in and around the Imatong, Acholi, Dongatona, Lafit and Didinga Mountains. The groups living within the Southern Hill Masses are the Acholi, Lokoiya, Lotuko, Lango, Didinga and Boya. While the two former groups are overwhelmingly agricultural, the four latter are all agro-pastoral, but with various degrees of importance attached to the animal and crop component. The area of the Toposa represents, in many ways, an extreme south-eastern outlier of the Ironstone Plateau-Southern Hill Masses. Although the area has, to a great deal, been formed by the water and the soil deposits stemming from the Didinga Mountains, its aridity and particular soil features makes it rather different from the rest of the region.

The Ironstone Plateau, with a rainfall ranging from about 1000 mm to approximately 1500 mm, enjoys a distinctly wetter climate than the southern clays. The high mountain masses rise steeply from red-loam pediments surrounded by clay plains. The drainage of the mountains is either by torrents flowing to the Nile, or by seasonal streams flowing to the north and gradually disappearing in the plains. While the soils of the Ironstone Region, in general, are of rather low fertility, the arid conditions and the great differences in relief in the eastern areas of the East Bank have produced good fertility soils of the alkaline catena type. The presence of tsetse flies makes animal husbandry very difficult, and it is only in far south-eastern area (the Toposa area) and in the area denoted "Southern Hill Masses" that pastoralism separately, or in combination with agriculture, is practised to any degree. The hill masses introduce a complicated pattern of soils and vegetation, and the agricultural systems and settlements patterns reflect this diversity. In the greater part of the Latuko/ Lango/Lopit area, the cultivated land consists principally of aprons of rich, dark brown to black soils of the alcaline catena type receiving much ground moisture from the run-off from the hills. In this area, the settlements are situated on the plains along the basis of the mountains. The Acholi, living to the south and east of the Imatong-

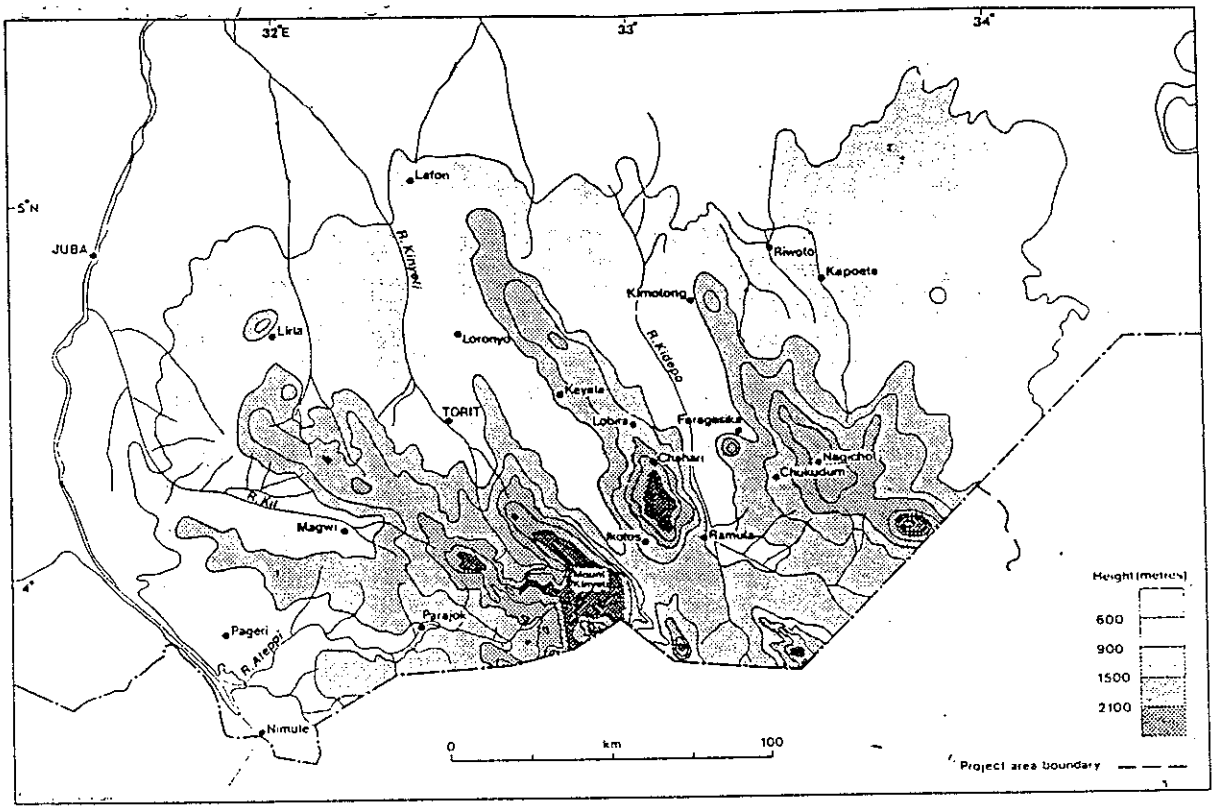
Acholi Mountains, and the Lotuko/Lango living immediately to the north of these mountains, do also cultivate the red, loamy soils of the undulating foot hills of the mountains (Barbour 1961: 249-260). While the Acholi live in clusters of homesteads along the foothills and the slopes of the mountains, the "plain Lotukos" (including the Lango of the Imatong plains) generally live in large village settlements, and "the hill Lotukos" (including here the Lafit and the of Lango the Dongatona Mountains) live in small settlements up in the mountains.

In the south-eastern corner of the Ironstone Plateau/Southern Hill Masses we find the area containing the Didinga, the Boya and the Toposa. North and west of this area we find a plain, consisting of dark cracking clay, which is mainly utilised for grazing cattle and small stock. Centrally, we find the Didinga Mountains and its outliers, the Boya Hills. The soils are mainly alcaline catena and red loams. The climatic conditions are, although somewhat drier, approximately similar to those of the Imatong/Acholi Mountains. Along the eastern frontiers of the region (towards Ethiopia and Kenya) we find well-drained clayey loams (Barbour 1961: 260). This area is important as pasture both for the Toposa, the Turkana (of Kenya), and the Nyangatom (of Ethiopia)

Livestock is important to both the Toposa, the Boya and the Didinga; least for the Didinga, who are able to utilise the favourable conditions of the mountains; most for the Toposa, who are living in the driest area of the East Bank. But farming is also of vital importance for all three groups, least for the Toposa, most for the Didinga. While the Didinga perform a rather complex agricultural system involving a great number of crops, intricate cropping patterns and farming in several ecological zones, the Toposa's agricultural system is rather rudimentary; it is almost entirely performed by women, it is involving almost exclusively the cultivation of sorghums, and it takes place within one, rather homogenous, ecological zone.

## 2.1.2 Topography

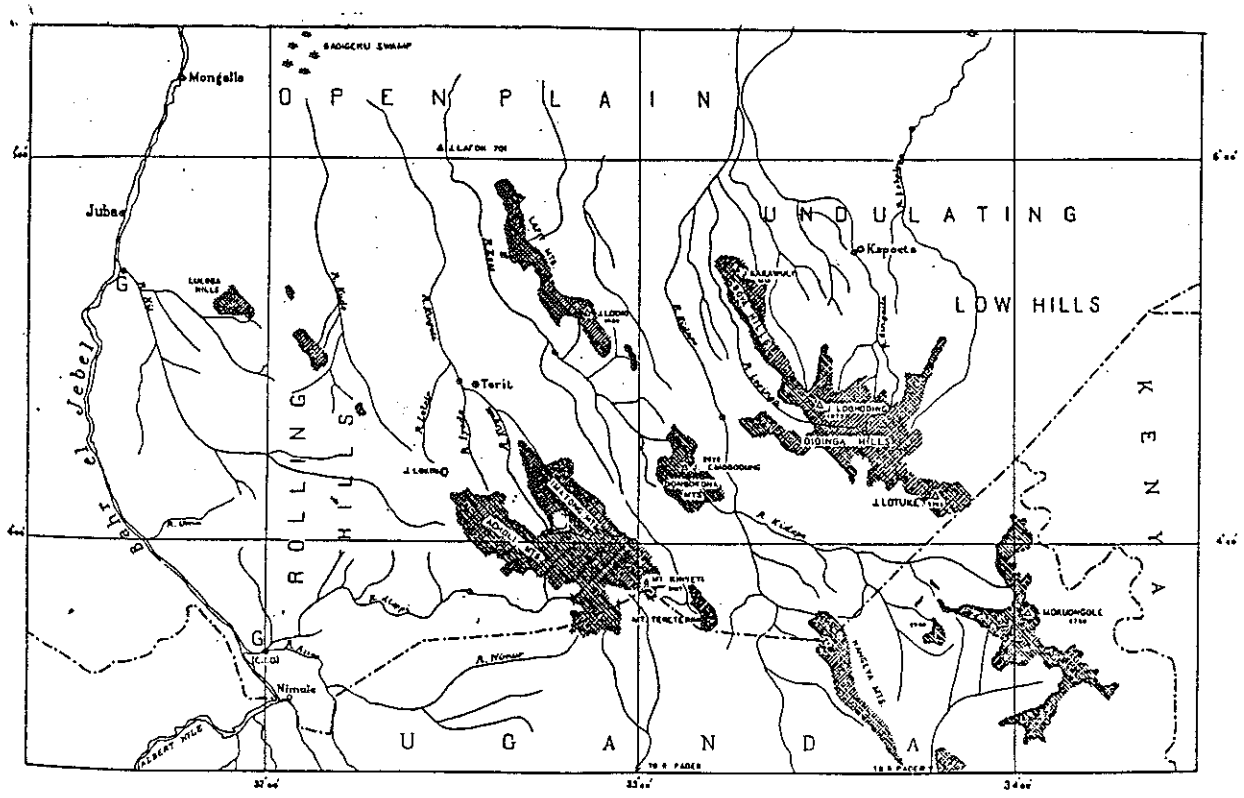
Fig. 2.2: East Bank topography and drainage.




Source: Development Project Unit, Juba.

Even though the East Bank area is marginal to the Great Rift Valley zone of East Africa, the fracture lines of the western rift extend into the area and have influenced the formation of the relief features (Lebon 1965). The most conspicuous topographical feature of the area are the mountains on the border between Uganda and the Sudan (see fig.2.2 and fig 2.3). The mountains can be divided into two major groups; the Didinga Mountains (including the Boya Hills), and the Imatong Mountain Range (comprising both the Imatong and Acholi Mountains), and two minor groups; the Dongatona and the Lopit (or Lafit). Besides these groups, there are some individual peaks out of which Mt. Lokiri (1691 m), an inselberg right north of the Acholi Mountains, is the most outstanding.

Fig. 2.3: East Bank hills, mountains and streams.




Source: Jonglei Investigation Team (JIT) 1954, Map A26.

The Imatong-Acholi Mountains covers an area of about 2000 km$^2$. Within the Imatong Mountains, the highest peak is Mt. Kenyetti (Kinyeti), reaching up to 3.187 m (the highest mountain in the Sudan). Mt. Kedong (2.445 m) is the highest peak within the Acholi Mountains. The highest part of the Imatong Range is a heavily forested plateau (JIT 1954: 3).

The Dongatonas (literally meaning "mountain people") are separated from the Imatong by the valley of River Koss (Hoss). The highest peak is Emogodung (2.623 m). The Dongatonas are only thinly covered with trees. The landed area within the Dongatonas is very fertile.

The Lopit Hills are an outlier of the Dongatonas 15 km to the north-west. The highest peak is Mt. Lodio (1.930 m).

The Didinga Mountains, also covering about 2000 $km^2$, are found east of the Kidepo valley. These mountains are formed of tertiary lavas overlaid by sedimentary rocks (JIT 1954: 3).[1] The Didinga Mountains are generally heavily forested. The Didinga Mts. form the upper catchment area of the major seasonal streams in the eastern areas of the East bank: Losingo, Singaita, Lokalen (Lokalyan) and Loyoro. The highest peak is Mt Lotukei (2.795 m). The Boya Hills with peaks up to about 1400 m (Chivon, 1415 m) are jagged and precipitous.

Whereas the mountains in the area are covered with thin superficial deposits, there are ferruginous deposits round their bases. To the east of the Didinga Mts. (the "Eastern Plain") surface clays extend to the Kenyan border. While the ferruginous deposits are permeable, the clays are impermeable. This fact has an important bearing on runoff water (JIT 1954: 3).

Besides the mountains there are also some important hills and hilly areas, most importantly Lafon and the Lulubo Hills.

The area to the west of the Acholi Mts. towards the Bahr el Jebel (the White Nile) consists of a plateau crossed by the Ateppi river. The rich forest vegetation closer to the mountains gradually changes to a much more sparser vegetation approaching the Nile.

From 5° N and northwards we find nothing but clay plains so flat that the streams quickly fan out and disappear from the surface (JIT 1954: 4).

### 2.1.3 Climate

According to R.P.D. Walsh, the distribution of climatic types in the Sudan is closely related to the seasonal migration of the Intertropical Discontinuity (ITD) which is the boundary between two air masses of contrasting moisture and temperature characteristics: to the north, the dry, stable and rainless air of the north-east trade winds; to the south, the moist, cooler, south-westerly air derived from Equatorial Africa and the tropical Atlantic and Indian Oceans. As the rain belt is situated to the south of the ITD, and as the ITD advance more slowly northwards than it retreats southwards, the length of the rainy season increases from north to south. Hence, according to rainfall, the Equatoria Province is the most favourable province within the Sudan. The East Bank is situated within

[1] Jonglei Investigation Team

two climatic regions: Tropical Wet-Dry, generally covering the Southern Clay Plains, and Tropical Rainy, covering Southern Hill Masses. The Tropical Wet-Dry climatic region is characterised by an annual rainfall of between 800-1200 mm, by 4-6 wet months (rainfall higher than 100 mm per month), and by a long dry season, and a long wet season. Agricultural wise, cattle rearing is dominant, but with some importance attached to millet cultivation. The Tropical Rainy climatic region has an annual rainfall above 1200 mm, there are more than six wet months, the dry season is short, warmest months are in the "winter" dry season. (Walsh 1991: 19-21).

### 2.1.3.1 Temperature

Both the SDIT[2] and the JIT reports give few data regarding temperature on the East Bank. A.W. Ireland (in Tothill 1954: 73-78) does, however, present some temperature data for Torit (altitude 625 m) and Juba (altitude 460 m) that will give some indications for the whole East Bank area. The period of data collection for Torit was 1922-1940, and for Juba 1915-1940.

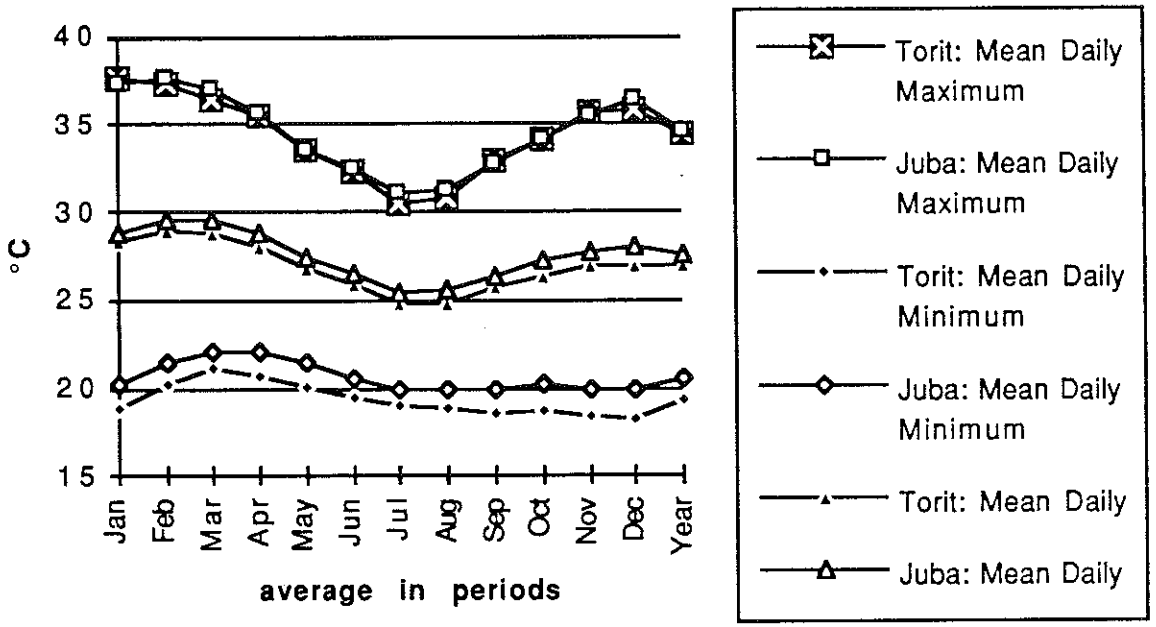
**Table 2.1**: Temperature conditions in Torit and Juba (in °C)

| Month | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | **Year** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Torit**: Mean Daily Maximum | 37,7 | 37,4 | 36,5 | 35,5 | 33,5 | 32,3 | 30,5 | 30,8 | 32,9 | 34,1 | 35,6 | 35,8 | **34,4** |
| **Torit**: Mean Daily Minimum | 18,9 | 20,3 | 21,1 | 20,7 | 20,1 | 19,5 | 19 | 18,8 | 18,6 | 18,7 | 18,4 | 18,2 | **19,4** |
| **Torit**: Mean Daily | 28,3 | 28,9 | 28,8 | 28,1 | 26,8 | 25,9 | 24,8 | 24,8 | 25,8 | 26,4 | 27 | 26,9 | **26,9** |
| **Juba**: Mean Daily Maximum | 37,4 | 37,7 | 37,1 | 35,6 | 33,5 | 32,5 | 31,1 | 31,3 | 32,8 | 34,2 | 35,5 | 36,4 | **34,6** |
| **Juba**: Mean Daily Minimum | 20,2 | 21,5 | 22 | 22 | 21,4 | 20,5 | 19,9 | 19,9 | 20 | 20,2 | 19,9 | 19,9 | **20,6** |
| **Juba**: Mean Daily | 28,8 | 29,6 | 29,5 | 28,8 | 27,4 | 26,5 | 25,5 | 25,6 | 26,4 | 27,2 | 27,7 | 28,1 | **27,6** |

Compiled from A.W. Ireland 1954: tables 2, 4 and 7, pp.74-79

[2]Southern Development Investigation Team

**Fig. 2.4:** Temperature conditions in Torit and Juba (in °C)




Compiled from A.W. Ireland 1954: tables 2, 4 and 7, pp.74-79

In the first part of the 1980s, the NCA/SP conducted temperature measurements at six different RDCs (Rural Development Centres) situated in different areas of the East Bank. Although the information is a bit erratic, it may give some additional insight to temperature conditions in the area. We do, for instance, find some important features: Firstly, the variation from west to east is relatively limited. Secondly, the monthly variation within the same area is limited in range. Thirdly, there are some variations according to altitude.

**Arapi**: Altitude 600 m, situated in the Madi ethnic area in the west, 3°50' N, 31°57' E.

The *monthly maximum* ranges between 30.5°C (July) and 36.9°C (March).

The *monthly minimum* temperatures ranges between 19.4°C (November) and 22.7°C (March). Since measurements for December are not available, it is not possible to calculate the mean annual temperature. (Measurements done 1982-84)

**Palotaka**:[3] Altitude 900 m, situated in the Acholi ethnic area in the west, 4°00' N, 32°27' E.
The *monthly maximum* ranges between 30.1°C (July) and 37.8°C (March).
The *monthly minimum* ranges between 17.8°C (November) and 21.2°C (March). (Data for December n.a.).

**Lafon**:[4] Altitude 460 m, situated in the Lokoro (Pari) ethnic area in the north-central area, 5°01' N, 32°28'E. The *monthly maximum* ranges between 31.6°C (July) and 37.7°C (March).
The *monthly minimum* ranges between 19.8°C (January) and 24.3°C (March). (Data for August, November and December n.a.).

**Torit**:[5] Altitude 640 m, situated in the Lotuko ethnic area in central area of the East Bank, 4°20' N, 32°39' E.
The *monthly maximum* ranges between 30.4°C (August) and 37.6°C (February).
The *monthly minimum* ranges between 17,2°C (December) and 22.7°C (March).

**Chukudum**: Altitude 1500 m, situated in the Didinga ethnic area, in east-central area, 4° 13' N, 33° 28' E.
The *monthly maximum* ranges between 27.2 (August) and 36.3 (February).
The *monthly minimum* ranges between 17.4 (August) and 21.5 (March).

**Kapoeta**: Altitude 670 m, situated in the Toposa ethnic area in the east, 4°51' N, 33°39'E.
The *monthly maximum* ranges between 33.3 (August) and 36.4 (February).
The *monthly minimum* ranges between 21.6 (November) and 25.3 (March). (Data for December n.a.).

Source: Bjørtuft 1984: 20-24

Since these data are so scarce and unsystematic, it is difficult to draw more detailed and significant conclusions.

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[3]Even if Palotaka is situated at approximately the same eastern longitude as Lafon and Torit, the area that Palotaka represents (Acholi) is generally situated to the west of Palotaka.

[4]Lafon is both the lowest laying and the northernmost area in this description.

[5]The measurements are actually made at Hilieu, approximately 12 km east of Torit.

### 2.1.3.2 Rainfall

Generally speaking temperature and rainfall have more effect on climate than any other factors. For the East Bank, rainfall is the principal limiting factor (JIT1954:5).

The South Atlantic Ocean is the main source region of the moist air masses which bring rain to the Southern Sudan when the south-west wind blow. Rainfall is generally higher over mountains, hills and plateaux, and lower over the flat plains. The variation is significant as the rainfall occurring over the high altitude areas is more than 1400 mm per year, and the rainfall occurring over the flat clay plains are 5-600 mm lower. Whereas, for example, the average rainfall in Katire (at the foothills of the Imatong mountains) in the period 1940-52 was 1517 mm per year (with a maximum of 2.471 mm in 1944, and a minimum of 1.255 mm in 1950), the average rainfall (1938-52) in Kapoeta, situated on the south-eastern plains some 125 km to the north-east of Katire, was 800 mm with a maximum of 1.081 mm in 1951 and a minimum of 603 in 1949 (JIT 1954: 6). The annual rainfall average at Gilo (1921-50), situated at about 2000 m up in the Imatong Mts., was 2.261 mm (SDIT 1955, table 1, p. 40).

**Table 2.2:** Monthly and annual rainfall averages in mm on selected sites on the East Bank. (Measurements made in the period from 1921-50).

| Site | Loa | Palotaka[6] | Katire | Torit | Isoke | Nagishot[7] | Kapoeta[8] |
|---|---|---|---|---|---|---|---|
| Latitu. | 03°48' | 04°01' | 04°02' | 04°25' | 04°14' | 04°16' | 04°47' |
| Longit. | 31°57' | 32°28' | 32°47' | 32°33' | 33°05' | 33°34' | 33°35' |
| Area | Madi | Acholi | Lango[9] | Lotuko | Lango[10] | Didinga | Toposa |
| Altitu. | 600[11] | 1300 | 1800 | 625 | N.a. | 1980 | 670 |
| Years* | 6 | 16 | 11 | 28 | 6 | 29 | 13 |
| Jan | 11 | 3 | 4 | 4 | 3 | 6 | 5 |
| Feb | 10 | 48 | 17 | 21 | 3 | 24 | 23 |
| Mar | 24 | 39 | 85 | 45 | 28 | 67 | 55 |
| Apr | 107 | 158 | 131 | 101 | 144 | 101 | 75 |
| May | 145 | 224 | 211 | 131 | 180 | 155 | 117 |
| Jun | 126 | 153 | 184 | 123 | 190 | 152 | 74 |
| Jul | 185 | 207 | 237 | 157 | 254 | 209 | 123 |
| Aug | 100 | 213 | 250 | 142 | 282 | 200 | 133 |
| Sep | 146 | 178 | 215 | 111 | 152 | 98 | 73 |
| Oct | 138 | 107 | 116 | 98 | 116 | 51 | 47 |
| Nov | 66 | 54 | 65 | 40 | 29 | 43 | 35 |
| Dec | 10 | 11 | 16 | 15 | 11 | 13 | 17 |
| Year | 1068 | 1397 | 1533 | 989 | 1392 | 1119 | 777 |

* No. of years that measurements have been made.
Source: SDIT 1955: Table 1, p.40.

Although these data were collected four decades back, it is believed that the general pattern between the various parts of the East Bank is still valid. It appears, however, that one important and dramatic change has taken place for the East Bank as a whole, namely that the over-all precipitation has dropped with more than 10%. While the average annual rainfall in Kapoeta in the first period mentioned was 777 mm, it was down to 694.8 mm in the period between 1980-84 (see Bjørtuft 1984). At Palotaka in the west, the annual rainfall average has dropped from 1.397 mm in the first period, to 1.048 mm in the period between 1978-84 (Bjørtuft 1984). This decrease seems to be a part of a general pattern

[6]Palotaka is situated at the foot of the Acholi Mountains.

[7]Nagishot is situated in the Didinga Mountains.

[8]Kapoeta is situated in the centre of the Toposa ethnic area.

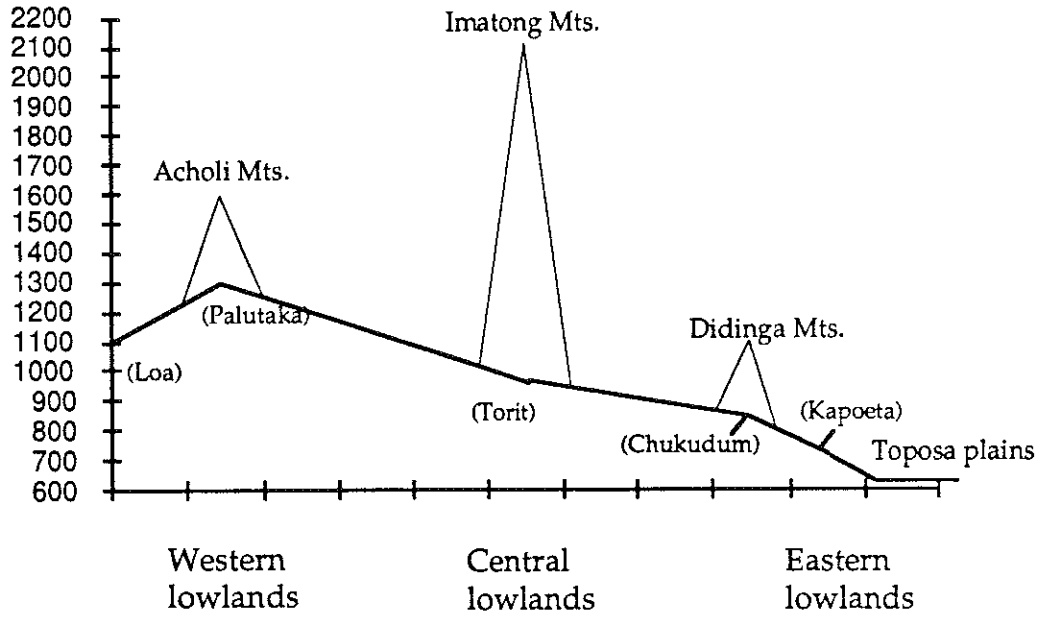
[9]Katire is situated within the Imatong-Lango area.

[10]Isoke is situated within the Dongotona Mountains.

[11]In the JIT-report the altitude of Loa is not given. I have used the altitude of Arapi (collected from Bjørtuft 1984:5) which is situated approximately 2 km north-west of Loa.

applicable to the whole of the Sudan and also the Sahelian zone. According to Walsh (1991), there has been a decline in annual rainfall in the Semi-Arid and Semi-Humid Sudan, particularly since 1965, and this decline has continued and intensified in the 1980s. Employing rainfall data from several places in the Sudan from the turn of the century up to 1983, Walsh depicts three rainfall epochs: a rather dry period during the two first decades of this century; a wet epoch from around 1920 to the early 1960s, and a very dry period from 1965 to date (Ibid.: 39). Furthermore, historical accounts point to a series of dry epochs, of approximately equal severity to the current one, in the 1680s, in 1740-60, 1820-40 and 1895-1920 (Nicholson 1983). Parallel to the decline in annual rainfall, there have also occurred changes in the length, structure and reliability of the wet season. There has been a contraction of the rainy season, particularly at the end of the rainy season, and the reliability of rainfall in the mid-and late-season has also declined (Walsh 1991: 39). To characterise the rainfall pattern at the East Bank from west to east, using the data presented, we can draw a crude curve like the one below:

**Fig. 2.5**: A graphical model of the rainfall pattern on the East Bank, including the mountain ranges (mm per year).




### 2.1.4 Hydrology

Some few streams on the East Bank join the Nile, but most flow northwards over the plain and disappear in underground seepage (see fig. 2.2 and fig. 2.3, above). These northwards streams are the natural drainage channels from the mountains,

but they quickly spill and spread out, inundating the plain between the foothills and the 5° N parallel (JIT 1954: 45).

The biggest stream joining the Nile is the perennial Ateppi river coming from the Acholi Mountains, and joining Assua river some few kilometres before running into the Nile. Assua flows almost perennially from its catchment in Uganda. Other streams joining the Nile are the smaller and seasonal Kit and Uma.

On the East Bank there are six important streams, all of them seasonal, running northwards (i.e. not joining the Nile). They are, named from west to east, Kudo, Kenyetti (Kinyeti), Koss (Hoss), Kidepo, Singaita, and Lokalen (Lokalyan). Closer to Kenyan border we also find Loyoro of approximately the same size as Lokalen. As initially mentioned, these streams (and the minor streams in the same area) disappear into the ground between 5° and 5° 30' N. The resulting underground seepage is of utmost importance for the East Bank grazing areas, and the major area for the cattle camps is, hence, found on the rangelands formed by the underground seepage from the streams (JIT 1954: 16-17). Also Barbour states that "The streams draining northwards from these mountains make no contribution to the Bahr el Jebel (the Nile), but are important for the grazing they support when they peter out in the plain" (Barbour 1961: 260).

Kudo, rising at the foot of Mt. Lokiri, is the least important of these streams. Kudo ends in the Bangeru Swamp some 40 km. north-west of Lafon (JIT 1954: 17-18).

Kenyetti's original catchment area is in the slopes of Mt Kenyetti in the Imatong Range, and the river is perennial to well north of Torit. As it flows northwards, it is joined by Iyedo river (coming from the Acholi Mts.) and the Loleir river (rising from Mt Lokiri). As Kenyetti approaches Lafon it splits into two main courses. The course running northwards disappears in a wide flood-plain south of Lafon. The westward course passes Lafon, and then it disappears in the ground forming a broad plain. Run-off from the Kenyetti also reaches the Badigeru Swamp (JIT 1954: 16-17).

Koss, with the Imatongs, the Dongatonas and the Lopit (Lafit) mountains as its catchment area, is next to the Kenyetti in importance, and it is perennial during its course along the Imatong Mts. The Koss disappears into the ground some 15-20 km after it has passed the eastern side of Lafon (JIT 1954: 18).

Kidepo's catchment area is found in Uganda (Nangeya Mts. in the south, Morunogole Mts. in south-west). Since most of the water is absorbed before the river is entering the Sudan, Kidepo within the Sudan is generally a shallow sandy riverbed carrying water up to three months per year. The Kidepo can not be traced more than approximately 60-70 km north of Boya Hills (JIT 1954: 18).

Singaita, running through the administrative town of Kapoeta, has its catchment area within the Didinga Mts. About 75 km north of Kapoeta Singaita quickly disappears into the flat plain, and can no longer be traced (JIT 1954: 18).

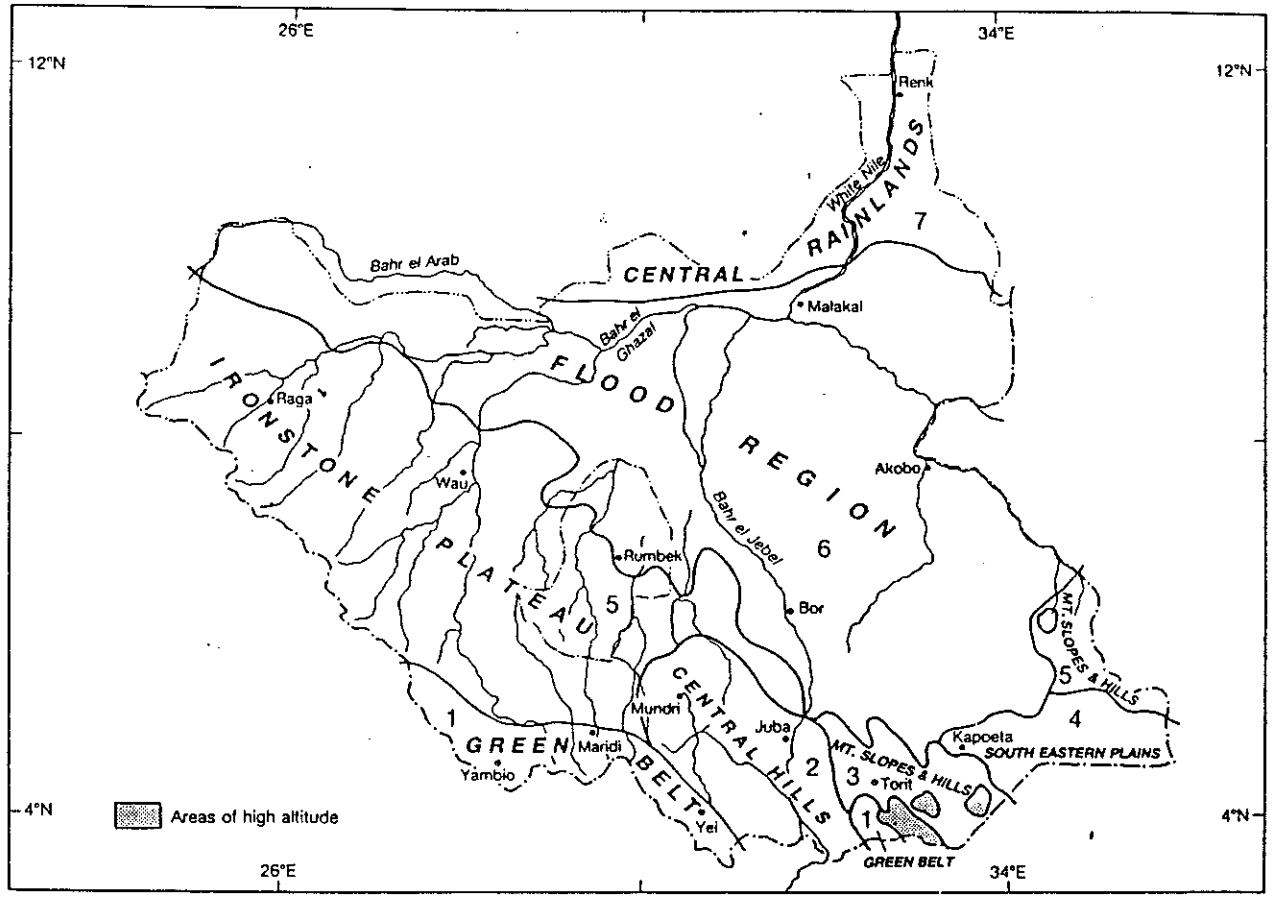
Lokalen has very little mountain catchment (eastern part of Didinga Mts.), and drains mainly a clay basin within a wide valley between smaller hills. In the north Lokalen disappears in the ground at the southern fringe of the Kabowen Swamp, an important pasture area (JIT 1954: 18-19).

Of the smaller streams some comments should be given about the Losingo since this stream plays an important part in the life of the Boya people. The Losingo comes from the western parts of the Didinga Mts., runs along the Boya Hills on the western side, and join the Kidepo some 10 km north of these hills. Not only for the Boya, but also for the Lopit, the Lotuko and the Lango, the plains between the Lopit Mts., Dongatona Mts. and the Didinga Mts./Boya Hills is the major area for cattle grazing in the dry season. The water for the pasture stems from underground seepage from the Losingo and the Kidepo. The watering wells for the livestock are also dug in these rivers.

River Loyoro, about 50 km east of Kapoeta is also important as it does in many respects marks the eastern boundary between the permanent villages and the cattle camps of the Toposa. The area east of Loyoro is also used by the Turkana and the Nyangatom to graze their cattle herds.

### 2.1.5 Ecological zones

Fig. 2.6: Southern Sudan: ecological areas.




From A. Dickie (1991), fig. 17.1.

By combining such environmental factors as topography, rainfall and soils, four broad ecological zones can be differentiated within the ecological sub-region called "The South-Eastern Hills and Mountains" which covers most of the East Bank (SDIT 1955: 36-37, 88, 97):

1. *High Altitude Areas* (above 1500 m): Covering the upper parts of the Dongatona, Imatong, Acholi and Didinga Mountains. The rainy season lasts for 7 to 9 months with a mean annual rainfall ranging from 1.100 mm (Didinga Mountains) to 2.200 mm (Imatong Mountains). Soils ranging from deep loams to shallow skeletal, laterized roughly in proportion to rainfall. Within the Imatong Mountains we generally find red loams of

variable depths. Vegetation depends on altitude and rainfall, and ranges from cloud forest to open grassland.

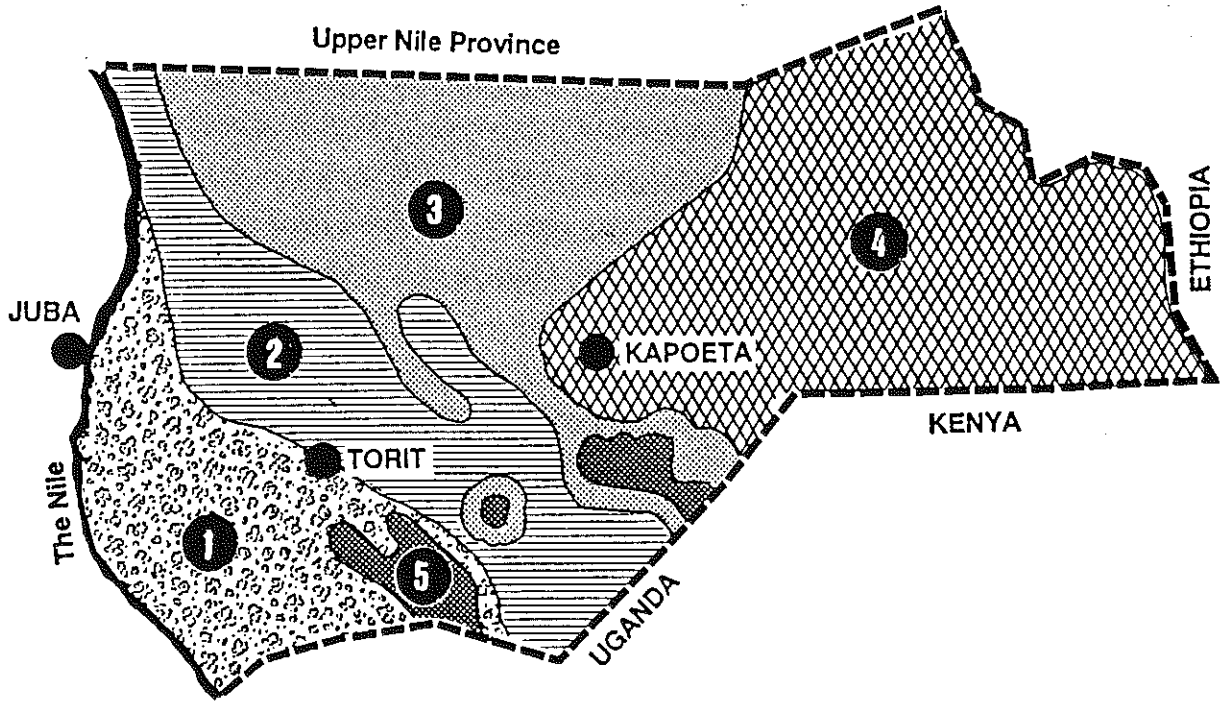
2. *Lower Mountain Slopes and Hills* (between 600-1500 m): Covering every ethnic group on the East Bank, partially or wholly, except for the Acholi (who live in the "Green Belt"). The rainy season lasting from 7 to 8 months with a mean annual rainfall between 750 mm (central and north-central areas) and 1.200 mm (western areas). The soils vary considerably. In Bari, Madi and Lulubo the soils are mainly shallow, ferruginous and of low fertility. In Lotuko and Lango the soils are generally sandy and gravely loams, with heavy loams in the valleys. In Lafon (Lokoro area), Boya and Toposa the soils are generally heavy loams ("Black Cotton"). In Didinga lowland we find deep loam in pockets. Vegetation consists of a wide variety of trees and bushes with areas of open savannah.

3. *Eastern Plain* (denoted "South-Eastern Plain by JIT and SDIT) is generally situated below 700 m and contains the Toposa area east of Kapoeta. This arid to semi-arid area east of Kapoeta is closely linked in climate and ecology to the north-western part of Kenya (the Turkana District) and the south-eastern part of Ethiopia (Gamo Gofa). Even if the rainy season can last for more than 6 months, the mean annual rainfall is less than 700 mm. The soils are generally gravellous and clayey with large patches of Black Cotton Soils. The vegetation is of semi-desert type with thorny scrubs and open savannah.

4. *The Green Belt* around the Acholi Mountains (where parcels of Evergreen Tropical Rainforest can be found) is the eastern most fringe of this huge ecological zone stretching all the way from West Africa. The period of rains is from 8 to 9 months with a mean annual rainfall of 1.350-1.600 mm, the heaviest rainfall found in the Sudan. The soils are generally similar to those of "the lower mountain slopes and hills", but deeper and better developed. The vegetation is luxuriant with broad-leaved woodland and gallery forests along the upper reaches of the perennial streams.

### 2.1.6 Vegetational zones

Fig. 2.7: East Bank Vegetational zones.




Adapted from Topo. No. 8, 923-55, 1983, Sudan Survey Department, Khartoum, the Sudan.

As described above, variations in rainfall, soils and topography result in a wide range of ecological conditions. When these factors are combined with man-made impacts (anthropogenic factors) such as grass burnings, cropping and herding, different types of vegetation are produced. According to fig. 2.7, there are five main types of Vegetational zones on the East Bank:

1. Along the White Nile (Bahr el Jebel) in the south-west, covering the ethnic groups of Madi, Southern Bari, Lulubo, Acholi, Lokoya and the western part of Lotuko we find a type of woodland savannah with high rainfall and laterite catena soils denoted "Anogeisuss khaya Isoberlina Deciduous Woodland" (JIT 1954: 135-139). In the JIT report the vegetation in this region is ecologically classified as "Mixed Deciduous Broad-Leaved Woodland (with tall perennial grasses)". Most of this area is situated within the Ironstone Region. According to Lebon's Vegetational classification, this area is called "Deciduous High Woodland Savannah" (Lebon 1965: Fig.6, p.21, 24-25). The soils in this region belong to the eluvial and

colluvial complexes, formed *in situ* under the influence of local topography. The soils of the lower phases of the bottom complexes are chiefly alluvial. The agricultural problems of the soils centre on the maintenance of fertility when under cultivation. (JIT 1954: 106-115).

2. Further to the east we find a type of *woodland savannah with low rainfall and clay soils* denoted "*Acacia seyal-Balanites Savannah alternating with grass*" (JIT 1954: 135-139). This area covers what is usually mentioned as the Kidepo plains, and reaching so far south as encompassing the lowland around the Didinga Mountains. This savannah area includes the central part of the Pari (Lokoro) area, the eastern Lotuko area, and the areas of the Lango, the Lopit (Lafit), the Didinga and the Boya. Applying Lebon's Vegetational classification, this area is called "*Low Woodland Savannah on Hill Catena*" (Lebon 1965:Fig. 6, p.21, 24-25).

3. To the north of this area, the huge *Flood Region* starts. This area consists principally of cracking soils, and covers in addition most of the Upper Nile Region and the western part of the Bahr el Gazal Region. Vegetationally the Flood Region is a *grassland savannah*, and the area is generally used as pastures for the Toposa, the Pari, the Dinkas of Upper Nile, the Murle speaking groups living around Boma Hills, and a number of other Upper Nile pastoral groups. The vegetation consists mainly of tall perennial grasses with tussocky roots. Regular surface conditions of flood and mud prevent most of the plains to be used for many months when too wet. When the plains are accessible, the grass is tall, coarse, unpalatable and of almost negative nutritive value. The grass is therefore burnt and the cattle can utilise the green regrowth from the roots (JIT 1954: 135-139). The parent material of the cracking clay soils is heavy alluvial clay that shrinks considerably on drying, causing the soils to crack deeply during the dry season. During the rainy season the moisture causes the clays to swell, closing the cracks. Once the cracks are closed the soils become highly impermeable. At the height of the rainy season, loss of water by evaporation and plant transpiration is slow, and the soils may be water-saturated for considerable periods. These anaerobic conditions produce a higher humus content (0,5-1,0 %) than in other types of soils where aerobic conditions are more prevalent. The soils lose practically all moisture during the dry season which means that the soils become biologically inert. Even if it is believed that available phosphorus is the chief nutrient

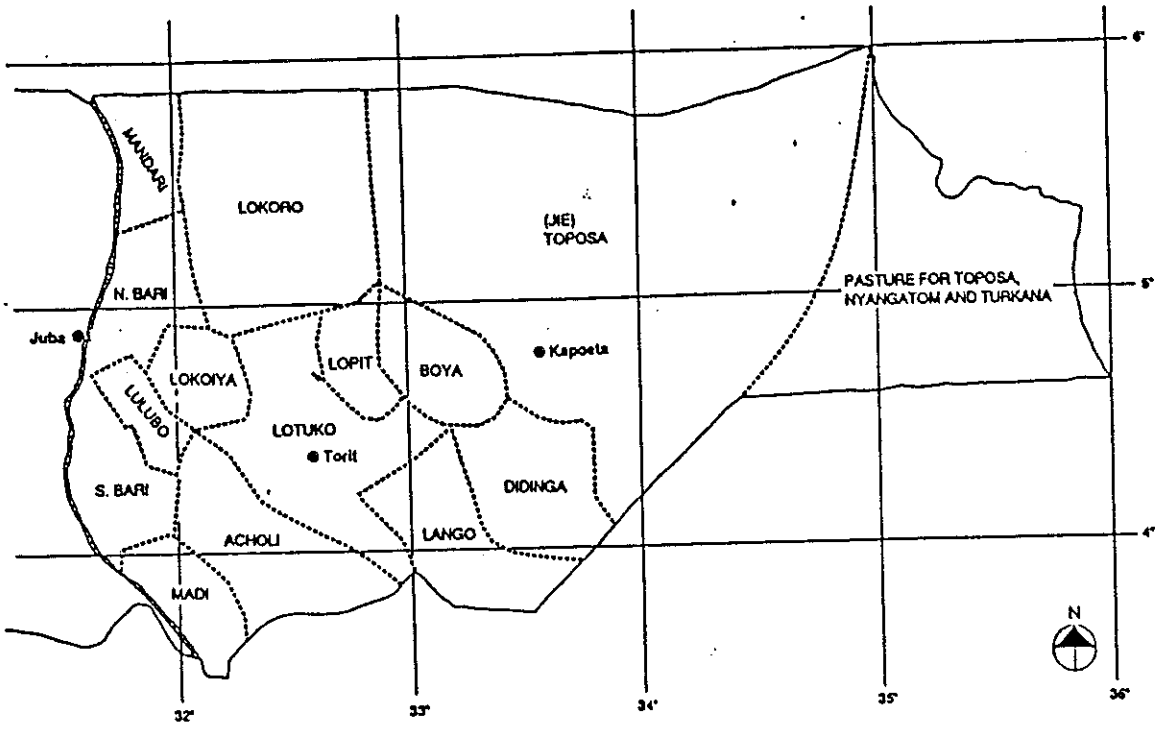
limiting factor regarding agricultural production, these soils are regarded as among the better agricultural soils of the Sudan (JIT 1954: 106-109). Lebon denotes this area: *"Seasonally wet clay grassland of the Southern Clay Plain"* (Lebon 1965: Fig. 6, p. 21, 24-25).

4. In the far eastern part of the East Bank we find what is called a *special area of low rainfall woodland savannah* which is a *semi-desert type of savannah with alternating wood- and grassland on clay.* This is generally the same type of vegetation we find in the south eastern corner of Ethiopia (Gamo-Gofa), and the north eastern part of Kenya (Turkana). In Sudan this is the land of the Toposa. Despite the great similarities between the Toposa and the Turkana of Kenya regarding both ecological and cultural factors, there is one salient feature separating the two, camel keeping. While camels are found throughout Turkana in big numbers, they are absent in Toposa. Since the people of Turkana and Toposa have originated from the same area, believed to be the Karimojong area of Uganda (Dyson-Hudson 1966), it is difficult to explain this difference as just a cultural variation. The Toposa give a more ecological explanation to the phenomenon: The Toposa land consists mainly of clayey soil more or less of the same type as the cracking clay soils of the flood region. While this soil has few negative impacts for cattle, it so has for camels. Mainly; during the rainy season when the soils get extremely muddy, the soft hooves of the camels will rot when in too much contact with the mud. In many respects the Toposa's opinion may be supported by the Jonglei Investigation Team (1954) which states: "Camels cannot exist under conditions of mud and prolonged flooding and are therefore not found in this (Flood) region." (Vol. I, p.299). Lebon classifies this area *"Low Woodland Savannah of the Clay Plain"* (Lebon 1965: fig. 6, p. 21, 24-25).

5. In addition to these more agriculturally important types of vegetation, we also find some pockets of *Montane vegetation* in the Didinga, Acholi and Imatong Mountains. While the former four Vegetational zones have from semiarid to dry subhumid climates, the mountainous areas have a humid climate. Lebon has divided this mountainous vegetation into three sub-types: 1) *"Degraded Tropical Forest"* at the foot of the Western part of the Acholi Mountains, 2) *"Virgin Remnants of Tropical Rain Forest"* in the slopes of the Western part of the Acholi Mountains, and 3) *"Forests of the Imatong, Dongatona and Didinga Mountains"* (Fig. 6, p. 21, 24-25)

## 2.2 ETHNIC GROUPS, ETHNIC COMMUNITIES AND LANGUAGES

**Fig. 2.8:** Ethnic groups and boundaries (approximative).




Adapted from Development Project Unit (DPU ) Juba.

An important feature characterising the East Bank, is the large number of ethnic groups inhabiting the area. Exactly how many is difficult to assess since it is not a simple task to distinguish between the groups. According to the most common local systems of classifications there are 13 different ethnic groups in the area: the Toposa (Topotha), the Boya (also called Longarim/Larim), the Didinga, the Lango, the Lopit (Lafit), the Lotuko, the Lokoiya, the Lokoro (Pari/Berri), the Bari (projecting also to the West Bank), the Mundari (Mandari) (projecting also to the West Bank), the Lulubo, the Madi, and the Acholi. Several of these groups may, however, appear to be rather heterogeneous. The Toposa are often divided into the Western Toposa (living along the Singaita River), the Eastern Toposa (living mainly along the Lokalyan River and towards the Loyoro River), and the Jie (Jiye), living around Jebel ("Mountain") Kathiangor north of the Toposa "proper". Within the Lokoro society, living around Lafon Hill north of Torit, the inhabitants of the Kor village are often distinguished as a separate section. It is also quite usual to separate between the Northern and Southern Bari. While the

Northern Bari (generally inhabiting the area along the Nile north of Juba) are looked upon to be closer to the Mundari, e.g. they put more emphasis on cattle; the Southern Bari are more similar to the Madi and Lulubo. The Lango are often separated into three units, the "Lango" who live in the foot hills in the southern part of the eastern side of the Imatong Mountains and in the southern part of the western side of the Imatong Mountains, i.e. in the valley between the Acholi and Imatong Mountains, and in the southern part of the Dongatona Mountains); the Imatong, living in the northern part of the eastern side of the Imatong Mountains; and the Dongatona (inhabiting most of the Dongatona Mountains). Some authors (see e.g. Jackson 1950: 140, and Jackson 1956: 346) speak of the inhabitants of the Dongatona Mts. ("Dongatonas") and the Imatong-Lotukas ("Imatongs") as separate tribes, but this is not according to the sentiments of these groups themselves. Although the "Imatongs" live closer to the Lotuko, and speak a dialect that is closer to the Lotuko language than the other Lango groups, they very much look upon themselves as Lango. The division among the Lango can be attributed mainly to their mode of ecological adaptation. The Dongatona, and in particular the Logir section, are largely living up in the mountains and hills and conducting a livelihood very much centred around cattle. The Imatong and the "Lango" are largely living in villages in the lowland. The villages are usually backing against the steep mountain flanks. They are both living under favourable climatic conditions, and have centred their productive activities around crop cultivation, but still with a lot of importance attached to livestock.

L.F. Nalder has distinguished between 12 different tribes on the East Bank: The Topotha, Latuka, Lango, Lokoiya, Bari, Mandari, Madi, Luluba, Didinga, Longarim, Berri (Anuak) of Lafon, and the Acholi (Nalder 1970: 4). The only group that is left out in comparison with the list above is the Lafit. In a later paper in the same book, Col. Lilley and Mr. Arber describe both the Lango, Lafit and Lokoiya as *Latuka-speaking* tribes (Ibid.:. 82). It has also been conventional among some authors to regard Boya and Didinga as one group (see e.g. Nalder 1970: 142). To avoid a detailed discussion on a topic where I have too little details to make a proper ethnic analysis, it is possible, at least tentatively, to depict thirteen different ethnic communities on the East Bank, each with a common and shared identity, i.e. each looking upon itself as a particular group different from the other groups, and, in addition, each group is generally looked upon as a separate group by the neighbouring groups. Any group may feel some attachment to one or more of the other groups. This feeling does not necessarily have to be mutual. I found, for instance, that while it was quite usual for the Lotuko to look at the Lango as a

Lotuko subgroup, it was rather unusual for an individual Lango to regard himself as a Lotuko. The same often applies to the Lopit (Lafit) who were frequently identified as Lotuko by the Lotuko.

Seen from outside it is quite obvious that while some groups, regarding some cultural features, may seem quite similar to each other, other groups are more clearly demarcated from the rest. But still it is difficult to draw clear-cut ethnic boundaries If we take such an important political institution as **monyomiji** ("village parliaments", see e.g. Smith and Ojetuk 1985: 83-104), it can be found among all four *Lotuko-speaking* groups (see Lilley and Arber above), but in addition it can also be found in Lokoro (see e.g. Kurimoto 1984: 26) and in Lulubo. Still nobody would look upon these two latter groups as Lotuko.

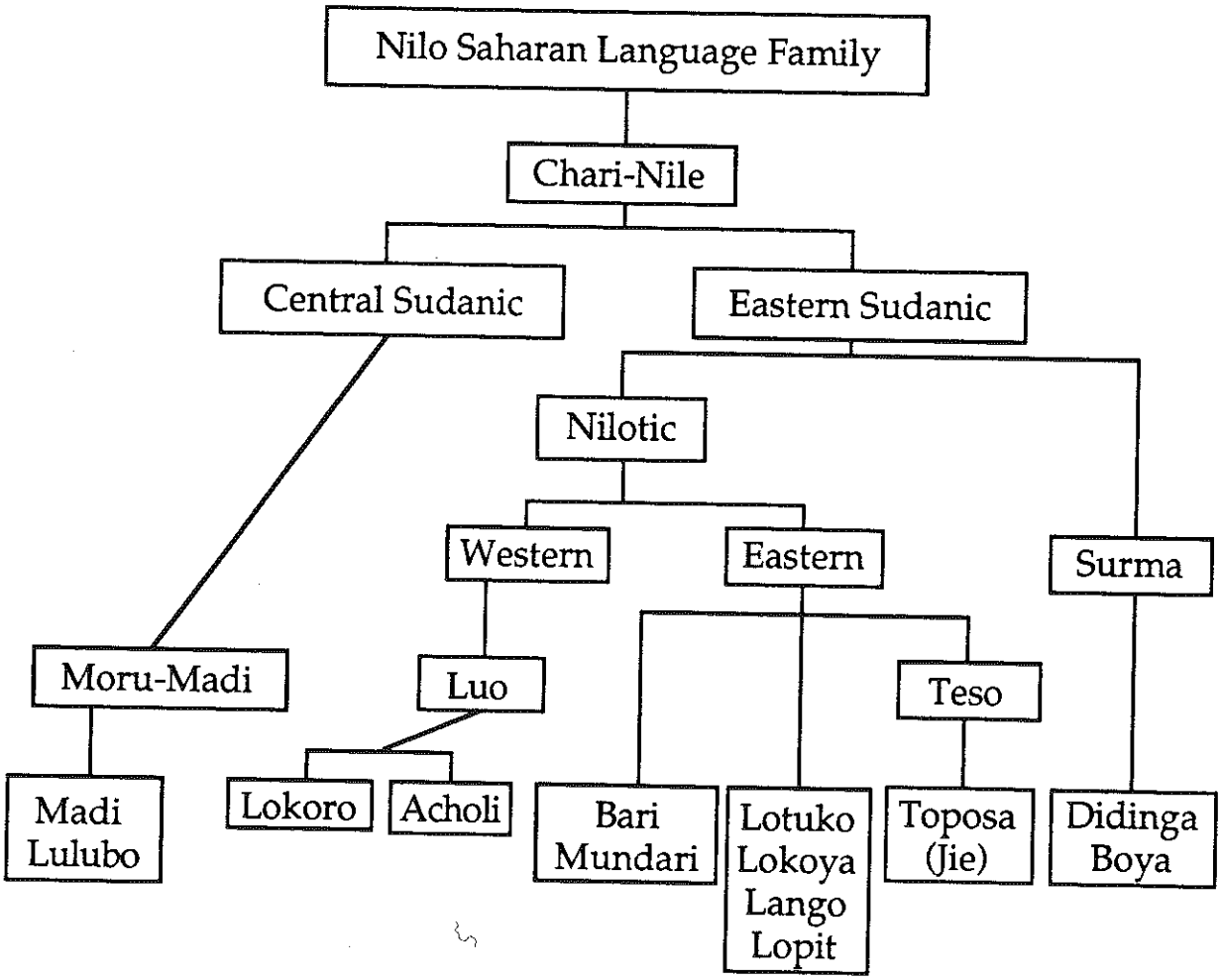
There are many ways of classifying the ethnic communities on the East Bank. The Southern Development Investigation Team (SDIT 1955: 73-74) using both language, culture, physical type and historical background as criterias for classification, includes the Lokoro (Pari) and the Acholi in the *Nilotic* group as they are both *Luo-speaking*. Since Nilotic is principally a linguistic category, this is a rather precise way of classification. Boya, Didinga, Toposa and the "Latuko-Lango tribes" (including also the Lafit) are classified as belonging to the *Nilo-Hamitic group*. By this term the SDIT refers not so much to language, but that these "part negroid tribes" entered the Sudan from the West (Ibid.: 73-74). Nilo-Hamitic is hence a much less precise category. To title the Toposa as Nilo-Hamitic according to this criteria is also a bit strange since the Toposa, according to their own oral tradition, entered the Sudan from the south-east. Many would also disagree when it comes to include the Boya and Didinga in the Nilo-Hamitic group. According to Tucker and Bryan, the Didinga, together with the Boya (Longarim), and the Suri and the Murle of the Boma Plateau, form an "*Isolated Language Group: "Didinga-Murle*" (Tucker and Bryan 1956: 87-91). According to these authors, the Nilo-Hamitic language group (on the East Bank) comprises: Bari, Lotuho (Lotuko) and the Toposa (belonging here to the "*Teso*" language group). The various Lango groups, the Lokoiya, and the Lomya (Lafit) are treated by Tucker and Bryan as speakers of Lotuko dialects (1956: 109).

The other East Bank groups are, according to SDIT, less easy to identify since they represent varying mixtures of Nilotic, Nilo-Hamitic and Western Sudanic. While the Bari and the Lokoiya are said to be *Bari-speaking*, the Lulubo and Madi are referred to as "*Moru-Madi groups*" (SDIT 1955: 74). So, whereas the Lokoiya are

described as Lotuko-speaking by Mr. Beaton (in Nalder 1970: 114) and Tucker and Bryan (1956: 109), the Lokoiya is said to be Bari-speaking by SDIT. This may be a bit confusing, but the explanation might be that Bari is a rapidly spreading language, and that it is replacing the mother-tongue of the Lokoiya (see Tucker and Bryan 1956: 106).

Using pure linguistical characteristics, we may distinguish between ten different languages on the East Bank, all belonging to the Nilo-Saharan Language Family (see fig. 2.9, below). By using these language classifications combined with what I conceive to be the prevalent local apprehensions regarding ethnicity and ethnic boundaries, the following figure will be illustrating. The figure should make it easier to discern the different ethnic boundaries in addition to seeing the "familiarity" between the groups.

**Fig. 2.9:** Languages and ethnic groups on the East Bank.




Compiled from Mack and Robertshaw 1982: 4, Dimmendaal 1982: 101-103, in Mack and Robertshaw, and Greenberg 1963: 85-86.

## 2.3 POPULATION IN FIGURES

In 1983, the government of the Sudan arranged a population census for the whole country. For the East Bank, the figures came out like this:

**Table 2.3**: The population on the East Bank in 1983.

| | |
|---|---|
| **Juba Central** | 50.000 |
| Including the ethnic territories of Lulubo and S. Bari* | |
| **Torit Town Council** | 15.227 |
| Mostly Lotuko but also civilo-military administration. | |
| **Torit Rural Council** | 75.154 |
| Including the ethnic areas of Lotuko, Lopit, Lokoro, Lokoya and some part of Lango. | |
| **Magwi Rural Council** | 115.953 |
| Including the Acholi and Madi ethnic areas and Ugandan refugees** | |
| **Ikotos Rural Council** | 33.463 |
| Generally Lango ethnic territory | |
| **Kapoeta Rural Council** | 188.153 |
| The Toposa ethnic area and the civilo-military administration in Kapoeta town | |
| **Chukudum Rural Council** | 59.336 |
| Including the Didinga and Boya ethnic territories | |
| **Total population of East Bank, E.E. Province:** | 573.286 |

*N.a., but 50.000 is an educated guesstimate

**Approximately 35.000

Source: Division of Statistics, Census Office, Juba.

## 2.4 THE GOVERNMENTAL ADMINISTRATIVE SET-UP

Under the *Chief's Courts Ordinance of 1931*, introduced by the Condominium Government, *Chief's Courts* were gradually introduced in the southern provinces of the Sudan (JIT 1954: 194-196). The members of the courts were to be representatives from the tribal segments, and the organisation of the courts

should follow the general structure of each tribe. In most areas the Chief's Courts were not only to be institutions responsible for justice, but also administrative bodies with obligations to collect taxes, maintenance of roads and buildings, and so on.

The law administered in these courts was the native law and custom of the region as long as it was not in conflict with the Government's opinion of justice, morality and order. The majority of the cases concerned civil or private disputes. Offences outside the powers of the Chief's Courts were dealt with by "Ordinary Courts of Law".

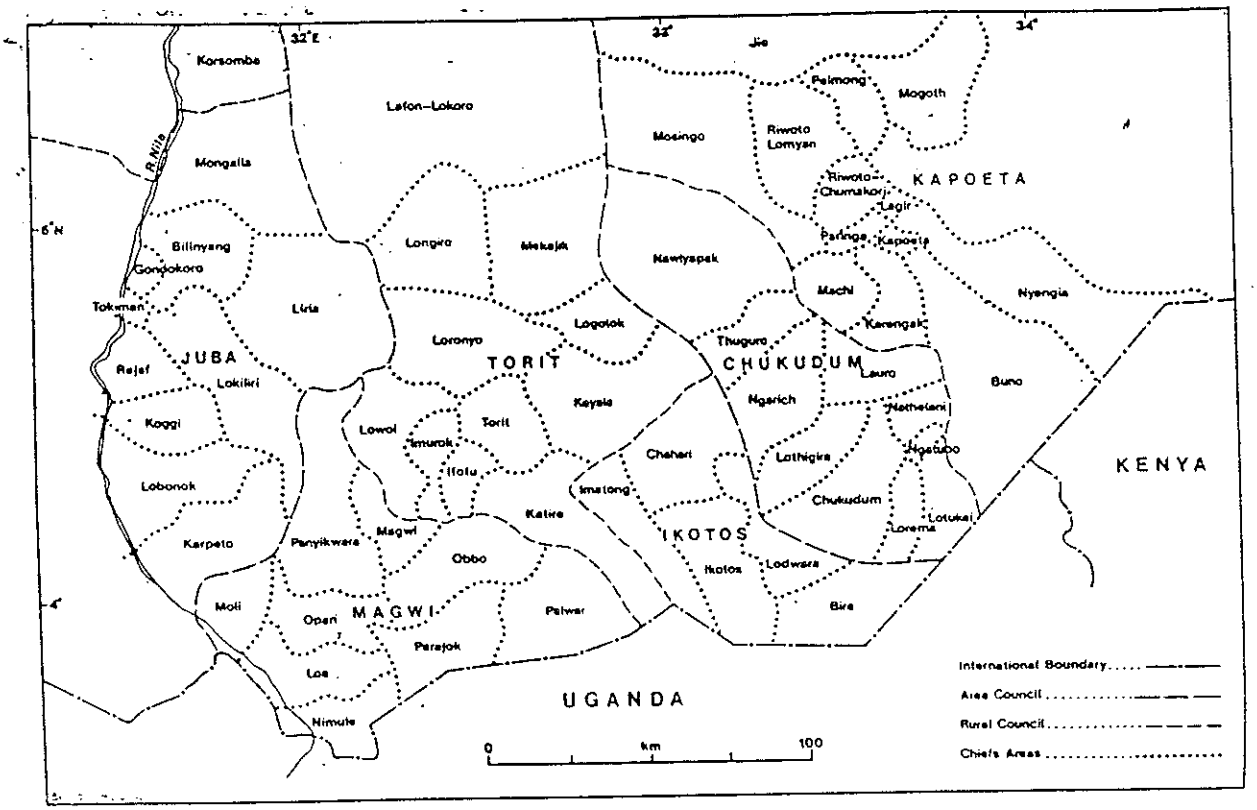
The Chief's Courts introduced consisted of *Branch Courts* with jurisdiction over small tribal segments or territories. Today these courts are usually called *A-Courts*, and are presided over by the sub-chief of the local segment.

The next level was the *Regional Courts*, and consisted of a president and several members drawn from the smaller courts. Today these courts are called *B-Courts*, and are presided over by the tribal chief. The chiefs of both Branch and Regional Courts were initially selected among influential families or lineage groups. In Madi it has been common up to quite recently that a man among the men of the rainmaking clan was appointed "Chief". Not infrequently, this Chief was a younger brother of the Rainmaker himself. Today these Chiefs are generally appointed after an election among the villagers. They are often men with some education who has worked in the government structure as policemen, soldiers or the like.

The highest court introduced under the Ordinance of 1931 was the *Main Court* which, beside trying cases, was the appeal court for the whole district or area. A principal object of the Main Court was to provide a panel of chiefs to give judgements in appeals without local bias or influence. The jurisdiction of the Main Courts extended beyond tribal boundaries. Today each Rural Council has such courts, but their jurisdiction seems more to be of a informal than formal character. If a case can not be solved by the B-Court, it is very often submitted to the Magistrate in Torit who is part of the government judicial structure. During the frequent tribal fights within Kapoeta Area Council, the Administrator tried to call the Main Court to settle the feud, and the congregation managed to come to an agreement, but with little effect.

As time passed by, local government institutions like Rural District Courts and Town Councils developed alongside the Chief's Courts. The judicial, still handled by the local chiefs, was separated from the executive, handled by government employed administrators. The East Bank was divided into three administrative Districts, presently denoted Area Councils (A.C.), each headed by an Administrator. From west to east the Area Councils are Central (Juba), Torit and Kapoeta. The Area Councils are subdivided into Rural Councils (R.C). For the East Bank, the Rural Councils are Mongalla (under Central A.C.), Magwi, Ikotos and Torit (under Torit A.C.), and Chukudum and Kapoeta (under Kapoeta A.C.). Mongalla R.C. are again subdivided into 10 Chief Areas (C.A.), Magwi R.C. into 9 C.A.s, Ikotos into 5 C.A.s, Torit R.C. into 11 C.A.s, Chukudum R.C. into 10 C.A.s and Kapoeta R.C. into 12 C.A.s. For each Rural Council there are both a governmental administrative head and a tribal Chief (see fig. 2.10 below).

Fig. 2.10: East Bank administrative boundaries 1984.




Source: Development Project Unit, Juba.

## 2.5 CROP AND ANIMAL HUSBANDRY

### 2.5.1 Crop Husbandry

#### 2.5.1.1 Crops

One species of cereals is totally dominating the systems of crop husbandry on the East Bank; sorghum, most commonly called **durra** (*Sorghum bicolor*). I would estimate durra to constitute more than 75% of the total cereal production on the East Bank. After durra, bulrush (or pearl) millet (*Pennisetum americanum*) is the crop most extensively cultivated. In areas with excellent conditions for crop production (areas with higher rainfall/higher altitude) maize (*Zea mays*) is of particular importance. These crops are sometimes planted in sole stands, but most often intercropped with each other or with other crops of substantial importance such as cowpeas (*Vigna unguiculata*), cassava (*Manihot esculentum*), sesame (or simsim) (*Sesamum indicum*), okra (*Abelmoschus esculentus* or *Hibiscus esculentus*), kidney beans (*Phaseolus vulgare*) and groundnuts (*Arachis hypogaea*). The latter crops are also sometimes planted in sole stands. Species grown at a more limited, but still significant level are finger millet (*Eleusine coracana*), pigeon peas (*Cajanus cajan*), green gram (*Phaseolus aureus*), African melon (*Citrullus lanatus*), pumpkins (*Cucurbita pepo/mixta*), tobacco (*Nicotiana tabacum*), gourds (*Lagenaria siceraria*), bambara groundnuts (*Voandzeia subterranea*), sweet potatoes (*Ipomoea batatas*) and onions (*Alliumcepa*). Recently introduced, and grown on a very small level, are exotic types of vegetables such as tomatoes (*Lycopersicon esculentum*), carrots (*Daucus carota*) and cabbage (*Brassica oleracea*). Some trials with wheat (*Triticum aesitivum*) were conducted in the last part of the 70's and the first part of the 80's. As a result some farmers have started wheat cultivation on a limited scale in the Acholi and Didinga Mts.

#### 2.5.1.2 Cropping patterns

For the great majority of people living on the East Bank, crop production supplies the substantial proportion of the material means needed to safeguard the viability of the households. This does not, however, indicate that the cropping patterns, or even the importance of cropping, are homogenous throughout the area. Both regarding elevation and the west-east axis (and to a lesser degree the south-north axis), great variation is experienced. So we will, to a large extent, see a correlation between the vegetational zones and cropping patterns.

In the western areas (Vegetational Zone 1) with its favourable precipitation (generally more than 1100 mm), less favourable soils, and a rather serious tsetse infestation, crop production almost exclusively forms the basis of the livelihood for the local ethnic groups. To cope with the environmental conditions, the groups operate an agricultural system with a high frequency of shifting (or fallow). The cropping patterns are complex including a wide variation of crops with sorghum as number one. Other important crops are maize, bulrush millet, finger millet, beans, cowpeas, pigeon peas, sesame, groundnuts, bambara nuts, okra, melons and cucumbers. For quite a number of farmers tobacco represents a valuable cash crop. For many people living close to the Nile, fishing is very important. For the Madi town of Nimule (at the Ugandan border), fisheries, performed by professional fishermen from small canoes made from hollowed tree trunks, means a substantial addition to the agricultural production.

The far eastern areas (Vegetational Zone 4) have favourable soils but less favourable precipitation (utterly erratic in time and space, and generally less than 800 mm). This area is relatively free from tsetse. The people of this area are operating a mixed agricultural system with a rather complex system of animal husbandry and a rather simple system of crop husbandry. The cropping system has an almost permanent character with fields often cultivated continuously for more than 20 years (even up to fifty years). The general cropping pattern is so dominated by sorghum cultivation that it is approaching a monoculture system.

Agriculturally, Vegetational Zone 2 represents an intermediate position between Zones 1 and 4. The precipitation (varying between 900-1000 mm) is generally somewhat lower than in Zone 1, but safer than in Zone 4. The fields on the clayey soils, however favourable for crop production, must be shifted at regular intervals, but not as frequent as in Zone 1. Although livestock for all ethnic groups in this area represent a central factor in their mode of adaptation, it is crop production which is the most important occupation and which supports the overwhelming amount of energy for the peoples' diet. The livestock pattern is more simple than the pattern found in zone 4, and the cropping pattern is more simple than the ones found in Zone 1. The central feature in their cropping pattern is, without any competition, sorghum. Other important crops are bulrush millet, maize, sesame, okra, cowpeas, beans and cucurbits. Tobacco is grown by many farmers both for own consumption and for sale.

The agriculture of the Montane Vegetational Zone (Zone 5) is, generally, of recent origin, and in the overall mode of adaptation on the East Bank it is of limited importance. But the high precipitation (1100-1500 mm), often favourable soils, and temperate climate give crop production high potentialities for future development. Although more traditional crops are cultivated in this zone, the prevailing cropping patterns may be characterised by two features; maize and "temperate" vegetables. In the Acholi Mountains the EEC has established a tea plantation and a tea processing factory (that was never finalised due to the recent civil war). In the Imatong Mountains the British Government has the last fifteen-twenty years operated a forestry plantation and a saw mill for the Sudan Government.

(Since little or no crop production takes place in Zone 3,"Flood Region", this zone will not be discussed in this connection).

### 2.5.2 Animal Husbandry

#### 2.5.2.1 Cattle

The combination of topographic, climatic, edaphic and vegetational conditions, has determinant effects on the patterns of animal husbandry in the area. Most importantly we see that in the arid areas to the east, greater reliance is placed on cattle. Other important features explaining the role of cattle keeping on the East Bank are the availability of dry season pastures formed by the underground seepage from the seasonal streams, and the presence or absence of trypanosomiasis. While the infestation of the tsetse flies is serious in the western woodland areas, and most serious in the close vicinity to the Bahr a Jebel (White Nile), the flies are much rarer at the Kidepo plain, and generally absent in the Flood Region and in the Toposa area. As a consequence of these factors, cattle are most numerous in the east, with the Toposa as the most prominent pastoralists. According to K.M. Barbour, the large herds kept by the Toposa are by no means the maximum that their territory could sustain, as the limiting factor for cattle keeping being the shortage of water in the dry season. In their migrations, the Toposa seek out the depressions and the ill-drained areas in the plains for pasture. The limited quantity and the poor quality of the accessible water in the dry season is most unfortunate as much of this eastern district, extending up to, and even beyond the borders of the Upper Nile Province, Kenya and Ethiopia, is occupied by sweet perennial grasses such as *Chrysoporon aucheri* and *Bothriochloa insculpta*

which stay green until the end of the year or even later, and are palatable when dry (Barbour 1961: 261-262).

Among the pastoral groups on the East Bank, the Toposa are the only ones that perform long distance transhumance. The Boya have semi-permanent cattle camps along Kidepo, but these camps are within some hours walking distance from their permanent villages. The Logir (of Dongatona) and some eastern Lotuko groups do also graze and water their cattle along Kidepo, but these groups do not have separate cattle camps. The rest of the groups usually bring their animals every morning to graze on the clay plains adjacent to the cultivated land around the villages. Before sunset, the cattle is brought back to the village, and at night, the cattle are usually kept in kraals within the village (as in Lokoro), or close to the village (as in Lango and Lotuko). Also for these groups, it is limitations on drinking water for animals and humans rather than on grazing that appear to be the most effective limitation in keeping down the number of animals.

Among all cattle keeping groups on the East Bank, but in particular among the Toposa, livestock function as their major form of food-security. But that is not the only reason for cattle keeping. An optimal adaptation to these vast areas presupposes the harnessing of the available natural resources for human consumptive purposes. By applying livestock to convert the great amount of non-digestible energy into energy for direct human consumption, the adaptivity of the human groups is optimalized.

While the principal nutrition value of cattle is attached to milk (and secondarily blood), goats and sheep are principally kept for meat. When cows and bulls are slaughtered, there is always a ritual objective behind, i.e. cattle are always "offered" or "sacrificed", never slaughtered for the sake of the meat. There is, however, an important social mechanism that functions to regulate the relation between access to food (meat) and rituals: it is easily observable that in times of famine, the amount of rituals, and hence, offerings of cows and bulls increases. Most groups explain that the reason behind this behaviour is that in times of trouble, they have to call for the assistance of their ancestors, or God, or benevolent spirits, or others. This can only be properly performed through sacrificing bulls.

According to map "Topo. No. S., 625-40, 1976" from Sudan Survey Dept., Khartoum, 538.000 heads of cattle are found in the whole Equatoria Region (comprising both the Eastern and Western provinces). From this more than 80 % are found on the East Bank, and from the total number of cattle found in the Equatoria Region, 60-65% (325-350.000) are found in the Toposa area alone. The other place on the East Bank we find some higher concentration of cattle is among the Boya (about 20.000 heads). For the Pari, living just south of the Great Flood Region, we also find that cattle are important. Areas with a more scattered, but still important cattle population, are the hilly areas of eastern Lotuko, Lopit and Lango.

Except for some few pockets, cattle are virtually absent in the high rainfall, woodland savannah zone along the Bahr a Jebel (the Nile), i.e. among the Acholi, Madi, Lulubo and Southern Bari ethnic groups. The present prevalence of tsetse in this more humid region, is one important factor explaining the absence of cattle among these groups. From historical sources, it is quite clear that these groups earlier used to have large number of cattle, but that cattle diseases occurring in the last part of the last century and forwards have almost completely eliminated cattle from the area (see e.g. Hødnebø 1981: 20-27).

Livestock in general, and cattle in particular, have a strong impact on the sociocultural patterning of many ethnic communities. The sociocultural significance of cattle can be seen at many important social events, and may be most importantly as symbols of transactions. Such transactions are not merely commercial transactions since it involves potent cultural values. It is for this reason a mistake to compare cattle with capital even if some of the characteristics of cattle is comparable with capital. Cattle, used in indigenous exchange systems, principally function as a means for creating social alliances and maintaining social values, sentiments and cohesion among the participants. In the "real" pastoral communities almost everything has a value that can be expressed in cattle.

#### 2.5.2.2 Small stock

According to maps from Sudan Survey Department, Khartoum (Topo. No. S. 625-40) there are 414.000 sheep and 725.000 goats in Equatoria. From these numbers more than 2/3 of the sheep (approximately 275.000) and more than 3/4 of the goats (approximately 550.000) are found on the East Bank. Though small ruminants are found on the whole East Bank, they are few in number along the Nile (Vegetational Zone 1). The high concentrations of sheep and goats are found in

the central and eastern areas (Zones 2 and 4) with the Toposa in the far east as the dominant small stock keepers.

For the ethnic communities of Toposa, Didinga, Boya, Lotuko, Lango, Lokoya, Lopit, and Lokoro sheep and goats play important roles in their socio-economic systems. Culturally, however, these animals are not ascribed the same value as cattle. While the significant role of cattle may be observed both in religious, political, economic and kinship affairs, small stock are more or less a regular item used in the daily running of the households. Of course, small stock can also be used in ritual sacrifices and offerings, but then, as a rule, at events of minor sociocultural importance. If a household lacks cattle it is possible for some events, for instance marriages, to use small stock. But when such situations occur, the small stock will be "converted" into cattle, i.e. given a value in cattle, for instance ten goats are equal to one cow. While cattle is used both for savings and insurance, small stock is the expenditures used at social gatherings and the "petty cash" used for exchange at the market to get grains or other goods.

Nutrition wise cattle produce a broader scope of food items than sheep and goats, but it most be remembered that small ruminants, and in particular goats, are also milk-producers. A special advantage regarding goats is their ability to give some amount of milk in periods when cattle often are non-producing (in the dry season, and when the grass has become coarse and of little nutritional value). For children, dry season milk from goats are of great importance.

But there are several other advantages of including sheep and goats in the agricultural adaptation systems. Their earlier physiological maturity and rapid reproduction being one. Another being that the small ruminants have a wider dietary range than cattle. As an effect of this it is possible to broaden the scope of utilisation of the natural vegetation. A third advantage is the small stock's ability to produce meat at a much higher rate than cattle. It also important that small ruminants have a longer term ability to withstand droughts and other difficult natural conditions (R.T. Wilson in Simpson and Evangelou 1984). Regarding risk avoidance, a dominant issue in the adaptation patterns of the different ethnic communities on the East Bank, it is important to add that small ruminants are not susceptible to the same fatal diseases as cattle, and vice versa. The combined effects of these considerations create ethno-agricultural adaptation systems with a high level of resilience, sustainability and, hence, security.

### 2.5.2.3 The social and economic function of livestock

The social event most often related to cattle exchange is marriage. What is important to recognise here is the fact that a man does not buy a wife with cattle. It is the value of a woman as a companion, as the mother of your children, as the caretaker of your old mother, as an agricultural producer, as a new member of the family group etc., which is expressed in cattle. And when one goes more into details on how the cattle for the bride price (which is hence a misleading term) is collected among the members of the groom's kin group, and how it is allocated among the members of the bride's kin group, what occurs is an intricate pattern of mutuality both within each of the involved groups, and between the groups.

Exchange of cattle can also be used to restore social order and to pay indemnities for such offences as adultery, seduction or homicide. If a Didinga man committing adultery is caught red-handed, he must be killed on the spot by the husband. At this stage this is the only acceptable form of compensation. If the offence is discovered at a later stage, the offender will have to pay seven cows to the insulted husband as a compensation for the insult brought upon him. Both solutions to the insult are reckoned to be the correct way of restoring balance between the two parties. It is interesting, however, that if the offender is a close patrilinear relative, no compensation will be claimed. Since the insult has taken place within the "family", the balance is not threatened, and therefore no compensation is needed to restore it.

Regarding homicide, no human's life can be valued in cattle, but the killing of a person may be compensated in cattle since cattle has an additional value; that of restoring the balance between social parties. The amount of cattle claimed as compensation for the death of young girl, for instance, will be more or less the same as the expected bride price. The compensation for the death of a man will be related to his age, his status and prestige.

Compensation forms the basis of the native judicial system since compensation is considered the only way to restore balance in a social situation that has been threatened by a conflicting event. And cattle are, principally, the only proper means in which compensation can be paid, and, hence, the social situation restored. It is of minor interest for a family to have the offender punished for his crime by a jail sentence, or even death sentence, since this will bring no compensation back to the offended family. If your son is killed you will, by the traditional system, get compensation for his death, which means that his death

will not be a total loss. If the offender is convicted to imprisonment, the insulted family will have gained nothing except for some abstract and unintelligible form of "justice". With cattle you can marry a wife to your dead son, a wife who can beget many "sons" for your family.

For some decades it has among some authors, writing about African pastoralism, been a strong belief that the herdsmen have mainly one major interest; to build and command as big herds of cattle as possible (Herskovits 1926). The situation is, however, not so simple. The herdsmen need to command a herd of a reasonable size to secure the livelihood of his family in a proper manner, and the bigger the family, the bigger will the herd needed be (Dyson-Hudson 1966). But the possession of a large number of cattle is not in itself very prestigious. What is generally felt as important is that a man should use his cattle for marriages for himself and his kinsmen, thus enlarging his kinship group. The cattle, therefore, have a definite social purpose, that of increasing the platform of the social grouping.

When it comes to the nutritional role of animals in the diet of the groups where they are kept in any substantial numbers, it is, I believe, overestimated. The livestock is important as food security, and in times of hunger a relatively high degree of dependency is put on the animals. Seen throughout the year for the whole population, animal products contribute something around 25% of the calorie intake. For the young men living in the cattle camps for the greater part of the year, the situation is quite different as milk, blood and meat may constitute as much as 75-90% of the diet.

#### 2.5.2.4 Cattle raiding

Cattle keeping also involves some important negative effects, mainly those related to cattle raiding. Internal raiding between Sudanese groups such as Boya, Didinga, Toposa, Dinka, Pari, Lango and Lotuko, and between Sudanese groups and external groups, especially the Turkana of Kenya and Karimojong groups from Uganda, are in periods so frequent and fierce that large tracts of land have virtually been left empty. This fact has again led to scarcity of land both for cropping and pasture, which in turn has led to even tougher confrontations between groups. While, for instance, the Toposa, Boya and Didinga up to the 1970's shared pastures and lived in neighbouring cattle camps on the plains under the Didinga Mountains and along the Kidepo River, this would in the present situation be quite impossible. Any elderly person in Didinga and Boya knows the

Toposa language, and many of the most common terms and concepts regarding cattle, husbandry techniques etc. have a Toposa origin. In the peaceful periods inter-ethnic marriages between the three groups were quite common. Today this rarely happens.

While the Toposa and the Turkana, with their common origin, their common language and culture, in the 1960's shared each others areas peacefully, frequent raiding attacks with heavy death tolls have taken place since then. Even among the Toposa themselves the confrontations between the eastern and western sections are escalating. The Jie group living in the northern part of Toposa has been exposed to a number of attacks the recent years.

I believe there are two major reasons for the general escalation of raiding and warfare; scarcity of pastures, and the introduction of automatic guns. The scarcity of pastures in turn stems from two factors; the international borders that hamper the mobility of the groups. The Toposa, for instance, used to have winter (dry season) camps both inside Kenya and Ethiopia. Since the land on the different sides of the borders represent various ecological zones with different amounts and quality of fodder throughout the feeding cycle, the borders have to a large extent changed the pattern of resource utilisation in the various ecological zones. This has lead to an increased competition for pastures within the Sudan. The second factor is a drier climate commencing in the beginning of the 70's. This has also triggered off an increased scramble for grazing land. Between the Toposa and the Boya there has been an almost continuous fighting going on since the last part of the 1970's.

# CHAPTER 3

# A SYSTEMIC APPROACH TO ADAPTATION

## 3.1 INTRODUCTORY REMARKS: HUMAN BEINGS AND NATURAL ENVIRONMENTS

> Between the physical environment and human activity there is always a middle term, a collection of specific objectives and values, a body of knowledge and belief: in other words, a cultural pattern (Forde 1949: 463).

Human beings - themselves basically conditioned by their own nature - have, within almost any possible form of temporal and spatial conditions, had to perform a dual effort: at the same time as they have accommodated themselves to their environments, they have adjusted the environment so as to support their needs and demands. As societies, structures of human beings, are thence partly naturally conditioned, natural environments are partly socially conditioned. The basic means at disposal for human groups in this reciprocal process of transaction with the natural environment are, human knowledge, skills, tools, techniques, communication patterns, values and norms, i.e. human culture. Armed with these ideational and practical tools it has been possible for human groups to create viable social organisations adequate to the extraction, processing and consumption of the material and spiritual means needed both for immediate survival and for long-term continuity. Operating under any form of natural conditions, human groups will strive to attain a livelihood above a mere biological survival. *Viability* is a concept that has been employed to illuminate the fact that human livelihood is not only related to the production of the means for bare subsistence, but, additionally, to means needed to secure a socially and culturally accepted way of living. Eric Wolf, for example, emphasises that in all societies you will find that there is a "social imperative" for the domestic units to produce a "ceremonial fund" beyond the caloric minimum (and the replacement fund) to cover the expenses of entertaining social relations with their fellows (Wolf 1966: 7-9). It entails costs to live in an orderly society. Individuals and groups may be physically alive but socially dead if they fail to fulfil their social obligations. Stenning (1958) argues that a Fulani household is non-viable if the husband and wife have to devote all their time to productive tasks. To fill his

position in society effectively, to exploit the means of subsistence optimally, a herd owner has to participate in the core social fora, as for instance the market places. Consequently, human exploitation of their natural environment is dominantly a social concern performed within the framework of a culturally recognised technology and goal pattern.

From an evolutionary perspective it is analytically possible to conceive a process where the association between human beings, culture and nature has evolved. Concomitantly, the integration of the three has continuously reached more advanced levels of technological practices in the sense that knowledge has widened and deepened, tools have been improved, and, consequently, resources harnessed from nature have increased. At any stage of the evolutionary process it seems that some kind of balance, or equilibrium, between people, culture and nature has - consciously or unconsciously - been sought through the social production process. The amount and types of resources transmitted from the natural to the cultural state through the socially purposive production process were meant, at one hand, to cover the social needs of the individual members, without undermining the long-term continuity and survival of the society by over-exploitation and misuse of the resources. We therefore frequently find both religious and social institutions (in-dwelling spirits, ancestors, tenure patterns, "sacred cows", etc.) to counteract biological and physical depletion activities. At the other hand, natural resource appropriation has, at any point of time, been a representation of the values, skills, tools, techniques and knowledge present in the society concerned. As long as the available technology practices were simultaneously able to sustain both human viability and the environment, societal living was not endangered. But then... natural haphazards beyond human control, or destructive social processes within the human groups have sometimes threatened to undermine this balance between the societal population and the available natural resources. Most societies under such circumstances have shown a great ability for resilience, some may even have developed their capabilities for survival and continuity. Some few have collapsed (see e.g. Carter and Dale 1981).

## 3.2 SYSTEMIC ANALYTICAL APPROACHES TO AGRICULTURE

### 3.3.1 Farming systems analysis

To comprehend how human groups manage their natural environments in order to sustain an orderly and secure livelihood, a systemic analytical approach involving the most important factors affecting their modes of adaptation is of great value. This is, of course, not an entirely new idea. Since the beginning of the nineteen seventies there has been an increasing emphasis on a systemic approach to the analysis of farming in the process of agricultural modernisation and rural development, and a lot of literature on "Farming Systems", "Farming Systems Analysis", "Farming Systems Research" and related topics and issues have been published. To give a brief account on a mainstream type of systemic approach to agriculture, I will address Hans Ruthenberg's presentation[12] since he is among the most influential first generational authors on this topic (see also Simmonds 1985: 3). Besides presenting the theoretical foundations of the systems approach, Ruthenberg also describes a methodology for the analysis of smallholder farming, and in addition, he lays the foundation for a classification scheme of various farming systems discernible in the tropics.

Ruthenberg's farming systems approach is typically utilitarian in character: the information collected about the phenomena in rural areas has to be ordered into entities which are meaningful in "terms of development". The entities of concern are farms, and the analysis of them is important to the subject of development because the farm is a major "decision point" in agricultural development. The farms are systems because several activities are closely related by the common use of the farm's labour, land and capital, by risk distribution, and by the joint use of the farmer's management capacity. Ruthenberg's systems concept is a complex one, including various subsystems within a hierarchy of levels. On the one hand, the farm is a part of a class of farms which are similar in their structure and which can be expected to produce on similar production functions. Such classes of similarly structured farms belong to a certain farming system (shifting cultivation systems, fallow systems, grazing systems, arable irrigation systems, and so on). On the other hand, the farm as a system by itself consists of related subsystems which

[12]This account is based on the third edition (1980) of:"Farming Systems in the Tropics", Clarendon Press. In this edition, M.P. Collinson and H.G. Zandstra have been included to develop the methodology, and in particular that part of the methodology related to Farming Systems Research (FSR).

form a hierarchy of systems: the micro-organisms in the soil are a subsystem of the soil system which in turn is a subsystem of the cropping system, which in turn is a subsystem of the farm system (see also Hart 1986: 9-32). The farm is a goal-oriented system, and relevant to the organisation of the farm are the multiple goals of the decision-makers, the farmers. A farm system has a *boundary* which separates the system from its environment. The farm system embraces all workers and resources which are under the managerial control of one decision-maker. Basically, the farms are considered economic units, and the most significant connections of the farm system to the environment are expressed in economic terms. The boundaries of the farm unit with its economic environment are defined by the purchase of inputs and the sale or disposal of outputs. If we look at the structure of any farm at any point in time, it is the result of interactions between the internal relations of the farm and the preceding state of the environment. The environment influences the farm system through the external relations. Beside the economic environment, we also find, according to Ruthenberg, that the natural conditions (the ecological environment), the state of knowledge and information (the "educational" environment, or "the state of arts", see Schultz 1983: 30-31), the institutional environment (land tenure, farm size, taxation systems, laws, credit, extension and research), and the cultural and socio-political environment do influence the structure of the farm. As a consequence, the farm system is a function of its environment. But, it has to be added, the environment will also depend on the organisation of farming.

Ruthenberg's systems approach is certainly a valuable tool for the comprehension of tropical farming, but for the fulfilment of my theoretical aspirations it is, by itself, too "mechanical" and "empiristic". The intention of my work is to see the relation between human beings as cultivators of both the "ideational" sphere and the "practical" sphere. Ruthenberg's approach makes it possible to analyse the latter while largely leaving out the former. It does not allow us to get access to the conceptual world of the farmers, which implies that their meanings and motivations, consciousness and purposiveness are generally obscure or absent from his analysis. I also feel that the practical applicability of Ruthenberg's farming systems approach is somehow weakened by the fact that the variation between farms within one farming system may be much greater than the variation between farms belonging to different farming systems. In my own research I found e.g. that the similarities between the farming system of the Toposa with their (more or less) permanent cultivation, and the system of the neighbouring Didinga and the Boya digging their fields on a shifting (or fallow)

basis, is much greater than the similarity between the Toposa and the permanent garden cultivation found in Java or Taiwan (Ruthenberg 1980: 127). I would also like to draw attention to the R-values[13] used by Ruthenberg to mark the distinction between different farming systems (Ibid.: 15-16). The R-values may function as an indicator of the variation between different systems of farming, but they are not wholly and directly applicable in systems with cultivation of fields in several ecological zones, in particular when we add such practices as ratooning, intercropping and sequential cropping. Nor do I believe it to be a necessary and sufficient explanation under any circumstance that the larger the R-values become the higher is the percentage of the area cultivated annually in relation to the total area *available* for arable farming. Farmers do often have some fields they prefer (closer to streams, better micro climatic conditions, closer to the homesteads etc.) which they cultivate to their utter capacity (e.g. with the usage of manure). For these types of fields the R-values may well be above 100. Then, the same farmer may have fields in marginal areas, or fields cultivated only for security (or risk avoidance) purposes. These types of fields may well have R-values below 33. Often, we do experience that farmers cultivate fields having a variety of economic or sociocultural intentions in their minds. But how then do we measure the permanency of the system? Which fields do we choose as yardsticks? On the East Bank, I found that several Toposa families have cultivated sorghum in the same fields for more than fifty years. These were the fields consisting of the rich "black cotton" soil (called **naro** in the Toposa language). According to Ruthenberg this indicates a permanent cultivation system showing a high coherence between the percentage of land cultivated annually and the total area available for arable farming. But this is simply not the situation in Toposa. Potentially arable land is abundant, and only a small proportion of the total area available for arable farming is actually utilised annually. Most of the sandy and silty soils along the seasonal streams, for instance, are considered non-arable, and hence left unoccupied. This may at first seem a bit odd as these types of soils are very important in other ethnic areas. In areas where sandy and silty soils are important, as for instance in Boya and Didinga, the fields situated on these soils are cultivated at an early stage in the season (as they are situated along the streams where some moisture percolates the soils and as even small amounts of precipitation allows these soil to be dug) to give an early yield. To understand why farmers in some areas utilise this resource, and farmers in other areas do not, we must look to the

[13]The R-values is defined as the number of years of cultivation multiplied by 100 and divided by the length of the cycle of land utilization. The length of the cycle is the sum of the years of arable farming plus the number of fallow years.

technology practices at the farmers' disposal. The decisive technological feature determining the use of this resource (the sandy/silty soils) is the combination of adequate crops (mainly root crops and bulrush millet) and the adequate knowledge of their exploitation.

Returning to the large R-values found in Toposa farming, we see that these values are not results of a high percentage of the area cultivated in relation to the total area available. It simply points to two important facts, first that the Toposa show a high preference for the cultivation of sorghum on their Naro-fields (as these soils are rich in nutrients and not that susceptible to drought), a technology practice that does not necessitate frequent shifting, and secondly, that the majority of the Toposa cultivators lack the necessary technology practices to utilise other types of soils. This lack of technology for utilising the sandy and silty soils is to a large extent self-imposed, or, it is, as we may put it, a cultural choice. The Toposa know about both millet and root crops as these crops are cultivated by all the neighbouring groups with whom the Toposa have shared cattle camps and exchanged women with for generations, and as these crops can be purchased on the market in Kapoeta. To argue that the Toposa lack the technology practice necessary for the utilisation of the sandy areas does not imply that the practice is not known or attainable, but that it is not seen to belong to the "Toposa way of living" (**nyepite kangitaposa**, see Kitonga 1985: 15). Such features will always be important in order to understand the rationality underlying a farming system.

### 3.3.2 Research stemming from the systems approach.

Although the various research centres, institutes and individual researchers applying the systems analysis approach do select different aspects of agriculture as their systemic focal point, or view a given system from particular angles, they all stress their holistic, inter- or multi-disciplinary commitment. For this sake, I look upon the systems approaches as an important break-through in the planning and implementation of agricultural development. Consequently, the farming systems analysis approach has given new momentum both to agricultural research and extension as basic developmental means. The research generated from the farming systems analysis has generally been termed "Farming Systems Research" (FSR). "FSR is any research that views the farm in a holistic manner and considers interactions in the system" is the general definition of the FSR given by the CGIAR[14] (Byerlee, Harrington and Winkelmann 1982). International

[14]CGIAR, Consultative Group of International Agricultural Research, Washington D.C., USA.

agricultural research institutes belonging to the CGIAR system, as for instance both CIMMYT and IITA[15], have redirected a lot of their research activities in the direction of FSR (see e.g. Collinson 1982). The FSR concept has met its critics, and has at some institutions been exchanged with other concepts, e.g. "On-Farm Client-Oriented Research" (OFCOR) (see ISNAR[16] 1988). The ISNAR researchers feel that the FSR has come to have very different meanings for different people. Also, according to their opinion, the OFCOR concept is more specifically directed to *problem-solving*, and it is *oriented toward farmers as the primary clients of research* (Merill-Sands and McAllister 1988). In spite of this, a lot of the content and main points of direction of the original farming systems approach are still prevalent within new frameworks.

### 3.3.3 Agroecosystem Analysis

Another direction within the agricultural systems approach is the "Agroecosystem Analysis Approach (AAA)" presented by Conway (Conway 1985, 1987). Conway recognises the achievements of the farming systems analysis approach, and argues that FSR and "Integrated Rural Development" (IRD) have overcome many of the important problems of a narrow, specialised standpoint and therefore has proved their practical value. Conway has, however some objections to these approaches, mainly related to the fact that the FSR and IRD at the same time have tried to encompass a breadth of view and range of disciplines, while at the same time generating a common agreement on worthwhile practical action. To solve this problem, the practitioners of FSR and IRD have been relying too much on bureaucratic procedures and a hierarchical leadership. The alternative, to rely on formal techniques using mathematical or computer models has its negative effects since the experience of many research and development workers will then be excluded because of the special skills needed. Conway's alternative, the AAA approach is also developed from the basic concepts of systems analysis, and is thus rigorous and well focused. But in addition, Conway claims, it is flexible in design and can readily incorporate new ideas. The AAA procedure is not an alternative to FSR or IRD, but can be used within the framework of these and other multidisciplinary research and development programmes (Conway 1985: 33). But

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[15] CIMMYT, Centro Internacional de Mejoramiento de Maiz y Trigo, Mexico. IITA, International Institute of Tropical Agriculture, Nigeria.

[16] ISNAR, International Service for National Agricultural Research, The Hague, Netherlands.

there is a difference in focus between FSR and AAA: While the systems in FSR are basically conceived to be economic, the agroecosystems are basically conceived to be ecological, i.e. agroecosystems are originally ecological systems that have been modified by human beings through the agricultural production process. The complexity of the agroecosystems is a function of the interaction between socio-economic and ecological processes. The agroecosystems may be looked upon as cybernetic systems with definite goals regulated by the human beings utilising the system for their own purposes. Nature is "tamed" by the agricultural cultivation processes. Recognisable system goals become apparent through human social and economic co-operation and competition. It is the complex agro-socio-economic-ecological system created by human interference in a natural setting that is called an agroecosystem (Conway 1987: 96). There are four important agroecosystems properties: (1) *productivity*, the output of valued product per unit of resource input where the basic resource inputs are land, labour and capital. Each possible combination of output and input can be regarded as measures of efficiency of production when two or more agroecosystems are compared. (2) *Stability*, the constancy of productivity in the face of small disturbing forces arising from the normal fluctuations and cycles in the surrounding environment, including those physical, biological, social and economic variables that lie outside the agroecosystem under consideration. (3) *Sustainability*, the ability of an agroecosystem to maintain productivity when subject to major disturbing forces, the persistence of the system's productivity under known or possible conditions. (4) *Equitability*, the evenness of distribution of the productivity of the agroecosystem among the human beneficiaries. Equitability is a social, and rather a moral category, since it expresses the degree of "sharing" and distribution of the system's products among the human population (Ibid.: 99-103).

Conway has, in addition to what is here presented, also laid out how an agroecosystem at a particular level is integrated into a hierarchy of agroecosystems, in the last instance encompassing the whole world. Also, in addition to the description and analysis of the cybernetic capacities and the properties of an agroecosystem, Conway has elaborated a rather detailed presentation of how it can be applied in praxis (basic steps of the procedure for agroecosystems analysis including a workshop "manual" (Conway 1985). By the use of the concept "Agroecosystems Analysis and Development", Conway also indicates how his systems approach may be used to generate a set of research and development priorities that explicitly take account of the trade-offs between the system properties (Ibid.: 111-112).

The Agroecosystems Analysis Approach may, at a certain level, function as a practical instrument for a systematic understanding of rural communities in their environmental setting as the concept give explicit recognition to socio-economic and ecological variables. It makes it possible to measure and evaluate different systems according to some "objective" criterias, i.e. the properties of the system. But there are, according to my opinion, major weaknesses both with the concept itself and the approach. My main objection to Conway's approach is that the inner logic of the system is not revealed. The community of human beings must, according to my opinion, be the most dominant and determining component of the cybernetic system since they in any agroecosystem will function as the "managers" of both the economic and ecological flows. But how, and according to which goals does the human component influence the cybernetic mechanism steering the system? What role does human culture play in "programming" the system? What are the social "purposes" keeping up the system, or changing it?

### 3.3.4 Summary of the systems approach

According to my own opinion FSA, FSR, OFCOR, and AAA are all good tools for generating new knowledge and inventing new technologies for improving existing agricultural systems. It is most fortunate that the main international centres of tropical agricultural research like CIAT, CIMMYT, IITA, ICRISAT and IRRI have adopted and even given the interdisciplinary systems approaches to agriculture a strong emphasis. Farming systems researchers, theorists, and practitioners like M.P. Collison (1982), W. Foote Whyte and Boynton (1983), P.E. Hildebrand (1986), R.D. Hart (1986), D.W. Norman (1986), D. Merrill-Sands and J. McAllister (1988) have given substantial contributions to the understanding of the structure and function of tropical agricultural systems. By their contributions they have initiated processes that, surely, in the long run, will have important impacts on rural development in the Tropics. But still I feel the prevailing systems approaches to be insufficient as they generally leave out the ideational world of the managers of these systems. I believe the reason for this "forgetfulness" to be two-sided: some practioneers and theoreticians are not fully aware of, or have not realised the importance of cultural theory in a systemic approach. Others are conscious about it, but still opposed to it. Norman W. Simmonds, does, when considering what disciplines are needed in farming systems research, state that: "any generalised adoption of social anthropology (in FSR) would be, I believe, merely an expensive way of avoiding a few, not very costly, mistakes by OFR/FSP (On-Farm Research/Farming Systems Perspective) teams" (1985: 51).

Consequently, farmers' consciousness, purposes, beliefs, values, skills, knowledge etc., are generally absent from his models. We could also add that when discussing institutional arrangements, not one local institution is present in Simmonds' models.

In my own work I have to a large extent used the models, theories and analysis established and elaborated by the above mentioned scientists, and am as such very much indebted to their achievements. But in one particular area I feel that my own work deviates from their work and this even to a degree that makes me choose another concept for my own systemic approach. The area I am thinking of is, of course, culture. As I see it, culture is not *one among equal* when it comes to operational factors in an agroecological systems analysis. To the best of my knowledge culture is the basic factor in any mode of adaptation. Let me, to underline my view, cite Burnham who says that: "Quite commonly, Eskimo culture is cited as an apt, if somewhat extreme, example of how man's cultural capacity allows him to adapt to even the harshest circumstances. At such a gross level of analysis, such statements are unquestionably true, for it is apparent that the culture does make the difference between life and death for the Eskimo as it most probably does for every other human being today" (Burnham 1973: 93). Comprehending culture is, hence, fundamental to the understanding of human social action in any environmental setting since "culture mediates or transmits the force of social action on the physical world, and is conditioned by pressures born of the tension between social and ecological forces" (Ingold 1986: 32). Arguing with Geertz that it is through the flow of behaviour (social action) that cultural forms find articulation (Geertz 1973: 17), my analytical objective when analyzing the cultural component within a systemic approach will be to "interpret" social action through technology/technology practices (see Ingold 1986, below), human strategies (see Dyson-Hudson 1980, below), key sociocultural institutions (e.g. kinship, age groupings, witchcraft, authority structures, and gender division of labour) and particular cultural attributes and idioms expressed by individuals or groups in verbal and non-verbal behaviour.

## 3.3 ANOTHER CONCEPT - ANOTHER MODEL

### 3.3.1 The building blocks

To develop an alternative to the prevailing farming systems approaches (including the Conway approach) for the sake of explicitly including the cultural factor in agricultural systemic analysis, I have, beside the prevailing "technical" farming systems approach presented above, taken advantage of a large amount of literature describing and analyzing the "agro-systemic" connections between human beings, culture and nature. My intention is - by the help of some "key" literature to be used as theoretical building blocks - to apply a set of concepts regarding the relationships between man and his socio-cultural and physio-biological environment which will, both by themselves and through their internal connections, give a unified, comprehensive and over-all analytical model of these relationships.

#### 3.3.1.1 de Schlippe's socio-agricultural analysis

In 1956, Pierre de Schlippe, who had been working as an agronomist in the Western Equatoria Province of the Sudan, published a book on the Azande system of agriculture where he presented a study, performed according to anthropological methodology, of African traditional agriculture. Central to his presentation is the contention that agriculture is one of the main links between a human group and the "landscape" in which it lives and which it exploits. Through agriculture the environment has taught its inhabitants a certain way of life. The teacher of a culture is its environment, and agriculture is its classroom. Further, de Schlippe asserts that the more refined functions of a culture, i.e. laws and customs, social and political organisations, morals and beliefs, are in a sense the superstructure founded on agriculture (de Schlippe 1956:xii). Without stating it in direct terms, de Schlippe first and foremost looks upon agriculture as a communication system between the society and its environment. Obviously, there is nothing new and revolutionary in de Schlippe's comprehension of the relation between nature and culture. Among anthropologists, at least back to Julian Steward (1936), the causal adaptive processes between nature and culture have been in focus. The reason why I view de Schlippe's presentation as of particular importance, is that he, as an agronomist, elaborates an explicit *agro-anthropological* approach in a developmental perspective. That his work has been conducted in an ethnic area close to my study area makes it even more

personally interesting to me. De Schlippe's usefulness lies in the combination of his theoretical approach to the nature of communication between nature and society, and his rather detailed empirical description on Azande history, expansion, political structure, language, religion, folklore, kinship, marriage and descent and, of course, agriculture. Although de Schlippe's analysis does not penetrate that deep into my theoretical approach, the presentation of my Didinga material is very much influenced by his model of presentation.

#### 3.3.1.2 Dyson-Hudson's strategies of resource exploitation

Although it is through his work on East African pastoralism that Dyson-Hudson has elaborated the concept of "strategies of resource exploitation", the concept has potentially a much wider applicability, and may well include most forms of ecological adaptation, as for instance both arable farming and hunting and gathering. The concept is "systemic" in two senses:

(1) strategic analysis can provide an explanatory paradigm for human ecology
(a) whereby environmental, biological, and behavioural facts can be considered in a single analytical framework,
(b) whereby both individual and population levels of analysis can be accommodated,
(c) whereby both conscious and non-conscious behaviour can be discussed, and, finally,
(d) whereby both long- and short-term consequences can be searched for.

(2) Strategies of resource exploitation are
(a) organised through social organisational structures, and they are
(b) individually formulated and expressed, determined by goals as well as by resources, affected by relative skill in performance, and because they represent perception, cognition, motivation, and other psychological states

(Dyson-Hudson 1980: 171-183).

Generally, Dyson-Hudson uses the term "strategy" to mean a series or a sequence of adaptive responses by organisms to changes in their surroundings. Over time such responses are in the direction of optimal adjustment (optimal adaptivity). That strategies are adaptive do not, however, imply that populations always know what they are doing, or that they always do the right thing. Specifically, among human organisms, strategy must be construed also as the behaviour of individuals in which their conscious awareness, explicit motivations, and

deliberate choices have to be taken into account. To comprehend the decision-making processes among humans, Dyson-Hudson sees strategy as one of a pair of terms where the other term is "state of nature"; the first being a creation of the actor-subject, the second (which may or may not subsume the behaviour, viewed as competing strategies, of other actors) comprises the conditions outside his control (Ibid.: 172).

Besides the valuable insight Dyson-Hudson's analysis gives both to the internal components and connections of strategies of resource exploitation and its "external" connections to society and culture, I do also very much appreciate the "dynamical" aspect of adaptivity automatically embedded within the strategy concept, an aspect very often lacking within other types of systems analyses. Even though I do not utilise his "strategies" directly in my modelling, his analysis has put my mind on the "right" track when comprehending the ecological component within a comprehensive analytical model of human ecological adaptation also including a social component (strategies of resource exploitation as organised through social organisational structures) and a cultural component (strategies of resource exploitation as individual expressions of perception, cognition and motivation).

#### 3.3.1.3 Ingold - Human nature, individual consciousness and social intent

Tim Ingold has taken a human hunter armed with a spear, out in pursuit of game, as a point of departure for his analysis. Encompassed in this elementary situation we find all four components of "anthropological system building": environment, society, technology and culture (Ingold 1986: 1-2).

The *environmental* component can only be defined relative to a being or beings whose environment it is. For an individual organism, the environment normally comprises three components: the *abiotic world*, the *world of other species*, and the *world of conspecies*. What the environment offers to the surrounded individual is a set of possibilities, or affordances. The environment looked upon as a coherent system of affordances has its sources *within* the individual, i.e. the individual perception of the "systemic" organisation of environmental possibilities is based on a projection of his own internal organisation onto the world outside his body (Lewontin 1982: 160).

The *societal* component comprises an individual's colleagues, his conspecies. But conspecies in this context are not environmental objects but intentional subjects.

Intraspecific relations, at least among human beings, have thus both a *social aspect* (relations between wilful subjects), and an *ecological aspect* (relations between organic objects) (Ibid.: 5). The social, as the source of intent, must be separated from the powers and instruments that constitute culture, and which can be connected up with those instruments and powers that are located in human nature. Human nature and human culture provide us with the equipment to act socially upon the physical world (Ibid.: 34).

Quite interestingly, Ingold has singled out *technology* as a particular analytical aspect of a systemic "human-beings-operating-in-nature" situation. According to Ingold, the concept of technology primarily refers to knowledge and skill, and not to instruments made and used. Considering the human tool, it leads a double existence: as an objective instrument; and as a corresponding subjective conception. The totality of these conceptions and their interrelations, located in men's minds, constitute a technology. Technology is thus *internal* to individuals, carried out in their imagination, but *external* to the material world of organisms, existing only on the level of ideas. Michael Moerman has a similar apprehension of technology, although focusing more on behaviour than on ideas when describing farming behaviour from a viewpoint of technology: "By 'technology' I do not mean material culture, subsistence production, or any other category based upon the substantive content of the behavior itself. (...) I use technology as an analytic category that views behavior as solutions to problems"(Moerman1968:26).

For Ingold, the elements of "material culture" (tools and instruments) can be regarded interchangeably as parts of the environment to which individuals are constrained to adapt, and as parts of an apparatus of environmental adaptation. The interrelationships of technology and environment will be culturally defined, as culture prescribes ways in which a given environment is utilised in acts of production (Ingold 1986: 6-7).

Technology, as a corpus of knowledge, is a part of a larger symbolic system; *culture*. Hence, it is through culture that a social purpose is translated into practical effectiveness (Ibid.: 31-32). But we should never forget that even as a culture-bearing organism, a human being is as confined to the same biological ecological scene as the non-human animals. This does not, however, mean that human life can be comprehended only through ecological analysis since consciousness and its implications for adaptation will here be missing. To understand human patterns of adaptation, we have to know about their purposes,

purposes which have their source in the inter subjective domain, i.e. in the field of social relations that lies beyond the general field of ecological relations (Ibid.: 9).

All through his work, Ingold emphasises the two-sidedness of man, where he on the one side is part of a complex genetically programmed apparatus, and on the other side is part of a system of relations between conscious agents who utilise and control the material apparatus of production, including its genetically fashioned component. To understand *production*, how human beings appropriate natural resources for their own purposes, we should therefore think in terms of an interplay of two systems of relations - the one social, the other physical. And in-between these two systems of relations we find technology (as a part of culture), representing the procedures which mediate the force of social action upon the physical world.

As will be seen from my analytical model, Tim Ingold's conception of the relation between nature, society and culture, as well as his emphasis on technology, has had a direct impact on my model.

#### 3.3.1.4 Spooner's three-dimensional ecology

As my last building block, I will sum up some of Brian Spooner's main theoretical orientations and arguments regarding the "systemic" relationship between nature, society and culture. Spooner's intention is to "emancipate" ecological analysis from its physical and biological orientation. He wants to replace a one-dimensional concept of ecology with a three-dimensional concept consisting of three independent but interrelated processes: natural, social and cultural. Here, the *natural* comprises physical and biological phenomena; the *social* denotes phenomena derived from a combination of demographic variables and the interaction of human beings running their daily lives; the *cultural* refers to the meanings that govern people as they interact (Spooner 1984: v-vi).

In the research process, the natural dimension covers all animate and inanimate relationships except for those that are formed by social or cultural factors. The interaction in the natural dimension is believed to be inherently predictable. As with the natural dimension, the social dimension depends primarily on observation, but diverges from the former in that it cannot be predicted. While Ingold (see above) sees the social as comprising the intention, i.e. the background for individual action, Spooner regards the social as the product of the interaction of the natural and the cultural. Spooner sees the cultural as the most intractable

dimension as we, to understand it, have to enter people's mind and distinguish its ideational content (Ibid.: vi).

To underline the importance of the cultural dimension of ecology, Spooner claims that the three-dimensional concept of ecology has three dimensions of "meaning": in its natural dimension, ecology directs attention to the systemic relationships that compose concrete, natural reality, i.e. ecology "means" the systemic relationships composing the natural reality. In its social dimension, ecology has different social referents according to where the actor stands in relation to other actors (the status and role aspects of social interaction) in an ecosystemic whole, i.e. ecology "means" different things to different actors according to their place in the social dimension of the ecosystem. In its cultural dimension, ecology stands for a value ("it is good") and has the quality and power of a symbol ("it moves us") (Ibid.: 3).

In the opposite direction, i.e. to underline the limitations of the natural approach to ecology, Spooner states a fundamental paradox in human ecology: it is generally assumed that natural ecological processes conform to natural laws, but, how then, can human behaviour be "lawless" if the biological organisms that generate it, as well as its physical environment both conform to laws? How is it possible for the natural component of a problem to be determined by laws, whereas the sociocultural component -as a part of the natural - is not? The only resolution to this paradox of human ecology lies in the understanding that natural laws are formulated on the basis of human perception, and perception varies among individuals, as it does among societies, because human perception is selective. While selectivity (automatically implying reductionism) in ecological observations allows the formulation of natural laws to account for natural phenomena, selectivity in the observation of human behaviour has not been able to reduce the diversity of activity to the order of predictive laws. The intimate relations between the observer and the cultural phenomena he observes makes it difficult for the observer to reduce or select the necessary elements to make laws (Ibid.: 4-5).

On the basis of this argumentation Spooner does not find the concept of adaptation, in its natural orientation, very useful since there always have to be some kind of relationship between human activity and natural conditions (if only because of precipitation) which could be denoted as adaptation. All behaviour is in principle adaptive in the sense that in a given situation an individual or a

group adapts its behaviour to a set of factors, but quite often the actor may see the cultural or social factors as more immediate and important than the natural. Hence, behaviour that is adaptive in a social or cultural sense, may be maladaptive in a natural sense (Ibid.: 11-12).

What I, in particular, find attractive with Spooner's analysis is his efforts to "de-naturalise" and "re-humanise" the ecology concept. Within my own analysis I have, however, still found it appropriate to reserve "ecology" to its natural, biological orientation although being aware of the human component (as stated for example by Dyson-Hudson, see above). To utilise the major theoretical advantages of Spooner's approach in my analysis, his conception of ecology may in many respects be replaced with the concept of "ethno-agrarian mode of adaptation" (see below) where the latter concept is given more or less the same content as the former (as described by Spooner). The major distinction between Spooner's ecology and "ethno-agrarian modes of adaptation", is the latter's explicit recognition of the articulation between nature and society through technology.

### 3.3.2 "Ethno-agrarian modes of adaptation"

Ethno-agrarian modes of adaptation is a concept that is meant to comprise the most important aspects of the multifaceted relations between nature, people and culture. The concept maintains that among particular human groups sustaining their livelihood within given environmental constraints, an "adaptive" technology will be generated.

A technology, as I conceive it, is part of a total cultural pattern specific for a given ethnic group. Knowledge, instruments and techniques belonging to a technology are products of a long historical development, i.e. cultural accumulations of the past.

The concept ethno-agrarian modes of adaptation indicates a systemic approach to the understanding and analysis of human groups in various agroecological settings. My contention is that the relations between human groups and nature are basically rational recognising the cultural premises and the natural surroundings.

Looking at the component parts of the concept, we could at this stage briefly say that *ecological adaptivity* points to the fact that human systems surviving a long

historical evolutionary process are sustainable in the respect that they are adapted to their environment and display resilience under shock or stress (not, however, implying that ecologically, socially or culturally maladaptive practices do not exist). The human systems are, by applying their technologies (i.e. cultures), adequate for the utilisation of their habitats, and the habitats are adequate for sustaining the human systems.

*Ethnicity* is first and foremost related to the sociocultural particularities identifying various human communities. Following Barth (1969) ethnic groups are: characterised and identified by self-ascription and ascription by others; existing within persistent ethnic boundaries; sharing a common ethnic identity that is associated with a culturally specific set of value standards; the ethnic identity forms the basis for interaction (Barth 1969: 10-14, 25). Although ethnicity is not specified explicitly by Barth, we are able to deduce, by interpreting the text and glancing at the sub-title of his book ("the social organisation of culture difference"), that ethnicity includes two interrelated and interdependent aspects: (1) the social form, i.e. patterns of social interaction within and across ethnic boundaries, and (2) the cultural content, comprising (i) overt signals and signs - the diacritical features that people look for and exhibit to show identity, and (ii) basic value orientations -the standards of morality and excellence by which performance is judged (Ibid.: 14).

Barth's focus of investigation is the ethnic boundary which he views as a social boundary that quite often has a territorial counterpart. Ethnic boundary canalises social life, and it frequently entails a complex organisation of behaviour and social relations. When another person is identified as belonging to the same ethnic group, it implies a sharing of criteria for evaluation. Ethnic identity thus implies many constraints on individual behaviour (Ibid.: 17). For Handelman "ethnicity is a category of membership; that is, an ascribed or self-ascribed device that socially locates an individual with reference to the social ascriptions of other persons (...). It is membership in....'categorical corporate holdings.' Such holdings consist of knowledge which may be termed 'culture', and in which category members have rights (...) ethnic category membership provides persons with the elements of a 'social biography' which connects 'culture' and behaviour, and the past to the present" (Handelman 1977: 190). Ethnicity is, therefore, according to Handelman, the basic social identity which individuals use in their orientation to other individuals. When coming to the notion ethnic "community", Handelman specifies that the members' corporate holdings are concentrated in a particular

space or territory. The connection between membership knowledge, corporate rights, and territoriality is here decisive (Ibid.: 197).

Since values, beliefs, knowledge, skills, etc. varies from one human group to the next, so will the ethno-agrarian system. It is culture, constrained by the limits of the environment, that decides what to be produced, how, by whom, when, where and in what amounts. It is culture that determines who shall get what from the produce, who will cook, who will eat with whom, and at what time. It is culture that determines which food is preferred and which is not.

*Agrarian* intuitively points to the more genuine technical and material aspects of the production process. In addition, factors very much determining the rhythm and processes of the agricultural production cycle, such as climatic and edaphic conditions must also be considered as agrarian components since they to a substantial degree affect human choices and ways of operating. The agricultural aspect involves all sequences of the production process; planning, practical preparation and organisation, production, processing, and post-productive operations. Because agriculture may imply as various enterprise patterns as animal herding and crop husbandry, or a combination of the two, the concrete operations that have to be undertaken will vary greatly from one system to another. In this connection it may be correct to add that since "men...farm not by instinct, but by consciously using culturally appropriate means to cope with culturally recognised goals" (Moerman 1968: 27), ideational structures ("human capital") will be as important as land, labour and physical capital in the agricultural production process.

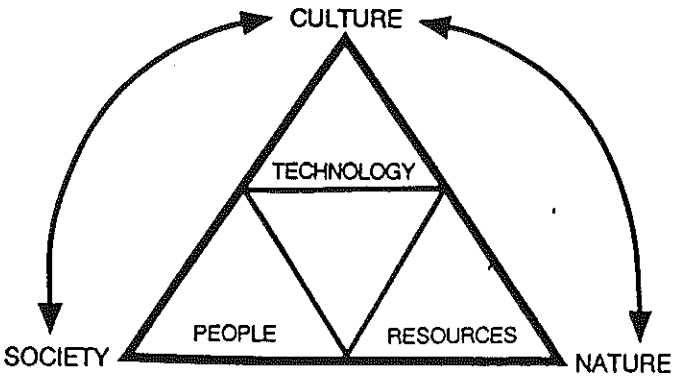
### 3.3.3 The system modelling

#### 3.3.3.1 The general level of analysis

At a general level of analysis it is possible to present a rudimentary model depicting the perceived relationships between society, nature and culture. According to this model nature supplies the necessary natural resources for human survival and societal continuity; the society supplies the necessary individuals and structures which makes it possible to utilise the nature's resources for the well-being of the society and its individual members; the culture supplies the

technology, i.e. the ideational, organisational and technical patterns enabling a communication, or mediation, between society and nature.

**Fig. 3.1:** The interrelationship between culture, society and nature




When applying such a simplified model, we have to be cautious since it might easily catch us in the "reification trap", i.e. we ascribe the model and its elements a concreteness and a purposiveness which, of course, it does not have. Both the notions of culture, society and nature and the distinctions between them are abstractions created as analytical simplifications. Despite these theoretical considerations, I believe the model describes some important connections and relations which we may empirically acknowledge. This model depicts both an indirect and a direct relationship between society and nature. The indirect relationship implies in one direction that human beings belonging to a particular society "interpret" their natural environment by applying their cultural learning, and in the opposite direction that particular properties of the natural environment are "explained" to the individuals through their cultural experience developed over generations of productive activity, i.e. through an extensive period of interactive involvement human beings and natural properties have "learnt" to communicate through culture (re. de Schlippe above). The direct relationship between nature and society can best be seen in the way the seasonal changes that control the rhythm of natural phenomena - rainfall, temperature and the biological cycles of animals and plants upon which human livelihood depends - enter into and become a part of social life, i.e. social life is regulated so as to incorporate natural fluctuations. Regarding the pastoral Turkana, P.H. Gulliver says that "there is such a notably harsh and difficult environment that its

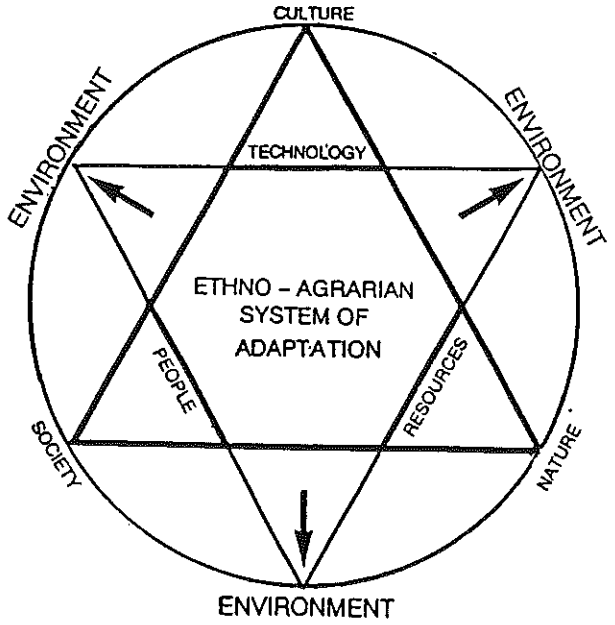
effect on social life is all-pervasive, inescapable both for the people themselves and for the observer of their lives and activities. For a proper understanding of any facet of Turkana social organisation it is necessary to begin with an appreciation of the environmental limitations rigorously imposed on all social activities. To a certain extent any study of the Turkana is also an ecological study." (Gulliver 1968: 285). Obviously, natural conditions do rarely influence social activities so rigorously and to the same extent as they do in Turkana, but in most societies based on a subsistence economy we will find that nature to a substantial degree "conditions" important social phenomena directly. This is again mirrored in cultural patterns. As Forde argues: "Physical conditions enter intimately into every cultural development and pattern, not excluding the most abstract and non-material; they enter not as determinants, however, but as one category of the raw material of cultural elaboration." (Forde 1949: 464)

Quite generally it can be asserted that the incorporation between the natural and social order does on one side create particular cultural features (e.g. technological practices). On the other side, the form and content of the actual incorporation is, to a large extent, determined by existing cultural features. Nature works on social life both directly and indirectly (through culture), and social groups exploit natural resources and adjust to the natural order according to culturally accepted standards. It is, of course, impossible to state, which of the three elements take precedence in the generation of a particular mode of agrarian adaptation, but somehow I feel that the cultural ecological approach, as described by Yehudi A. Cohen (1968), has grasped an important point as it states that culture is man's most important instrument of adaptation, and that it is culture that has enabled him to free himself from the restrictions or limitations of his genetic constitution and his natural milieu. The society (or the social group, consisting of a population with its organisations and institutions) that carries the culture, must adapt its organisations of social relations to its mode of acquiring a livelihood. To achieve this adaptation, it applies its culture (Cohen 1968: 1-3). Culture is hence both a consequence and a necessary precondition for adaptation. Quite similarly, Julian Steward focuses on the adaptive processes by which human societies and cultures adjust to a given environment. Steward paid primary attention to the "cultural core" defined as "the constellation of features which are most closely related to subsistence activities and economic arrangements...(which)... includes such social, political, and religious patterns as are empirically determined to be closely connected with these arrangements (Steward 1955: 37). Other variables, more detached from the subsistence patterns, were characterised as "secondary features",

and were to a greater extent determined by purely cultural-historical features. To study the relations between a culture and its environment, Steward set out three fundamental procedures. These were to examine: (1) the relations between environment and exploitative or productive technology; (2) the patterns of behaviour involved in appropriation through a specific technology in a particular area; (3) the extent to which behaviour patterns involved in appropriation influence other aspects of culture, i.e. secondary features (Ibid.: 40-41). Although I have not followed Steward's procedures directly, they are partially embedded in my own analysis.

By incorporating the theoretization above, it is now possible to elucidate the proposed concept with a bit more elaborated model:

Fig. 3.2: The interrelationship between society, culture and nature and the ethno-agrarian system of adaptation




This model is meant to forward two basic messages: firstly, that the ethno-agrarian mode of adaptation (EAMA) is a function of its (three-dimensional) environment, i.e. EAMA = f(S,C,N), and secondly, that the agricultural system, through its operation, simultaneously generates its own environment.

Technology practices is the means that human beings put between themselves and nature, i.e. technology is the means human beings apply to manipulate

nature in order to take advantage of the resources that nature potentially supplies. Through technology practices potential resources may become manifest and utilizable. But from that great reservoir of utilizable resources, the only resources actually utilised will be those preferred according to the skills, ideas, values, and beliefs of the people, i.e. according to culture. But as culture changes (re: Dyson-Hudson's "strategies", see above) so will resource exploitation.

Technology may be considered two-componential, it has a cognitive component (knowledge, comprehension, and conceptualisations) and a physical, or instrumental, component (the actual tool or technical instrument). It is the cognitive part of technology that steers and sets limits to the physical part. The fundamentally cultural foundation of technology can best be apprehended when recognising its cognitive component.

Technology constitutes that part of the total cultural patterning that plays the most active and direct role in the communication process between nature and society. But, of course, also religious beliefs, land tenure rights, kinship and marriage patterns, rules of matrimony and inheritance, genealogical charters, status and prestige structures etc., play significant roles in the utilisation of natural resources. Quite often these factors are so closely interwoven with the more genuine technical aspects of nature resource utilisation that they cannot be separated at all. In Didinga, for instance, no farm family will start the cultivation before the **bati-lotu** ("father of land") has performed the proper rites and given the signal to go ahead. If they did, all kinds of misfortunes may call upon the family. When a **bati-lotu** dies, the total agricultural production process in his territory of jurisdiction will come to a stand still, and it will be resumed only after a new **bati-lotu** has been appointed, no matter how the nutritional situation in that locality might be. Also among the Didinga, the witch may, with the assistance of the "satanic" spirit called **borohec**, stop the rain from falling.

If the ancestral spirits of a Lotuko family create too much trouble and inconveniences, harming the crops, making the family members ill, creating tensions and conflicts among the members, the head of the family will first exhume the bones of the diseased ancestor, buried right outside the entrance to the compound, and then re-bury them somewhere else according to the prescriptions of a diviner. If this does not solve the problem, the family will leave its compounds and its fields behind and settle some other place.

In Acholi a family must sacrifice at the ancestral shrine in a correct manner to make sure of a good harvest. In many areas evil will (and in particular the "evil eye") of your neighbours may destroy your crops, your children, or other belongings.

A similar mixture of religious and productive aspects can be observed when taking such a "natural" factor as rains into consideration. For all the East Bank ethnic groups, rain belong at least as much to the sociocultural sphere as it belong to the bio-physical sphere, which means that this key factor in their agrarian system must be treated as much as a socio-cultural factor of production as a natural factor of production. During, for example, the drought in 1984-85 it was strongly believed in the Lango ethnic area that the rainmaker of the Ikotos village had stopped the rains because some families could not settle a dispute over a small number of cattle. The result of the off-set of rains was a serious damage to the crops over the greater part of the Lango area which resulted in wide spread starvation.

The serious hunger situation in Toposa in 1985, created by the absence of rains and the subsequent poor harvest, was explained by the Toposa as the result of too much conflict and unrest within the Toposa society. It was a punishment from God (**Nyakuj**) in order to stop the internal quarrelling and fighting.

These brief examples are mentioned only to underline the argument that what various people conceive as "natural" or "social" exhibit a great variation, and that cultural factors, directly or indirectly, constitute an essential conditioning part of the production process.

Turning then to agriculture, we ought to apprehend it as an encompassing and complex system of technology practices where the immediate and direct connections to both nature and society are particularly salient. Agriculture, with its system of knowledge and its reservoir of technical implements, is in one direction the means through which a society adapts to its habitat, and in the opposite direction it is the means through which nature is manipulated in order to supply the means the society "culturally" appreciates.

If we, by now, should try to compare the prevailing farming systems approach with a "culturological" systemic approach, we see that the former applies a one-dimensional techno-material approach to agriculture, analyzing it as an

"instrumental" process of operation where human beings exploit their natural environment according to economic goals. The various elements of the system are integrated more or less mechanically, and the perceived constraints are mainly economical or physical in character.

Employing a culturological systemic approach implies that agriculture is conceptualised as an encompassing and complex system of technology practices where the immediate and direct connections to both nature and society are concentrated and condensed. Agriculture, as a particular mode of social action undertaken by conscious individuals with a reservoir of knowledge and technical implements, is in one direction the ideational and instrumental medium through which man adapts to the natural environmental conditions. In the opposite direction agriculture is the medium through which nature channels both information about its potentialities for appropriation and the basic instruments enabling this appropriation. Various agricultural practices are hence elements within an over-all communication system between man and nature. Comprehending a particular agricultural system in a particular social and natural context thus implies first of all the comprehension of the meaning and motivations, i.e. the ideational pattern, "moving" the social actors, a pattern developed in a continuous communication process between man and nature.

#### 3.3.3.2 The specific level of analysis

The general level of analysis includes conceptions and abstractions that can be used for studies of a wide spectre of systems, from large scale regional systems of irrigation found e.g. in the ethnically homogeneous areas of Asia, to small scale local systems found e.g. throughout most parts of Sub-Saharan Africa. To make the task of analyzing the Didinga more concrete we need to specify the elements of this systemic approach to the degree that we can grasp the essentialities of the system. So, with this generalised system of ethno-agrarian adaptation as a theoretical framework we will now proceed to the specific level of analysis, i.e. to the level where concrete analysis may be performed. Within the specific level of analysis, we will at the present stage of analysis discern three basic social levels, each corresponding more or less to a specific territory: the domestic level, the local level, and the community level. In reality, these three levels are not discontinuous, and they are not at any instance exhaustive. Both the domestic and the local level, for instance, contain two or more sub-levels. Before proceeding, I will refer to Neville Dyson-Hudson's analysis of East African

pastoralists where he lists four levels of organisation with accompanying features which are also empirically discernible in Didinga:

*Tribe* - political affiliation and emergency resource access;

*section/sub-tribe* - resource allocation;

*neighborhood* - resource exploitation, information concentration and dissemination;

*camp/homestead* - production and reproduction of livestock and humans

(Dyson-Hudson 1980: 182).

In my modelling efforts, I have employed "community" as more or less similar to Dyson-Hudson's tribe, and "domestic level" as he employs camp/homestead, my level of "locality", however, incorporates aspects of both his section and neighbourhood. Obviously, I could as well have made an analytical separation between those two structural levels, but to simplify my analysis, and to stress the factors I consider to be of general importance, I have chosen to go along with the three levels mentioned.

Let us then for the time being perceive that the specific level of analysis consists of three concentric social groupings: the household, corresponding to the domestic level; the village (or village area), corresponding to the local level; and the ethnic group, corresponding to the community level. Each of these levels (or groupings) are basically connected to defined territorial boundaries.

#### 3.3.3.3 The Specific Level in the East Bank Setting

On the East Bank, in general, there is a great variation regarding the structure and function of the different structural levels. The community is the largest "traditional" socio-political unit existing on the East Bank, and it corresponds regularly to what is usually called an ethnic group (or a tribe). Each ethnic community on the East Bank has its own territory, its separate language (or - according to definition - dialect), its particular cultural patterns, and its own socio-political structure. There are important differences between the various ethnic groups regarding population size, mode of ecological adaptation, internal structure and cohesion, kinship and marriage pattern, gender division of labour,

school attendancy, degree of "modernisation", and so on. Whereas the Toposa consists of a population of between 125-200.000, the Boya are less than 15.000. Whereas the Toposa and Boya are typical transhuman pastoral groups; the Lotuko, Didinga, Lokoro, Lango are sedentary agro-pastoral; and the Lulubo, Lokoiya, Madi, Acholi and Bari are typical arable farmers. Whereas the Madi and Acholi have a high school attendancy, very few children attend schools in Toposa. Whereas communal labour parties with beer as a major ingredient are typical for most groups on the East Bank, it is almost non-existing in Toposa.

Locality is a concept that covers socially recognised, delimited and named geographical areas, or territories. The locality, as I apply it, is a socio-political unit, and on the East Bank it is generally lead by a headman and it contains a "traditional" court (A-court). Among some ethnic groups, e.g. the Pari (Lokoro) living behind fenced compounds (homesteads) in densely populated, and palisaded settlements, a locality corresponds largely to what we in everyday terms would call a village. Among the Didinga, exhibiting a more scattered settlement pattern, a locality corresponds to a widely dispersed neighbourhood. For the sake of convenience we may denote the locality a village or a village area.

The variations found at the local, or village level will, of course, to a determining degree mirror the variations found at the community level. But even within each ethnic community there will, in addition, be variations specific to each village due to particular local social and/or natural factors. The most important variations at the local level will be related to size, composition and lay-out of the villages, according to what principles they are organised, the dominant economic enterprises, and the degree of internal cohesion. While the localities in Lokoro (Pari) consist of densely populated and palisaded villages, the localities in Didinga, in general, consist of small hamlets spread over an extensive area. Within Lotuko, there exist both large villages (especially on the plains) and dispersed village areas (especially in the mountains). While the Lotuko village-quarters (**amangat**) are properly organised, a Didinga sub-village appears to be somewhat more "anarchistic" in character. While the Toposa and Didinga quite commonly cultivate large "village fields" where each family digs its own plot, the Madi and Acholi quite commonly cultivate separate field for separate households.

Turning to the domestic level, we will observe an extensive variation both within the same ethnic group and between ethnic groups regarding household forms and functions. This variation stems from both the structure and composition of

individual households and the processes of the culturally constituted *householding*, i.e. production activities, division of labour, consumption activities and inter- and intra-household exchange, and patterns of power, authority and decision-making (see e.g. Barlett 1987: 4). Variation in household forms found within the same ethnic group may, to some degree, be looked upon as a variation from a single root form that undergoes several phases in its reproductive cycle (Weismantel 1987: 59).

Despite the variation between the different groups, e.g. between the "duolocal" household residence pattern of the Toposa (and to some degree the Boya) and the common "monolocal" residence pattern of the other groups on the East Bank, there are, however, some regular householding features which all the groups share in common. One of these common features, which may initially seem as a paradox, is that each adult individual member of a household is simultaneously strongly incorporated and relatively autonomous. While, for instance, the husband and the wife within a household hold clear and regulated rights and duties toward each other and their children, they can also claim a particular degree of autonomy. In the agricultural production process, for instance, each member knows his/her tasks and responsibilities, and the operations generally run rather smoothly. Among the Pari of Lafon where the women's participation in crop production is limited, they nevertheless hold essential ritual and practical roles related to agriculture. They are the ones selecting and storing the ears of durra to be used as seeds for the next season. The women are also performing important fertility rites to secure a good harvest at the commencing of a new cropping season. During the various phases of the cropping calendar particular expectations are associated with the role of a wife: brewing beer for communal labour on the family's fields; preparation of food; bringing drinking water to the field etc.. But besides these regulated tasks and responsibilities, she has clear cut rights to do her own things independently of the husband. If the husband wants more services than those regulated according to conventions and expectations in the "conjugal contract", he has to pay for them. If, for instance, the husband wants his wife to brew beer for bare pleasure and leisure, he will be charged. Women all over the East Bank brew beer, bake cookies and make handicrafts which they sell on the market. Income from such activities will in principle be disposed of by the women. This opportunity for individual autonomy also goes for men. If the husband acquires some extra income from activities outside the domestic domain, he will not be obliged to use it for common household purposes. Many men are, for instance, saving money and/or animals so they can

afford an additional wife. As a general rule it can be said that even if the household is a corporate group with a lot in common, the individual members have a clear and specified range of autonomy. From the system's point of view its smooth functioning is dependent on fulfilment of these conventions and expectations, but, in addition, the conventions and expectations also "protect" the individual members by giving them a particular, and demarcated, space of autonomy. Consequently, within all ethnic areas of the East Bank, men and women are using a substantial proportion of their time among age-mates of the same sex, even to the degree that they eat most of their meals together. In Toposa, whereas the husbands are spending most of the year together with other men in the cattle camps, the wives with daughters and younger sons are living together with other women and younger boys in the permanent settlements. Accordingly, the households at the East Bank are both corporated and segregated social units.

#### 3.3.3.4 Corporation and estate

Radcliffe-Brown (1952) has applied "estate" as a conceptual tool for analysis of succession. According to his analysis (of the Kariera horde), various types of social units, or corporations, have collections of rights - whether over persons or things -with implied duties. These collections of rights with implied duties is the "corporate estate" of a social unit. For the Kariera horde the corporate estate includes its rights over its territory and its rights over its members. The survival and continuity of the corporation depends on the continuity of its estate, that is, both the continuity of possession of the territory and the continuity of social and biological life of the corporative members (Radcliffe-Brown 1952: 32-34).

The concepts of corporation and estate will, I believe, be valuable tools for my own analysis. Instead of delimiting the use of corporation, or corporate group, to a particular social unit (like the horde), I have, for my own purposes, found it useful to employ the concept for the analysis of the various social units at the specific level: ethnic community, village and household. At each structural level the corporate group will occupy its specific - but not exclusive - estate, i.e. the territory of the village will also be a part of the ethnic territory, and a member of a household will also be a member of a village and the ethnic group (hence the conception of concentric groupings). We need here to add that seen from an individual member's point of view, he or she will always have certain rights over other members and over the territory of the corporate group. These rights are part of an individual's personal estate.

Employing the concept of estate, I have elaborated it a bit and hence gone beyond the more direct and concrete rights over territory and members, viz. such cultural factors and idioms as ritual sites and ceremonies, language, heritage, common values, norms and beliefs, and so on. If we, for instance, look at the cultural norms of a society concerning household life (e.g. norms of gender behaviour, loyalty etc.) we will see that they are meant to satisfy the social requirements of both each individual member (belong to his or her personal estate) and the household (belong to the household as a corporation). In addition, such norms normally assure that households do not develop into self-asserting systems operating independently of the community (and as such these norms belong to the communal corporation).

### 3.3.4 The Didinga Specific Level

#### 3.3.4.1 The Domestic level

Family and household are both concepts that are used for the social unit found at the domestic level. Both concepts may or may not cover the same social unit depending on how the two concepts are analytically defined. When I, within this particular part of my analysis, prefer household to family as an analytical concept, it is for two reasons. First, while family is a concept that automatically draws my attention toward kinship and marriage, household draws my attention toward the management of resources, i.e. toward *householding*. The two concepts cover two different but still overlapping and interdependent aspects of reality: a household is first and foremost a resource system, i.e. a bounded social unit possessing a variety of resources which may be used in different ways (Wallman 1979), a family is first and foremost a group of people related by agnatic and affinal bonds, i.e. a bounded social unit defined by marriage and descent.

At the domestic level in Didinga we find three interrelated social units, **cieth**, a house or a home; **halang**[17], a yard/compound; and **olo**, hamlet or homestead. In the empirical presentation in the next chapters, these units will be discussed more in detail. For the time being, I will apply the concept of household for the social unit called **cieth**. The different wives of one man may or may not live within the same compound. In some instances the wives of a single man may even live in

[17]**Halang** (pl. **halangiok**) is a term with a double meaning. It refers both to a particular socio-territorial segment under the "management" of one man, i.e. his wife/wives and off-springs, residing within a homestead, **olo**, and a family, irrespective of how it resides.

different villages. But in any case, each wife will have her separate house, **cieth**, i.e. her separate hut, her separate kitchen, her separate fields, her separate herd of animals, and her separate children. So, in reality, a household is a wife-centred unit with the husband functioning either in full capacity (in monogamous families), or in a capacity as an associate or partial member (in polygamous families). In Didinga the smallest social unit, **cieth**, points exactly to a mother centred unit. A husband is not considered to be a member of his wife's **cieth**, but to the **cieth** of his mother. He will be a member of his mother's **cieth** until the day he is able to establish his own separate **olo**, or **bilak**. The olo is a partially self-sustaining group including a man and his adult, often married sons with their families. Before a man has established his own **olo**, most of the co-operation takes place between himself and his brothers from the same mother, i.e. the brothers from the same **cieth**. After the establishment of his own **olo**, most of the co-operation takes place between himself and his sons. If he has sons with two or more wives, each group of sons, as members of separate **ciethi**, will form separate co-operation units. But the two, or more, **ciethi** will belong to their common father's **olo**. An **halang**, in this context, designates the social and territorial unit under the leadership of one married man belonging to an **olo**.[18]

In cases where the husband dies or leaves home, the individual household, **cieth**, may well continue its functions and activities with the wife in charge. This will in particular be the case if the household contains adult children who can assist their mother. If the oldest son of the wife left behind is considered "adult" (being about eighteen years of age or more) he will often become the nominal head of the household.

In the opposite case, we will not find a **cieth** without a wife or, alternatively, without a woman ascribed the major functions of a wife (husband's sister, adult daughter or another). A man loosing his wife by death or divorce can never perform common domestic work like fetching firewood and water, do the cooking, cleaning or child-caring. A household without a wife is hence non-viable, and the "lonely" husband will, depending on the existing possibilities, either try to find a woman that can replace his wife, or he will move to his

[18]These units are not necessarily empirically discernable. In a situation where a man together with his only wife and their unmarried children form a completely separated unit, the terms **cieth**, **halang** and **olo** can be used interchangeably. From the perspective of the wife and her children, this is a **cieth**, from the perspective of the husband, this is his **halang** (family) forming the demographic element of his **olo** (homestead).

mother's household, or a household centred by one of his married daughters, sisters, or one of his brothers' wives.

Another reason for preferring the concept of household before family is that the latter concept does, at least intuitively, depict a variety of personnel classified together as a kinship segment within a "genealogical charter" although belonging, for most practical purposes, to quite different structural units. All recognised children of a man belong to his family group wherever they are actually living. Two adult, married brothers residing in different areas and managing their separate households will still belong to the same family. A daughter who is married off in another village will still be related to her natal family but not belong to the household of her parents. An unmarried son who leaves home to take up work elsewhere will belong to the family of his parents but not to their household. A married women is in a particular position as she as a wife belongs to her husband's family group, and as a daughter belongs to her natal family. A wife's position within her husband's kinship group can be precarious. In many instances, women loosing their husbands by death or divorce (in particular if they are childless or only have young children) may, despite the "levirate" institution, have to move back to their parents household, alternatively to one of their brothers' (or brothers' wife's) households.

From this discussion we may depict a household as a domestic group with a size and composition enabling social relations and practices that integrate a number of functions and activities. Yanagisako (cited in Weismantel 1987: 59) states that domestic activities are commonly grouped into two primary types, one having to do with social reproduction, the other with the production and consumption of foods. Weismantel emphasises that the household is not a static social unit defined by co-residence but a set of ongoing economic activities, a relation of production, consumption and reproduction, and that the process of social reproduction of the household, through its division into new households, is not only necessary to long-term survival but is a constant and intrinsic aspect of the household formation itself (Weismantel 1987: 56). The non-material dimensions to households such as emotional ties, fertility, reproduction and socialisation are, thus, all parts of forming and dissolving household bonds (Barlett 1987: 9). In Didinga, as generally in communities with basically non-monetary economies, the household institution fulfils most of the tasks and obligations that in monetized economies are performed by a whole series of institutions and agencies. This implies that households must be comprehended within the

framework of their multifunctional capacities. They are hence neither economic institutions, nor socialising institutions, nor institutions for child-bearing and child caring, nor religio-political institutions. They are all those institutions simultaneously. Households consist of social relations and practices that integrate a set of functions and activities. Looked upon solely as economic institutions, households carry out the major productive, distributive and consumptive activities with a minimum of labour power, with a limited amount of tools and equipment, and with a limited degree of division of labour. To compensate for these "defaults" households are always connected to other households and penetrated by affiliations through age groups, kinship and friendship, and hence rely to a substantial degree on social relations to other households to secure their viability.

#### 3.3.4.2 Households and their corporate estate

The Didinga households consist of human beings belonging to different age and sex categories, each with a variety of tasks to fulfil, each occupying specified statuses with concomitant roles which they have to play, each with their individual ambitions and desires, each with their personal kin ties and bonds of affection. These *individualising factors* will segregate household members and hence function as *fissionary* forces within the household. To keep the unity of the household, it needs certain elements to counteract these fissionary forces. These elements, or *fusionary* forces, are in most instances stronger than the fissionary forces. But still, a rather large number of divorces among the married couples, intra-household quarrels etc., are plain proofs of the problems of maintaining the unity of households. The combination of the fusionary factors functioning to keep the household together as a viable management system can be termed the "corporate estate" of the household.

The componential parts of a household's corporate estate in Didinga generally include "material" resources such as labour, fields, animals, crops, houses, granaries and tools (land, labour and capital), and "ideational" resources such as the complementary rights and duties among the household members enabling an effective management of production, consumption and exchange, socialisation, care-taking, love, affection and identification. External forces such as social norms and values, religion/ ideology, legal rights and obligations do as well function to protect the internal unity of the individual households.

At the specific level of analysis the proximity and interdependence between Didinga households are important features. The viability of a household can never be secured only on its own terms. A household will always be tied up with other households both along agnatic and affinal lines. When the Didinga marry, they say that they are "buying a relationship". The implication of this can be seen when a young Didinga couple get married (or rather engaged). After the negotiations between the two families have been completed, and the first part of the bride price paid, it is an important part of the total marriage ritual for the man to move to the **cieth** of his mother-in-law, **inyik**, where he will stay and cultivate her fields for about one-and-a-half to two years. The son(s) of his mother-in-law, i.e. his brother-in-law (**gotoni nga cani**) will there build a hut for him and his wife. The wife (or rather fiancée at this stage of the marriage process) will cook for him while he is digging for her mother. If the man is accepted by his mother-in-law, the rest of the bride price will be paid, and the wife will move with her husband to *his* mother's **cieth**. The practising of this service, called **dukan** (or **tukan**), is looked upon as an integrated part of the bride price, but it does also serve two important social functions. First, it ensures already from the start the establishment of a good and close relationship between the families of the husband and wife. Secondly, it serves the important function of assisting the newly married couple in its initial period of household formation. The young couple will neither have the manpower nor the fields nor the equipment necessary to cater for the viability of a separate household. As they embark on the process of household formation, the couple can not alone uphold their separate household's viability, and they do hence rely on the household of the wife's mother. When a husband marries a second wife, he will in much fewer instances move to his parents-in-law's household as he will at this stage often have the means necessary for securing the household's viability. To uphold his duties towards his new parents-in-law, the groom will have somebody else to perform his duties, or he will compensate them in form of a number of animals.

#### 3.3.4.3 The local level

As a regular feature in Didinga, we will experience that locality, at its basis, is defined by principles of kinship and descent. Whereas among the neighbouring Toposa and Boya each locality is, to a large extent, inhabited by one particular kinship group, e.g. a lineage group with a common founding ancestor, this direct link between a kinship segment and a particular territory is not that salient anymore in Didinga. What we find is that each village is founded by a particular family, and that this originating family in many respects constitutes the main

social structure of the village. The originating family "possesses" the land, e.g. the "father of land", **bati-lotu**, comes from this family, and it has been common for the headman (or chief) of the village to come from this family. Consequently, we may therefore argue that territory and territorial rights in Didinga are fundamentally geographical expressions of the kinship structure.

There are two sub-levels of locality within Didinga, the **lil** and the **loc**. The smallest, or lowest, of these levels is the village neighbourhood, **lil**. **Lil** is a group of homesteads or hamlets regularly situated along a stream (**lil** means "stream" in the Didinga language). The people from a **lil** form the smallest "socio-political" area within Didinga, and annually the men from a **lil** gather at the **nyakerehet** (pl. **nyakerehenya**), the local "council", for political and juridical consultations and discussions, and for ritual eating and dancing. The **lil nyakerehet** can be said to be the "parliament" for this social level.

**Loc** ("land") includes several **liliok** (plural of **lil**). Also each **loc** has its own **nyakerehet**, but the meetings at this **nyakerehet** take place with much longer intervals between. For a **loc nyakerehet** to be arranged, a lot of food (in particular bulls and he-goats) must be available. A **loc nyakerehet** is therefore connected to prolonged periods of peace and prosperity. When this type of **nyakerehet** is arranged, it will last for several weeks, even up to three months. The **loc nyakerehet** is absolutely the most important socio-political and juridical fora in Didinga. It is expected that all initiated men will join. Originally, each **loc** was the area of a particular clan, and the leaders of the clan were also the leaders of the **loc**.[19]

During the colonial period a new level, or unit was introduced at the local level, namely the chieftaincy. Initially, a chieftaincy covered more or less the same area as a **loc**, and the chief was regularly selected from the "land owning" clan. This feature can be seen in the fact that a clan in Didinga is called **khabuchet** and a chief is titled **khabu**. Today, the chieftaincies have been rearranged, and while some are still corresponding with a **loc**, other can include several **lonyini** (plural of **loc**).

#### 3.3.4.4 Localities and their corporate estate

Any household is dependent on other households both for their structuring and functioning and hence relies to a substantial degree on relations to other

[19] Both **lil** and **loc nyakerehet** will be discussed more in detail in the chapters to come.

households to secure their viability. The nested relations between households within a locality can be observed both through such political structures as the local councils or parliaments, **nyakerehenya**, where representatives from the various households take seat, and regarding a typical feature of crop production: communal labour. Communal labour, that is neighbours, friends, kins and affines joining up on a household's fields to perform the core agricultural tasks such as bush clearance, digging, weeding and so on, is a typical feature of the Didinga agricultural complex. A paramount characteristic of agricultural production in Didinga is to combine the more genuine productive aspects with typically social aspects. At communal labour parties with large amounts of beer, and time set aside for dancing and singing, the social aspect of labour becomes extremely conspicuous.

As a household is dependent on its functioning members, a locality (or village/sub-village) is dependent on its functioning households, but also within each locality there will be both fissionary and fusionary forces operating. The individual households belong to different lineages or clans usually extending far beyond the village level. In some instances, e.g. quarrels between households from different villages, there will be a conflicting situation of loyalty for the non-involved households. Should they back up the household from the same village or the household from the same lineage living in another village?

Even if in Didinga the individual homesteads are generally distributed with some distance between, the villages and sub-villages are audiovisually intimate and socially "open" systems which means that everybody know what is going on between everybody else. Because of the proximity of the households and the openness of the system, much tension can be created. The tension sometimes breaks out in actual fighting, but more often it can be experienced as gossip or, in more serious matters, as witchcraft accusations. But as within households, the unifying forces keeping the localities together are regularly stronger than the separating forces, and as households are corporations around a corporate estate, more or less the same can be said about the locality. The componential parts of a locality's corporate estate will be such factors as common territory and sacred sites; village celebrations, labour and hunting parties; village courts and authority structures; social institutions such as, "father of land", and folk-doctors; and neighbourhoodness and affection. "Ethnic" factors such as language, religion, judicial system, marriage and affinal ties, kinship groupings, and age-and generation-sets imply important bearings also at this level.

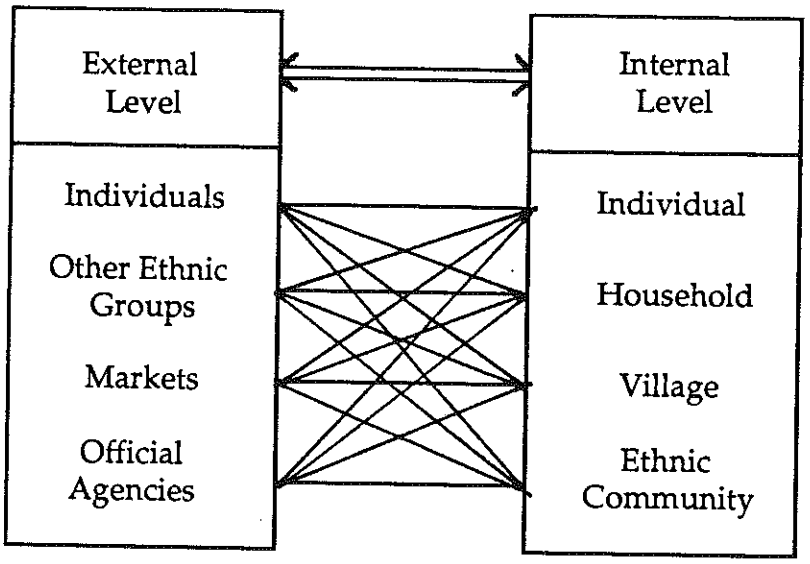
#### 3.3.4.5 The community level

At the community, or ethnic, level, the village areas (or localities) are tied together with many sociocultural strings which, for many purposes, make the ethnic group into a corporation with a common estate. The ethnic group is dependent on the structure and function of the localities, and a lot of crossing bonds bind the whole group together. While kinship and locality could be socially disruptive factors if they developed freely at the expense of the whole community, other factors such as marriage, age-groups, and juridico-political institutions counteract this tendency and hence function to build alliances that unify the group. Didinga, as an ethnic group, does therefore have a corporate estate that secure the well-being of the group as such. Common elements at this level binding the entire ethnic group together are, language, religion/cosmology, territory, judicial and political system, history and ancestral heritage, descent and marriage categories, and social groupings such as age-sets and age-grades.

#### 3.3.4.6 The internal and the external level

The presentation has so far not taken into consideration that all units within the analysis, i.e. the individual member, the household, the village, and the ethnic group, will all have a certain degree of interrelationship with actors and structures outside the ethnic community. This is certainly not in accordance with reality. Below I have drawn an elementary model which depicts some of these exogenous relationships. I have denoted the Didinga group with its constituting components for the "internal level", and I have, for analytical purposes, called the exogenous actors and structures for the "external level". We do according to this simple model see that some sorts of transactions will take place between the composite elements of the internal level and the external level.

Fig. 3.3: The relationship between the internal and the external level.




This figure cannot, of course, do justice to the complete interaction pattern between the internal and the external level, but it can depict some substantial features on the matter. The connection between "internal" and external" individuals, for instance, are meant to emphasise the fact that individual Didinga often have regular trading partners within the neighbouring ethnic groups. The line between the internal and external ethnic groups may signify that the Didinga and the neighbouring groups, e.g. the Lango ("Dongatona"), Boya and Toposa have made, and still make, agreements on how to regulate the usage of resources (mainly pastures) in border areas. Quite frequently inter-ethnic marriages will occur which also function to connect some unit at the internal level with some unit at the external level. Trade and barter also exhibit some of these inter-ethnic features. It is, for instance, a regular feature for the Didinga to barter grain and tobacco for livestock with the neighbouring groups. Very often these exchange activities take place on an *ad hoc* basis, and outside regular market sites. An important aspect of the inter ethnic relationships is that in times of war or famine, people from the various groups go to the adjacent groups to seek sanctuary.

But the relationships between the internal and external level does not always take such friendly character. Between the Didinga and the other eastern groups conflicts over animals and pasture have flavoured the quality of their relationships for as long as they can remember.

The lines between the various internal levels and the markets are pointing to the fact that beside the inter- and intra-community bartering and the local markets

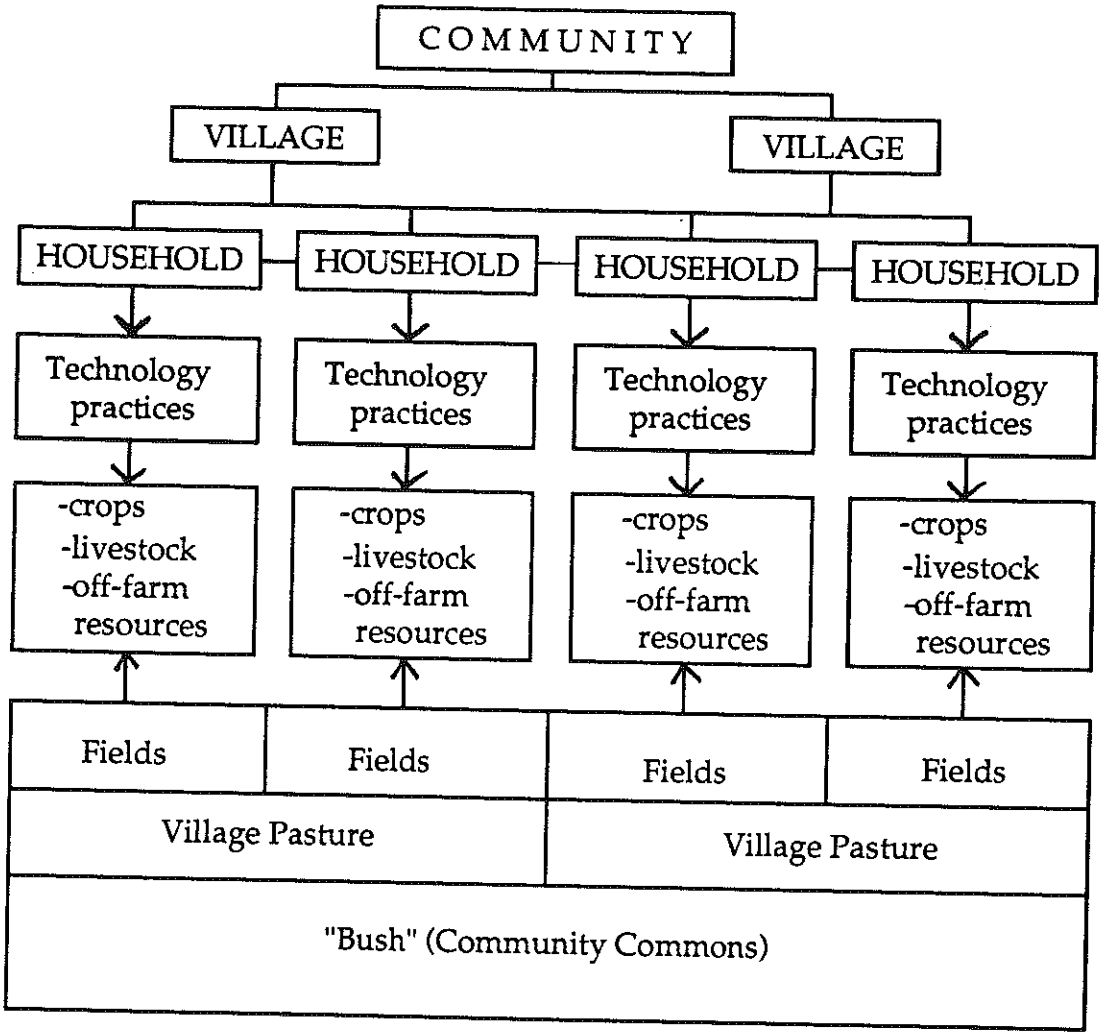
dominated by local farmers offering a rather small number and delimited range of goods, there is a network of Arab merchants penetrating the whole of East Bank. The main centres of this network are the two towns, Kapoeta and Torit, both occupying, besides their commercial functions, the role as governmental administration centres and military garrisons. Outside these major centres, the Arab merchants are regularly present at markets at minor centres such as Chukudum (in the Didinga ethnic area), Pagheri and Nimule (in the Madi ethnic area), and Magwi and Obbo (in the Acholi ethnic area). The merchants trade with the locals directly or through the markets at the major and minor trading centres. Most households, especially in the western and central areas, have some trading links with the Arab commercial network. The only areas where the effects of the Arab traders are almost absent are in the northern and eastern area of Toposa. But in these areas not even local markets exist.

Most adult individuals will have some contact with official (i.e. governmental) agencies, at least through taxation. As a rule, any man above eighteen years of age has to pay tax. This is shown by the lines between the internal level and the official agencies.

#### 3.3.4.7 The mode of adaptation at the specific level

From what is mentioned above, it is possible to draw a descriptive model of the ethno-agrarian mode of ecological adaptation at the specific level as a specification of the model used for depicting the general level (see fig. 3.4 below). I will in this context leave out the Society-Culture-Nature framework, and concentrate on the features of the inner part of fig. 3.2.

**Fig. 3.4:** A model of the mode of adaptation at the specific level.




Embedded within this model we may analytically discern the three analytical components found within a system of adaptation: society (at the top, including community, villages and households), nature (at the bottom, including both crops, livestock and off-farm resources, and bush, fields and pastures) and technology/culture (in between, including technology practices). But these components are not exclusive, and the boundaries between them are not fixed. Analytically we may, for instance, perceive households as partly belonging to nature (as the household members may be considered as biological creatures; "domesticated beasts"), partly to society (as social units) and partly to technology (as "cultural" labour), and that fields, pasture and bush, as consciously utilised and manipulated by human beings through their husbandry techniques, partly belong to nature and partly to technology. Crops and animals which are utilised for

*social* purposes by the application of available *technology* (culture), are biological creatures belonging to the realm of *nature*.

The "level" of nature contains three integrated components which we with a common term might call "land." Generally, in Didinga, we experience that land (basically belonging to nature), and land tenure (basically belonging to culture) involves a hierarchy of uses and rights. Land is generally communal in the sense that no land is privately owned and that everybody belonging to a community has usufruct rights to land. If we take the total landed area belonging to the Didinga, the greater parts of that area are constituted of "commons" (or communal land), for instance all the land that is considered as bush. Whereas the pastures close to the villages are commons for the inhabitants of the particular villages, pastures in the bush are considered as commons for the whole community, although some particular rights are ascribed to certain villages or clans for different sectors of the bush. These rights rarely influence the common utilisation of the bush either for pasture, hunting, collection of firewood, gathering of honey, wild fruits and vegetables or the like. We also find important "technological" links between fields, pasture and bush. This is mainly due to the fact that in shifting agriculture, the basic farming system performed by the Didinga, the parcels of land a household controls are alternatively used as fields and pasture within an annual cycle, and alternatively returned to their natural stage within a perennial cycle. One parcel can, for instance, be cultivated for three years after which it is left to fallow and, hence, turned into natural, i.e. non-cultivated, vegetation.

**Fig. 3.5** The relationship between fields, pasture and natural vegetation in a shifting sequence.

| | **The shifting cycle** | | | |
|---|---|---|---|---|
| **Seasonality** | 1.-3.yr | 4.-5. yr. | 6.-8. yr. | 9.-12. yr. |
| Rainy season | field | fallow | "natural | field |
| Dry season | pasture | pasture | vegetation" | pasture |

During the period of cultivation the cattle will each year, after the harvest has been completed, be let into the fields to feed on the crop residues. Simultaneously, the droppings from the animals enter into the biological reproduction of the field. After the field has been left to fallow, the livestock may, or may not, be allowed to continue to feed on the vegetation. But after two to three years of fallowing, the natural vegetation on the parcel has often

regenerated to a degree that it is no longer utilizable for the animals. At this stage some parcels are cleared and burnt for renewed agricultural production (returned from its natural to its cultural stage). Consequently, we see that the natural environment is only quasi-natural, and that the "social" fields are only semi-cultural.

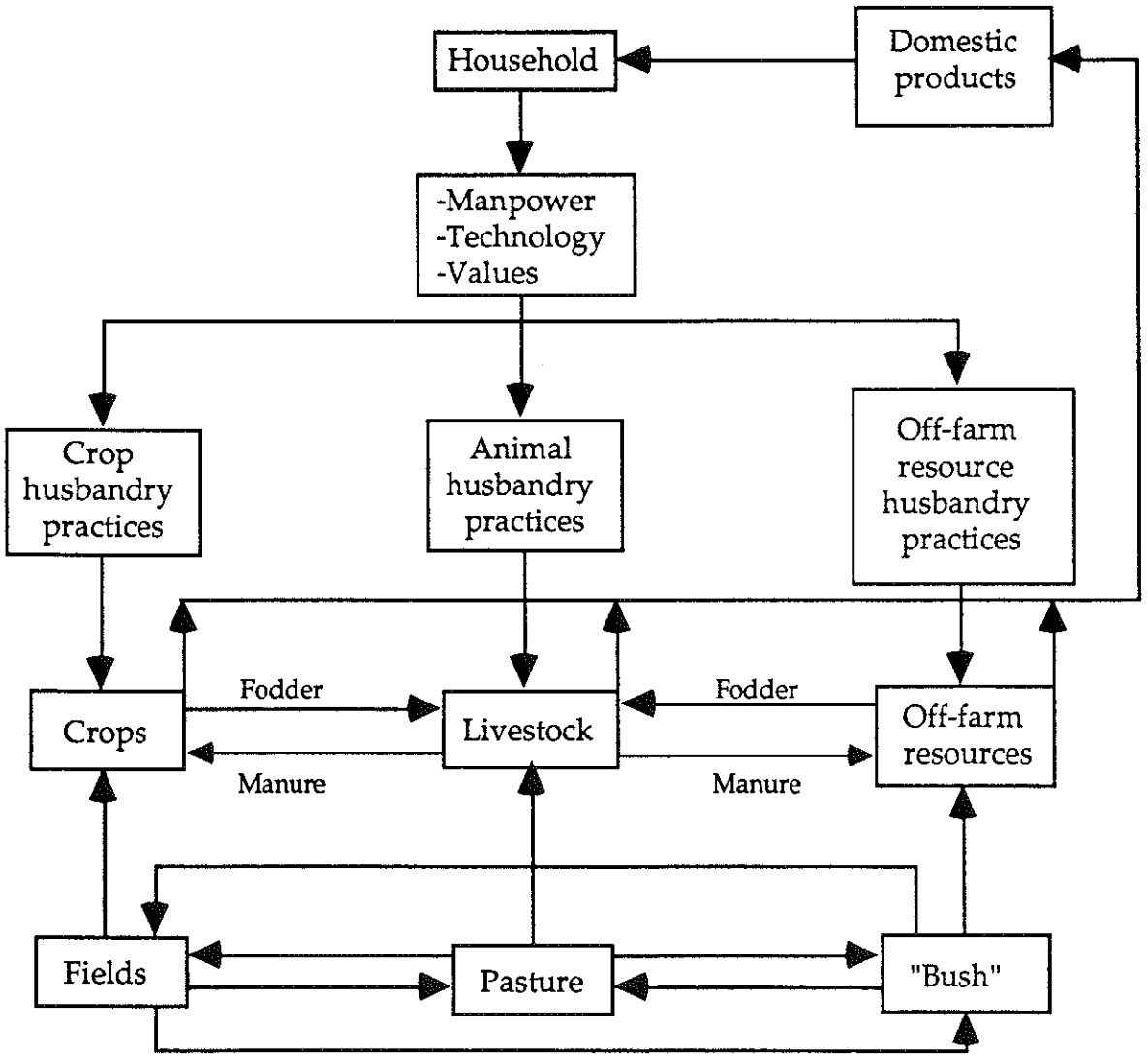
The reason for explicitly depicting the natural environment and the off-farm resource husbandry in the model above is that these components are of considerable significance within the Didinga mode of adaptation. As was stated regarding shifting agriculture, natural vegetation is an integrated part of the shifting cycle, but besides this also off-farm natural resources are important for almost all domestic purposes. For the great majority of the households off-farm activities such as hunting and gathering are of central importance. A substantial part of their diet is collected from the natural environment - honey, roots, leaves and berries. In years of drought or crop failure collection of "wild" food becomes the major activity for biological survival. Wild game is important both for nutrition and for the social significance of the hunt. Fetching of water and firewood, two of the most basic domestic activities, are regularly conducted in the off-farm natural environment.

This model shows a grossly simplified and idealised image of the elements and interrelationships of a socio-cultural system of resource management. Important cultural attributes (Steward's "secondary features") very much conditioning the social behaviour of the individual participants are not at all depicted. It is quite clear that such sociocultural features as for instance religion/ideology, kinship and marriage, age-groupings and socio-political structures not only enter in between society and nature, but do to a substantial degree determine how the various social units organise, what they conceive to be valuable outcome of the production, how they are to perform their activities etc. Culture is hence the overall framework within which all activities take place, and on the basis of which any activity is given meaning and content. This said, what the model tries to depict is a dialectical system where social units, in one direction, adapt to the environment, and in the opposite direction alter the ecosystem to fit their purposes. At the basis of this model we find a natural environment which sets the ecological limits to the system. At the top we find the society defining the human opportunities and constraints to the system. In between, we find the mediating technology which binds the whole system together into a functioning mode of adaptation.

### 3.3.4.8 The domestic agroecological system

To get a more detailed image of the mode of adaptation at the household level, which is the actual level of operation, we can present the following model:

**Fig. 3.6:** A model of the domestic agroecological system




From the household's point of view, the main features of this diagram are that the household supplies labour, technology and values to various enterprises which, in return, supply the household with the domestic resources needed. If the household has enough manpower, skills and knowledge to utilise the resources, and if the resources are sufficient both in quantity and quality to supply the

household with the resources needed for biologic and social survival and continuity, we may state that the household is viable.

Going a bit in detail, we see that the "bush" component of this chart is an encompassing component as it includes both the potential future area for fields and on-farm pastures, and the present area for: off-farm pastures; collection of water, firewood, wild food and others resources meant for direct human consumption; materials for fences and platforms for the protection of the crops; raw materials for tools, equipment and utensils; and building materials for huts and granaries.

I have stippled the "manure" lines since manure is rarely consciously utilised by the Didinga household. It is more of a side-effect of livestock grazing on the fields and in the bush.

From this model it is possible to analytically discern three subsystems within the overall ethno-agrarian mode of adaptation: (1) the cropping system on the left hand side (including crop husbandry practices, crops and fields), (2) the livestock system in the middle (including animal husbandry practices, animals and pastures), and (3) the off-farm system[20] on the right hand side (including off-farm resource husbandry practices, off-farm resources, and the "bush"). The common element combining these three systems together into an encompassing production system is the household utilising its technology, manpower and values. The household, guided by the existing cultural patterns of the community within which it forms a part, manages and manipulates the systemic elements to fit its purposes and needs.

I have also in this model left out the cultural framework, but it must be said that every social activity in Didinga takes place in a cultural context, and in the actual analysis, culture will receive a significant amount of attention.

[20] In some literature "off-farm" activities, e.g. off-farm employment, is used to designate activities outside the local domestic sphere, implying activities not directly connected to the household as such (for instance wage-work, handicrafts, and so on). As I use it, off-farm activities are neatly related to the domestic activities of the household, including such activities as honey-gathering, hunting, gathering of "wild" fruit and vegetables, collecting of water and firewood, etc.

### 3.3.5 Data collection

To make the concept of ethno-agrarian modes of adaptation intelligible, concrete and analytically operational, particular sets of data are needed. In my analysis I have analytically differentiated between three sets of data which together describe the system:

(1) Agro-ecological:
- Climate (temperature and precipitation)
- Topography (relief and drainage)
- Soil
- Vegetation

(2) Agro-technical:
- Enterprise patterns
  - Food crops and food crop varieties (cropping system)
  - Livestock types and livestock patterns (livestock system)
  - Off-farm enterprises (off-farm resource husbandry system)
- Enterprise calendar
  - Cropping calendar
  - Livestock calendar
  - Off-farm resource calendar
  - Food calendar
- Land use systems
  - Land acquisition and availability
  - Farm sizes and subdivision of holdings
  - Crop areas and rotations/intercropping patterns
  - Use of pastures
  - Use of the "bush"

(3) Socio-cultural:
- Socio-political institutions
- Decision making processes at various social levels
- Kinship and marriage systems
- Religious features (cosmologies/ideologies)

In the actual analysis, the data will not appear in this order, but as factors are interchangeable, the result will anyhow be the same.

# II

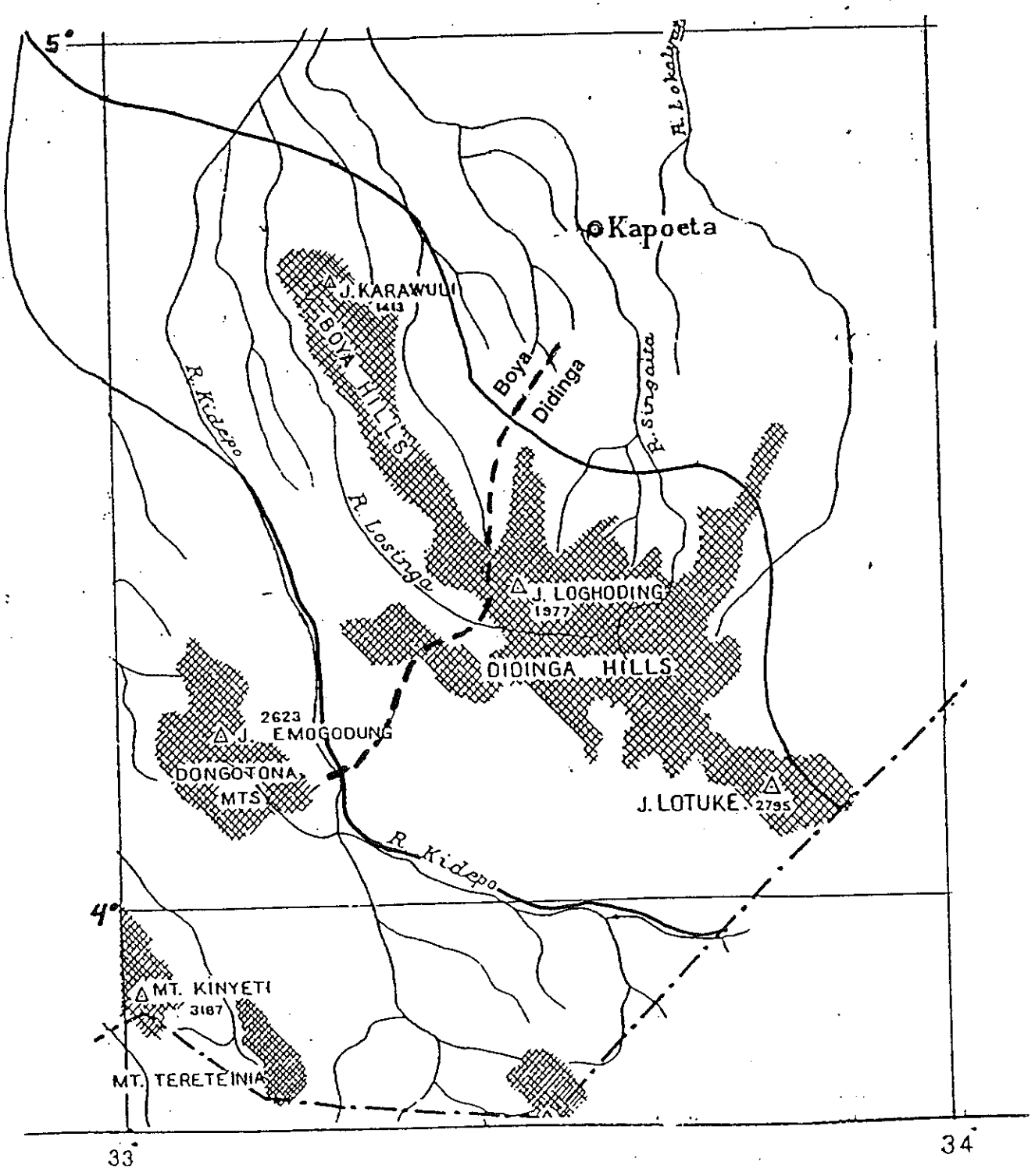
## DESCRIPTIVE PART:

## THE DIDINGA

# CHAPTER 4

# THE DIDINGA AND THE BOYA

Fig. 4.1: Map showing the Didinga and Boya territory




Adapted from JIT 1954, Vol. IV, map A 26, and DPU, Juba.

## 4.1 INTRODUCTION

This dissertation deals, as said earlier, primarily with the Didinga. I feel, however, that a good deal can be told about this group if they are measured against their "brothers and sisters" - the Boya.[21] This is because both groups historically have the same origin but have evolved in different directions regarding their mode of ecological adaptation. It is commonly accepted both among the Didinga and the Boya themselves, and among researchers who have performed studies among these groups, that they were originally one group together with the Murle of the Boma Hill, the Beir of the Pibor River, and the Ternat living in the northern foot hills of the Lapit Mountains.

## 4.2 ADMINISTRATIVE STRUCTURE

Within the governmental politico-administrative structure (as it was organised in the first part of the 1980s), the Boya and the Didinga are administratively situated within Chukudum Rural Council in the western part of Kapoeta Area Council (see fig 2.10). The Chukudum Rural Council area is lead by a head chief, presently a Didinga. The head chief is locally titled **khabu**[22], and he presides over the "B Court" of the district. The head chief's council area is subdivided into eleven sections or chief-areas each headed by a local **khabu** (pl. **khabueta**); Nawiapak, Thuguro and Ngarich in Boya, and Lothigira, Chukudum, Lorema, Lotukei, Ngatubo, Nathelani, Lauro and Kibongorok in Didinga. The local **khabu** presides the "A Court" of his section. Ngarich has a mixed population of Boya and Didinga but with a Boya chief. Each section is divided into one to four subsections or sub chief areas. These subsections may be perceived as villages or village areas. Most of these villages have a rather scattered settlement pattern covering large

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[21]The Boya call themselves **Larim** and are called **Longarim** by the Didinga. The reason for me to use Boya is that it is under this name they are commonly recognized by the other groups on the East Bank, and by the official administration. Even by authors terming them **Larim**, their area of residence is called **Boya** or rather the **Boya Hills**. According to a common opinion held among the Didinga, the two groups were formerly one united group. After a quarrel erupted over some meat after a hunt, the Boya left the Didinga in anger, and the Didinga term "Longarim" means "the people that left in anger", **arim** = anger.

[22]According to Driberg (1925:173), **khabu** (or **habu**) was originally the head of the **khabuchet** or clan, but that has changed so that the **khabu** has now become a chief for a particular territorial chieftancy with followers from several clans. The **khabu** does, however, as a principle come from the predominant clan within the chieftaincy.

tracts of land. The **mkungu** (sub chief) is the leader of a village. With three exceptions each village (or sub chief area) is divided up in "sub-villages" or hamlets (a cluster of homesteads within a certain neighbourhood). In Didinga there are on average two and a half sub-villages within a village, but some villages include up to six. The **nyambara** is the headman of a sub-village, usually the oldest man from the dominant kinship group. In Boya there are 8 villages and an unknown number of sub-villages. In Didinga there are 27 villages and 66 sub-villages.

The position and tasks of the chiefs (**khabueta** and **mkungheta**) have been very much related to the needs of the former colonial administration. By tradition it is the elders that are the source and performers of authority within the Didinga society. The chiefs' most important functions both within the former colonial administration and the present governmental administration are to collect taxes and to preside over the local courts. To enforce their power the chiefs have a couple of armed **churukalis** ("police men") to assist them.

Each village area has its own court where traditional forms of justice are prevalent. The **mkungu** heads this court. If the case can not be solved at this level, it is brought to the chief court where the **khabu** presides. From this level the case can be brought to the head chief. At this level it will still be the local laws which will carry the strongest impact. If, however, the case has to be taken to the magistrate in Kapoeta, it will be the governmental justice that will preside.

## 4.3 TOPOGRAPHY AND CLIMATE

The Didinga Mountains and their northern outliers, the Boya Hills, ranging from south-east to north-west throughout the entire Didinga and Boya area, is the most characteristic feature of the whole area. The Didinga Mountains, including peaks up to 2800 m. (Mt. Lotukei), together with the Imatong-Acholi Mountain Range and the Dongatona and Lafit Hills make up a natural border between the Sudan and Uganda. Together they form a western outlier of the Rift Valley System (SDIT 1955: 37). Within the Didinga mountains there are some very fertile and luxurious plateaux, as for instance at Nagishot, where the average annual rainfall is higher than 1100 mm per year (SDIT 1955: table 1, p. 40). Jack H. Driberg, who was the District Commissioner for the Eastern District for a number of years in the early part of the 1920s, called this central plateau "a paradise of subtropical climate and vegetation" (Driberg 1927: 388). Besides feeding the Kidepo river, entering in

from northern Uganda, with water, the Didinga Mountains are the catchment area for all streams east of Kidepo river on the East Bank, i.e. all streams running through Boya and Toposa. The mountains are made up of tertiary lavas overlaid mainly by sedimentary rocks (JIT 1954: 3). While most of the agro-pastoral production in Didinga in former days used to take place in the mountains, at an altitude of between 1500-2000 m, the colonial policy lead to a movement from these high altitude areas down to the lowlands, i.e. at an altitude of about 800-1000 m. Since the return from the exile in Uganda in the mid-1970s, a majority of the Didinga have lived in the lowlands where also most of the production has taken place. What should always be kept in mind is that the favourable but limited productive parts of the mountains still have a significant function as an "area of security". In times of natural haphazards or warfare (e.g. cattle raids), the mountains offer sanctuary for the threatened population.[23]

Topographically the whole Boya-Didinga area is situated at an altitude of more than 600 m. The western and northern part, toward Kidepo River, is situated at an altitude between 600-900 m, the central, eastern and southern parts (50-60% of the area) is situated at an altitude higher than 900 m (see fig. 2.2 and fig. 5.3). In central Didinga, the altitude is generally higher than 1500 m. It is in the south-eastern part (close to the border of Uganda) we find the highest mountain peaks. The high altitude areas (above 1500 m) consist both of fertile plateaux and narrow valleys, and more or less barren ridges. As there in most years will fall rain in all months, there are several permanent rivers in the mountains. Quite regularly, however, these rivers run into the ground and disappear in the lower parts of the mountains. The low altitude areas are mostly plains or savannahs. The slopes and foot hills of the mountains situated between the high and low altitude areas are important for agricultural production.

Whereas the Kidepo River constitutes a natural north-western, western and south-western border for the entire Didinga-Boya area, the aprons of the hill/mountain masses constitute the north-eastern, eastern and south-eastern borders (see fig. 4.1).

Climatically, the high altitude areas have a kind of semi-tropical climate, cool and humid, and excellent for the production of temperate crops such as irish potatoes,

[23]Presently, because of the civil war going on in the Sudan, people have moved up into the mountains again. Another effect of the war has been for people to establish larger hamlets instead of the small family compounds.

cabbages, onions, tomatoes and fruits. Applying the classifications of Pratt and Gwynne (1977) the plains have a typical dry sub-humid to semi-arid tropical climate.

## 4.4 THE VARIATIONS BETWEEN THE DIDINGA AND THE BOYA

The Didinga and Boya are closely related to each other both geographically, culturally and socially. They also feel attached to the Murle groups living in and around the Boma Hills across the regional border of Upper Nile, and the Ternat (Irenge) living in the northern part of the Lopit (Lafit) Mountains. While some Boya and Didinga emphasise that they are in fact the same people only with two different modes of adaptation, others emphasise the significant cultural differences between the two groups. Both groups, and in particular the Boya, are heavily influenced by their neighbours belonging to what is often denoted the "Karimojong Cluster" (Gulliver 1952). The influence from the Toposa is certainly salient. In both groups most words and concepts related to livestock keeping, age organisation, annual calendars etc. are loan words from the Toposa.

The internal variation between the Boya and the Didinga can, I believe, originally be attributed very much to the pattern of agro-ecological adaptation, which, in turn, is related to climatic, vegetational and topographical factors. According to their historical tradition the Didinga were accompanied by the Boya when arriving at their present area of habitation. But the Boya refused to live in the mountains which seemed to them too arduous and inhospitable. They moved further to the hills north of the Didinga Mountains where they settled (Driberg 1927: 400). As the Boya have hence spent their lives on the plains, they have adapted themselves to the savannah for securing their subsistence. An optimal pattern of adaptation to this environment has been accomplished by a combination of a rudimentary crop production taking place around the villages along the foot of the Boya Hills, particularly on the western side, and the use of livestock to convert the vegetative resources of the plains into milk, meat and blood. This mode of adaptation has, through the ages, been specialised and elaborated. Like the Toposa, the Boya have a kind of duo-local residence pattern: in the rainy season, while performing the agricultural activities, the great majority of the population live in permanent villages; in the dry season, a large proportion of the Boya, especially men, live in semi-permanent cattle camps. The separation between the dry and the wet season dwellings is, however, not that pronounced as the walking distance between them may be calculated in matter of

hours. Many young men live in the camps almost continuously. When reading older literature on the Didinga and the Boya, one immediately realises that the differences between the two groups were less significant one or two generations back (see e.g. Driberg 1922 and 1927, and Kronenberg 1972). Driberg, for example, calls the Didinga semi-nomadic, and describes how the Didinga moved with their cattle to Kidepo river where they stayed for two or three months every year to feed and water their cattle (Driberg 1927: 393). When I was working in the area, I only found Boya cattle camps along that part of Kidepo running through Boya and Didinga.

Up to the colonial period, the Didinga largely lived within the fertile Didinga Mountains where they operated an agricultural system which, in most years, gave a safe and sound output. The productive patterns in the mountains included an important livestock component, but this component was never as substantial to their livelihood as it was for the peoples living on the plains. As Driberg explains: "We find that climatic conditions, an unusually fertile soil, and their economic relations with their neighbours have induced the Didinga to take an interest in agriculture which is far beyond that shown by other pastoralists" (Driberg 1927: 398).

During the colonial period, a majority of the Didinga moved down from the mountains and settled on the plains and the foothills. But even today the mountains play a significant role in the Didinga agricultural mode of adaptation, and the settlement pattern in Didinga is very much determined from a dual purpose -production and security. This, in general terms, means that most Didinga lowland families still have fields and dwellings in the mountains both to avoid food insufficiency and to have a place for refuge in case of social insecurity, for instance attacks from their Ugandan neighbours.

So, while the Boya both from cultural preferences, ecological adaptivity and socio-economic security to a large extent have kept on founding their existence on animal husbandry, the same has not been the case for the Didinga. In Didinga livestock is still important, and most households keep a certain amount of both cattle, sheep and goats. As a means of livelihood, however, animal husbandry is not performed at the same level and with the same order of importance as is found among the Boya. But still, domestic animals, especially cattle, plays a significant part both in Didinga economy and, most conspicuously, in their cultural patterning. In their folklore, myths, songs and rituals, cattle occupy a

central position. When important social events such as funerals, offerings and marriages take place, animals are the only accepted means of contribution. Fines are always claimed in form of animals. In many respects the statement given by Driberg in the first part of the 1920s that "the Didinga are both pastoralists and agriculturalists, the latter by necessity, the former by inclination" (Driberg 1922: 215) is still valid.

The main difference in cattle keeping between the Didinga and the Boya is that while the Boya are pastoralists performing some agriculture, the Didinga no longer found their existence on livestock. They more or less stand on two legs, but with increasing weight on the agricultural. The frequent cattle-raiding attacks against Didinga in the last part of the 1970s and the first part of the 1980s, performed both by neighbouring Sudanese groups and pastoral groups from Uganda, have to a substantial degree decimated the number of animals in Didinga, and, hence, reduced the importance of livestock within their agricultural system even more. The prevailing adaptation is, thus, to an overwhelming degree dependent upon crop production where the Didinga must be considered highly skilled farmers running a complex agriculture system of production. Already in 1927 Driberg wrote that "Their general knowledge of agriculture is surprisingly great. They know...the part played by bees in fertilisation... they have...an intimate knowledge of soil values as evidenced by the wild vegetation, and are able to distinguish...a lime-saturated soil by the presence or absence of particular trees... they transplant seedlings...and in their variety of grain they show a sound botanical knowledge and hotly argue the relative values of the different species of millet, not only from the point of view of the flavour and nutriment...but also from the point of view of relative productivity... They grow two main crops...and it sounds almost incredible that of the rain millets...there are thirty species distinguished by name and favoured according to the locality, while of the dry-season millets over twenty varieties are known to me, again individually named" (Driberg 1927: 398-399).

Seen from a superficial "modernisation" point of view, we also find some differences between the Boya and the Didinga. This can typically be observed when entering a village in Boya compared with entering a village in Didinga. In Boya the men generally appear naked, or with a piece of cloth around their waists. The women are usually dressed in a goatskin skirt with a strap over one of the shoulders. When meeting a Boya-man outside the village, he will always carry a spear or a gun. This is very rarely observed in Didinga. So, regarding appearance,

the Boya are much more similar to their neighbours to the east, the Toposa, than to their "brothers", the Didinga.

In Didinga villages people, with the exception of the elderly men, generally wear "clothes". The men are most frequently seen in trousers and shirts, the women in European styled dresses. All clothings are made out of cotton or nylon, and sown by local tailors on the markets.

### 4.4.1 The significance of the European intrusion

The difference between the Boya and the Didinga can not only be related to the socio-cultural variation fundamentally explained in the perspective of agro-ecological adaptation. Some important historical events must also be considered. Two events is worth mentioning in this context. The first event is related directly to the European influence through colonialism and missionary activities.

#### 4.4.1.1 The colonial encounter

As a district within the *Anglo-Egyptian Sudan* the land of the Didinga and Boya had been a part of the British colonial empire since 1898. But it was not before 1919-1922 that Didinga and Boya were actively put under colonial control by the "King's African Rifles (KAR)" operating from Uganda. In 1922 a civil headquarter was established at Nagishot by the Governor of Uganda by which the colonial officers administrated the Eastern District of Equatoria (which at that time did not include the Toposa). In 1923 the area was put under the control of Sudan as KAR were replaced by Sudanese troops (Collins 1983: 24-27). The Boya, living in the more inhospitable (seen from an European point of view) lowlands, where not so directly influenced by the colonial officers. In 1950, a District Commissioner reported about the Boya: "These people are incredible lazy, dirty and diseased... The rocky hills they live on are inhospitable, the climate is the worst in the district, hot, windy and enervating, water is very scarce. They are the smallest,...and least important of the 3 Eastern District Tribes and possibly for these reasons they may not have received their full share of attention" (re. in Kronenberg 1972: 17). With their headquarters of the Eastern District situated at Nagishot, "the paradise of subtropical climate and vegetation," the colonial administrators were actually living in the midst of the Didinga. We should, hence, have no reason to disbelieve that the Didinga "received a fuller share of attention." Due to this attention, European laws, habits, culture, etc. were bound to have some impact on the local population.

It was, however, not this indirect sociocultural diffusion process brought about by the colonial encounter that made the most important impact on the lives of the Didinga. For this group the subjection to British rule directly, and within a span of only some few years, significantly altered their livelihood. Since the threat from their traditional enemies, in particular the Toposa and the Turkana, had lessened, the Didinga could expand their activities related both to arable farming and animal husbandry into formerly unoccupied land. For cultivation they could now employ the large, fertile and virgin lowland areas, including the slopes and the foot hills, along the western and southern side of the range. In addition, the land stretching from the range all the way up to the Kidepo river became accessible as pasture for their livestock. After gaining some experience with the pleasant yields obtainable in the warmer low-altitude areas, a steady flow of people moved down from the mountains in the decades to follow the introduction of colonial rule. In many ways it is correct to say that this movement lead to a permanent division of the Didinga people into two categories, the mountain people and the plain people. While the mountain people continued their traditional system of agriculture rather undisturbed, the plain people underwent some important changes. Some crops that had been of vital importance in the mountains, e.g. finger millet, more or less disappeared from the system on the plain. Other crops like groundnuts and root crops were, at least on a minor level, assimilated in the new lowland pattern of cultivation. While living in the mountains the people had utilised both the wet and the dry season for farming. The cultivation pattern on the plain became dominantly dependent on the wet season. Also the traditional pattern of animal husbandry changed. The mountain system implied a division of the pasture into two zones, a high altitudinal zone where the castrated bulls and non-lactating cows were kept, and a lower altitudinal zone of valleys and slopes (closer to the settlements) where lactating cows, bulls, sheep and goats were kept. Livestock keeping on the plain meant that a system of transhumance was introduced. To utilise the plain for grazing more efficiently, the Didinga established cattle camps, in particular along Kidepo. Here the herders were living for the greater part of the dry season together with their livestock. This practice was very similar to the practices found among the neighbouring pastoral groups, e.g. the Boya, Toposa and Dodos of Uganda (Sandnes 1979: 117, and Driberg 1927: 393). But in contradiction to these groups, the Didinga of the plain, as those of the mountain, were first and foremost farmers.

But the colonial policy did, of course, not only have positive effects upon the adaptation pattern of the Didinga. As can be seen from many parts of Africa, colonial efforts implied some unexpected consequences that in several places exhibited a threat to the local ethnic groups (see e.g. H. Kjekshus 1977). A typical colonial effort which seriously threatened the adaptation pattern of the Didinga and the adjacent ethnic groups, in particular those groups that to a substantial degree depended on the animal part of their economy, was the establishment in the last part of the 1930s of the Kidepo National Park. The park was established on former pastures on the Ugandan side of the border. This initiative caused disastrous effects on cattle keeping along Kidepo both in Northern Uganda and Southern Sudan. The National Park meant an increased concentration of game in the Kidepo valley, and hence an increased influx of tsetse, ticks and other disease vectors regularly carried by wildlife (see e.g. W.M. Moulton 1984) Together with the resettlement of the Didinga with a higher concentration of both people and livestock in the lowland implying an additional risk of disease spreading, the result was serious outbreaks of cattle diseases in the 1940s. In Didinga, 4000 out of 7000 thousand cattle were killed by these diseases (Hødnebø 1981: 101, 131-138). The Didinga withdrew to the mountains with their cattle as that area was free from these diseases.

#### 4.4.1.2 The Christian missionary activities

A catholic mission station was established in Nagishot, the centre of Didinga, in 1925 by the, by now, legendary *padres* Molinaro and Gambretto. As with the colonial officers, the site was chosen because of its temperate climate. The negative factor was, however, that few Didinga actually lived in this area with an altitude approaching 2000 m. Due to lack of success, the station was left in 1926 when a new mission station had been erected in Isoke in the Dongotono Mountains. But the fathers had built a chapel in Chukudum which was served by a catechet, a converted Dongotona. The chapel was visited by priests from Kapoeta and Dongotona at regular intervals. In 1935, a new mission station, under the mission in Kapoeta, was constructed in Chukudum. In the 1940s a school for boys and girls was established. In 1953 the first Didinga was ordained to priesthood. In 1964 the mission was evacuated because of the civil war (Said 1965: 105-113). During the three decades of operation, the mission, through their religious and secular activities, made serious impacts on the socio-cultural pattern of the Didinga people. Many young boys attended school, and all people were to a lesser or greater degree christianised. At a minimum level each and everyone took a Christian name. The Boya were also influenced by the mission, but not at

all to the same extent. In Boya there was no church, and there was no school until the Norwegian Church Aid built a governmental primary school in the last part of the seventies.

#### 4.4.1.3 The adaptive effects of the European intrusion

To summarise, we may argue that the European intrusion had rather minor effects on the Boya mode of adaptation. Boya livelihood and Boya culture were to a large extent unaffected by the encounter with the European "civilisation" although the framework for their social and economic activities had been altered. For the Didinga the meeting with European civilisation implied rather significant changes in their way of living. Their habitat was greatly expanded, their uniform adaptation pattern was now divided into two various patterns, an upland and a lowland pattern, although still with some substantial similarities between them. Their daily livelihood was more dominated by colonial rules and regulations, and their culture had been challenged by Christianity, modern schooling and other European factors of influences, as for instance the commercial "bush shops" that had been erected in Didinga from the mid-thirties (Sandnes 1979: 177). The bush shops meant that trading through the medium use of money had been put into practice even though at a very limited level. And it is evident that the Didinga were not accustomed to money at this stage as for instance the poll tax, set to L£ 5 per adult male, was still most commonly paid in grain or livestock.

### 4.4.2 The implication of the civil war

The second incidence that increased the "adaptivity gap" between the Boya and the Didinga, and - at least on a short term basis -increased the cleavage between the mountain and plain Didinga, was the first civil war, which, of course, also can be seen as a consequence of the European intrusion. The war started in 1955, but it was not before the first years of the 1960s that the Boya and Didinga were really affected by it. In 1964 the Sudan Army sent troops to Didinga to fight the Anyanya guerrillas operating in the area. Atle Sandnes, conducting his fieldwork in the area in 1976, was able to study the immediate aftermath of the war. He claims that: "the war had serious consequences for all the people in the area. The settlement pattern and the demographic situation, and the system of resource exploitation both in the mountains and lowland were soon almost completely disrupted" (1979: 127). During this war a large proportion of the Didinga population escaped to Uganda. "Almost immediately... people from the south-western lowland started to flee from their homeland. A stream of refugees went

towards south-east in the Kidepo plain and crossed the border to Uganda. In the course of a few months most of the lowland settlements on the south-eastern side were completely evacuated... In Monita most people remained for about two years; then they also fled... In the northern lowland the situation was not very dissimilar... Of the settlements in the mountains there was no similar evacuation. Some few went to Uganda, but a great majority remained in the mountains throughout the war" (Ibid.: 127). What happened to the mountain Didinga during the war was that they lost a major part of the livestock as it was consumed by either the guerrilla or the army. The cultivation pattern also changed as more emphasis was put on maize which was dug in small hidden patches. The large fields with sorghum, bulrush millet and finger millet were abandoned as they where too attractive to both of the warfaring parties (Ibid.: 128). Although the Didinga living in Uganda generally kept up their former cultivation pattern, they also learned about new crops and new agricultural practices. New varieties of grain, beans and peas were introduced into their agricultural system. Groundnuts, for example, gained in importance, the same did root crops such as cassava and sweet potatoes. These crops accompanied the Didinga as they returned to the Sudan. Most of them had lost their livestock as they either left it behind, or it was confiscated as they entered into Uganda. So, as their way of living as refugees depended almost solely on crop production, arable farming gained in importance.

Yet another factor explaining the changes that occurred to the Uganda-Didinga was the fact that many Didinga youngsters got further formal education during the exile. The Didinga people returning to Sudan in 1972-76 were thus in many respect another group of people than those who left five to ten years earlier. An important consequence of the exile for the Didinga society was that new tensions was brought into the community, and, most prominent, was the "ideological" conflict between the people that had remained back home during the whole period and the returnees that came back with "Ugandan minds". In many respects it possible to conceive this conflict as a collision between "tradionality" and "modernity".

During the whole war, most of the Boya remained back home with their animals. Not entirely unaffected by it as they as a group took a rather active part in the war on the Anyanya side. But their mode of adaptation was not conspicuously altered. While the Didinga were away, the Boya herdsmen utilised parts of the area that the Didinga had used for pastures as grazing grounds for their own livestock, and

still today one finds that these areas are important in the Boya pastoral adaptation pattern, for instance the Kidepo plain. It should be added, however, that the geographical borders between Boya and Didinga have never been entirely fixed. The chief area of Ngarich is, for instance, a typical transitional zone between Boya and Didinga including people from both groups. As the only geographical area of Didinga that is "purely" Didingian are the Didinga Mountains and their immediate surroundings, the area of Boya which is purely Boyian are the Boya Hills and their immediate surroundings.

Consequently, all the time from when the European intrusion started to the time when I performed my fieldwork, the difference between the "traditional" Boya with their pastoral adaptation pattern and the more "Europeanised" Didinga with their agricultural adaptation pattern has gradually increased to the extent that it is presently logical to talk about two ethnic groups with two various modes of ecological adaptation.

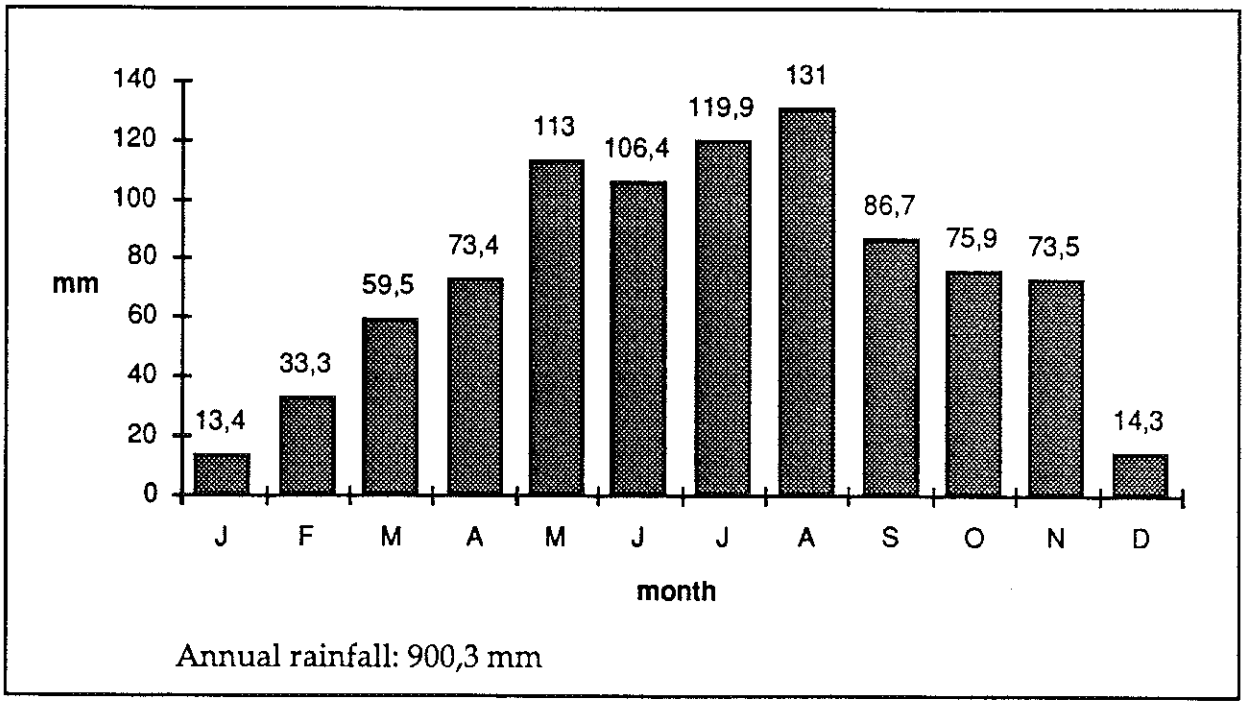
# CHAPTER 5

# THE AGRO-ECOLOGICAL CONDITIONS

## 5.1 CLIMATE

Despite a dry spell, usually occurring in May/June, it is correct to say that there is only one rainy season in Didinga lasting normally from March to November. According to records from Chukudum centre (Bjørtuft 1984) the mean annual rainfall in the period 1978-84 was 900.3 mm (with a variation from 637.6 in 1980 to 1,228.8 in 1978). August is statistically the month with highest precipitation (mean 131.0 in the period 1978-84) followed by July, May and June (respectively 119.9, 113.0 and 106.4). The months with the least amount of rains are December (14.3 mm.) and January (13.4 mm.). The weakness with these data is that they can only depict a short time spell. Data from other parts of Africa at a similar latitude may indicate that there has been a drop in rainfall since the last part of the 1960's (Bie 1987).

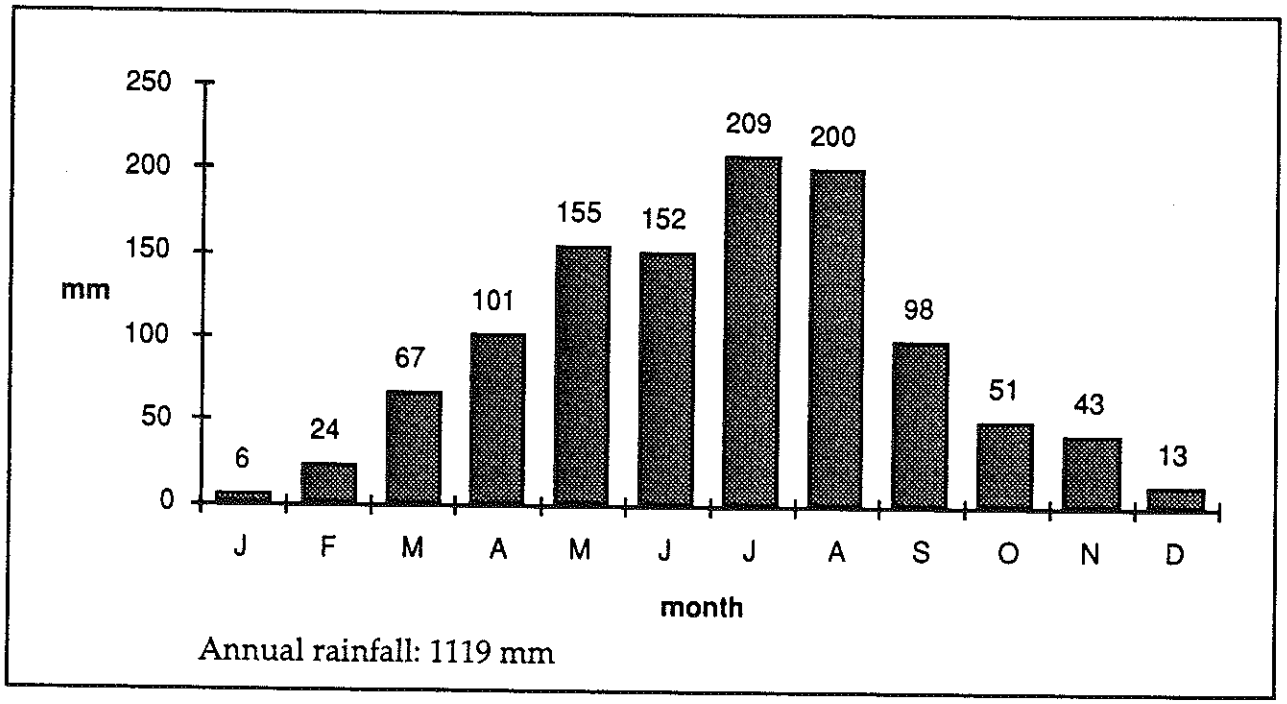
**Fig. 5.1:** Mean monthly rainfall in mm recorded at Chukudum in Didinga 1978-84.




Source: Bjørtuft 1984: Annual Report, NCA/SP.

Up in the mountains the rainfall is considerably higher than in the plains (more than 1100 mm. per year). This applies most typically for the westward (windward) side.

**Fig. 5.2:** Mean monthly rainfall at Nagishot in the period 1921- 1950.




Source: Sudan Development Investigation Team (SDIT) 1955, London.

Regarding temperature Didinga shows more variation than the other areas on the East Bank. From the records made by NCA at Chukudum Rural Development Centre (RDC) in the period 1982-84 (Bjørtuft 1984) the following description can be made:

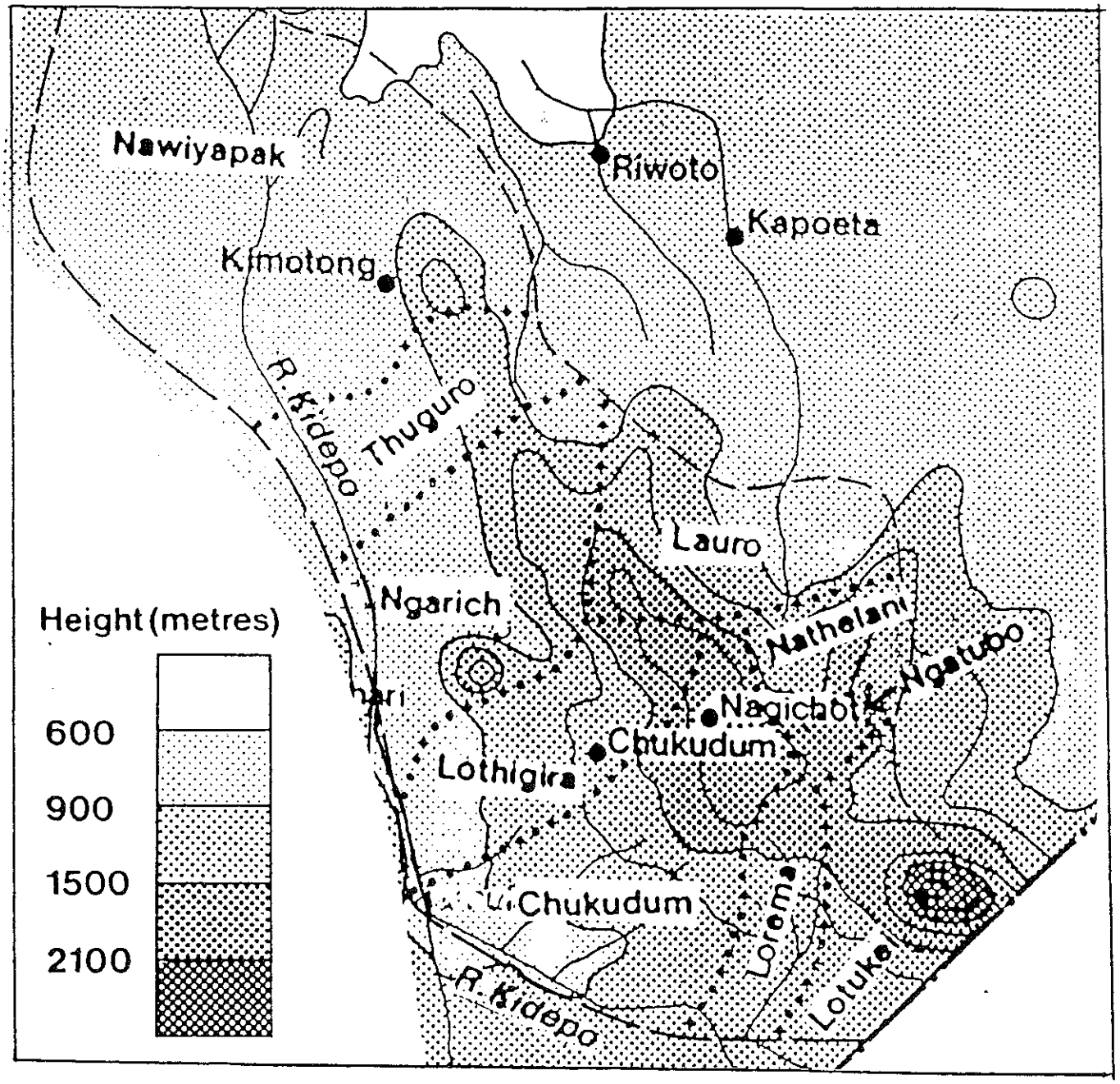
**Table 5.1:** Temperature in Chukudum 1982-1984.

| | Janr | Febr | Marc | Aprl | May | June | July | Augt | Sept | Octr | Novr | Decr | Mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Max:** | 35.4 | 36.3 | 34.0 | 30.4 | 29.4 | 28.9 | 27.6 | 27.2 | 28.1 | 28.7 | 30.8 | 34.0 | **30.8** |
| **Min:** | 19.8 | 20.2 | 21.5 | 20.1 | 18.7 | 18.2 | 17.9 | 17.4 | 18.6 | 19.0 | 19.2 | 19.2 | **19.2** |

Source: Bjørtuft 1984: 21, NCA/SP.

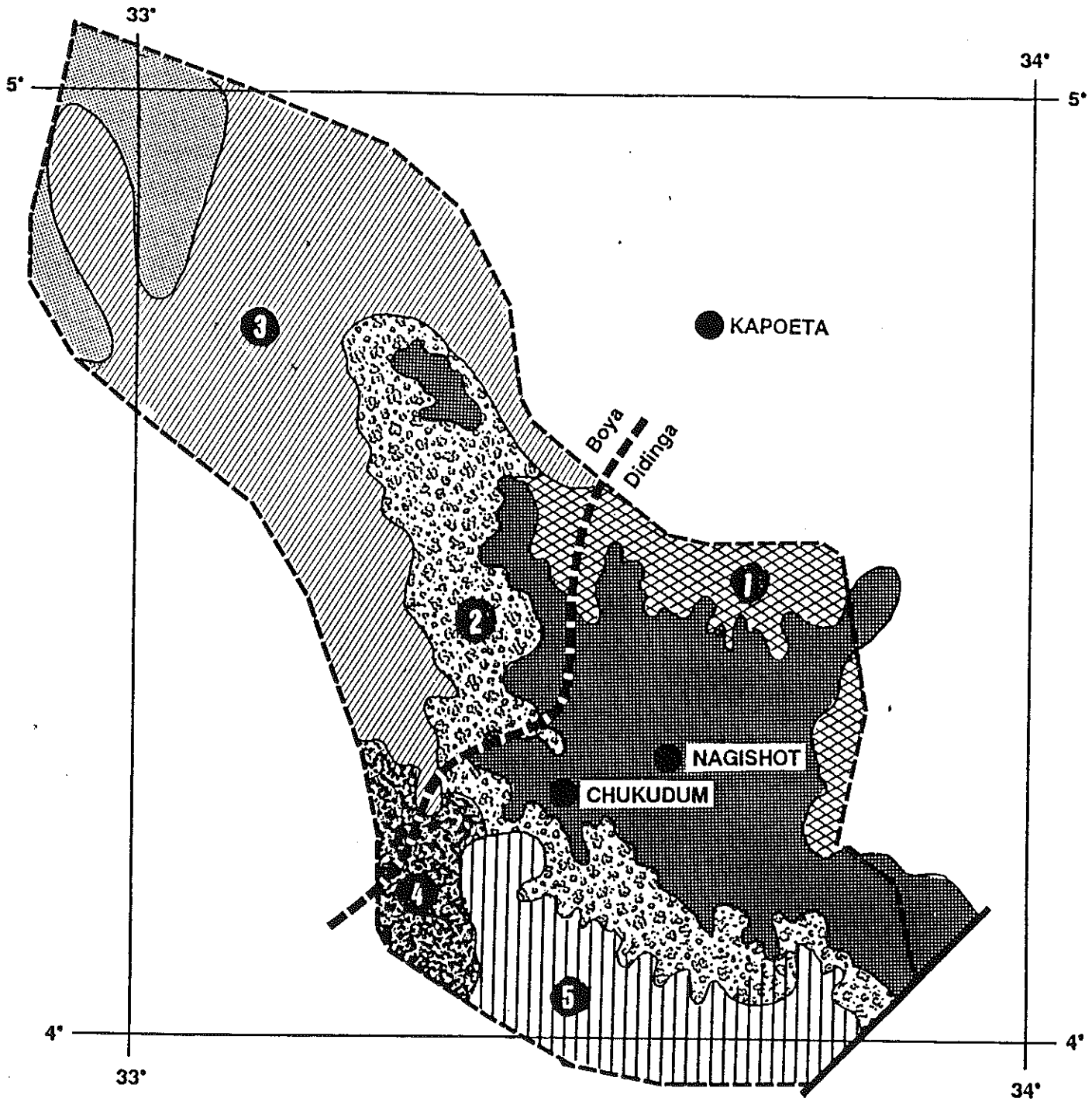
## 5.2 GENERAL PHYSICAL CHARACTERISTICS

Fig. 5.3: Map illustrating the variations in altitude in Didinga and Boya.




Adapted from Development Project Unit (DPU) Juba.

Fig. 5.4: Map illustrating ecological zones in Didinga and Boya.




Adapted from Sudan National Livestock Census & Resource Inventory, map 19 A, and DPU, Juba.

The Didinga territory is dominated by the Didinga Mountains with Mount Lotukei reaching 2795 m. The area covered by the mountain range and its foothills is about 2000 $km^2$, which again is about half of the total Didinga territory.

Whereas approximately 90% of the territory is situated at an altitude of more than 900 m, about 25% of the territory is situated at an altitude of more than 1500 m (see fig. 5.3, above). Vegetationally, the mountain range consists largely of montane rainforest or clearings with a tall, dense grass cover. The geology of the Didinga Mountains is basement complex. The soils are mainly brown and black loams, and the drainage is very well developed with many streams that are perennial within the mountains but become seasonal as the they leave the mountains (see e.g. Sudan National Livestock Census & Resource Inventory 1976, Vol. 19A, table 19A.02). Topographically "the contrast between the eastern and western sides of the range is immense. On the east...preciptious cliffs and sheer escarpments drop suddenly to the general 2000-feet of the plains (the "Toposa Plains", my comment), which are broken and irregular: on the west the descent is gradual and the main mass of mountains is approached by a series of foothills. The west is better watered and carries a greater quantity and variety of vegetation; the east (in particular towards the Kenyan border, my comment) is arid and clearly shows the effects of contact with general eastern conditions: the vegetation is stunted and almost exclusively tropical of the type usually associated with savannah country. The crest of Lotuke and all higher plateaux are heavily forested..." (Driberg 1927: 388).

On the plains along the eastern and northern flanks of the mountains at an altitude of about 600-900 m, we find a zone of medium dense *Acacia* savannah mixed with *Combretum, Balanites* and *Terminalia* (area marked **1** in fig. 5.4, above). The geology is basement complex of the southern ironstone type. The soils are generally red brown sandy. Topographically, the plains are undulating with some slight slopes (Sudan National Livestock Census & Resource Inventory, Vol. 19A, table 19A.02). Except for the land closest to the range, this area is today mostly used by the Toposa for grazing their cattle.

On the plains along the western and southern flanks of the mountains, we find a zone of dense *Miombo* forest of *Albizia, Combretum, Acacia* and *Khaya spp* (area marked **2** on fig. 5.4, above). The soils are generally red brown sandy, and the landscape is undulating (Sudan National Livestock Census & Resource Inventory, Vol. 19A, table 19A.02). The area within this zone is the major area for arable farming in the lowland Didinga. In the digging season this area is prohibited for livestock, but after harvesting the crops, the livestock graze the stubble and straws.

Directly to the west and south of this zone, extending all the way up to the Kidepo river, there is another zone at a slightly lower altitude. The vegetation consists of a transitional area of *Miombo* forest/mixed *Acacia* savannah in the north-west (marked 3 in fig. 5.4, above), *Miombo* forest in the west (marked 4 in fig. 5.4, above), and mixed *Acacia* savannah in the south (marked 5 in fig. 5.4., above). The landscape is undulating, and the soils are generally red brown sandy throughout (Sudan National Livestock Census & Resource Inventory, Vol. 19A, table 19A.02). This zone constitutes the major grazing area within Didinga, and both Didinga and Boya keep their livestock there during the rainy season.

## 5.3 PHYSICAL DESCRIPTION OF THE CHIEF AREAS

### 5.3.1 Lothigira

Lothigira, stretching all the way from the Kidepo River in west to far into the Didinga Mountains in east (see fig. 5.3, above) is very similar to the neighbouring Ngarich in Boya, but situated at a slightly higher altitude. The soils are mostly gravellous/rocky, but with large areas of the sandy loams and red, clayey loams. Unreliable rainfall makes agricultural production vulnerable. The vegetation is generally closed, woodland savannah with a lot of bamboo. While the altitude of the south-western part is varying between 600-800 m, the north-eastern part varies between 1500-2000 m. There are hilly areas in the south-west and east. The valleys between the ranges and the hills are the main areas for cultivation, but the hills are also important. The settlements are generally found on the eastern side of the valley - on the ridges of the small hills or at the foothills of the mountains. Some few people lives on the western side. The shallow valleys of the seasonal streams and the pockets with loamy soils are the main areas for cultivation. The livestock is kept both in the hills and on the plains.

The inhabitants of Lothigira exhibit some differences regarding areas of production, whereas the people living in the hills cultivate the hills and the slopes, the people of the lower parts cultivate the valleys. Tuber crops, especially cassava, are increasingly cultivated. This practice can be observed very clearly in the Lojiang village.

### 5.3.2 Chukudum

The Chukudum chief-area is situated south of Chukudum village (which is located within the Lothigira chief-area). Chukudum, reaching from the Kidepo River in west to Nagishot in the north-east, is situated at the centre of Didinga, and contains all types of ecological variations found in the area: the low altitude woodland savannah with sandy loamy soils in the southern, south-eastern and central parts; the mountainous area around Nagishot in north-west; and lower hills distributed throughout the area. The hilly slopes in the northern and north-western parts are to a certain extent forested. The whole area gives good yields when reliable rains. Only a few people in Chukudum are living on the plains; some more are living along the foot of the hills and mountains and in the mountain slopes; and most people are living in separate homesteads up in the hills and mountains.

The area contains four agricultural zones: (1) the plains (south and west), (2) valleys (east), (3) mountain slopes and ridges, and (4) a mountain plateau around the former colonial centre Nagishot in the north-east. Quite regularly, the households have scattered fields in the different zones.

The plains (generally between 900-1500 m) are mainly utilised for the cropping of durra (the late, red variety), bulrush millet and some maize. Quite recently beans and cassava have been introduced (although cassava cultivation did also take place before the flight to Uganda). Cassava cultivation is spreading quickly. More traditional crops (introduced before the exile) like sweet potatoes, groundnuts and cowpeas are also cultivated on the plains, the same goes for simsim (sesame) which is intercropped with durra. Simsim and groundnuts which both are important food crops, are also traded on the local market. Pigeon peas, brought from exile, is also cultivated, but not to a great extent.

On the sandy soils in the valleys and valley slopes bulrush millet is the most common crop, but both durra and maize is also of importance. Groundnuts and cowpeas is cultivated, but on a minor scale. Land is more fertile here than on the plains.

Up in the hills and on the plateau maize is the dominant crop with durra as number two. Significant amounts of kidney beans and cowpeas are cultivated mainly for subsistence. Tobacco is the major cash crop in this zone, and rather large amount is produced. Even though the processing of the tobacco is quite

simple (dried in whole leaves, or ground into a kind of paste), it obtains a high price in the market. Other products cultivated for the market from this zone are irish potatoes, wheat, tomatoes, cabbage, garlic, carrots and pumpkins. Most of these crops, although newly introduced, are gaining importance.

Generally all households keep livestock in the Chukudum area, and it is estimated that 80% keep cattle. The number of cattle kept by each household vary considerably, while some families are completely without, others can be tremendously rich, owning more than a hundred heads. On average it is estimated that each household owns something between 15-20 heads of cattle plus the double amount of goats and sheep. Although the livestock often is kept in the hills for protection, separate part of the plains are extensively used for grazing. The herds from many families are usually grazed together, and protected in common stables. The stables on the plains can be found as far as 5-10 km. away from the homesteads.

### 5.3.3 Lorema

The northern part of Lorema is situated in the Didinga Mountains. This hilly part is rocky with small parcels of arable land in between. There are no cultivable plateaux. The plains are found in the central and south-eastern parts, and the valleys in the western and south-western parts. The soils are generally ranging from sandy to sandy-clay often mixed with gravel. There are pockets with red clayey soils. The vegetation is of the open, bushy and thorny savannah kind. The soils are fertile, but unreliable precipitation makes agricultural production vulnerable. Lorema is among the driest areas in Didinga, and this does not only affect crop production. One of the major problems most often mentioned by the inhabitants was the lack of water for domestic purposes. In the dry season the women have to go far into the mountains for water. Young and strong women could do this trip in a typically rugged terrain in 4-5 hours. Old and sick women could take two days because they had to rest over night at the water hole. On each trip every woman carried about twenty litres in one big calabash on their head. For the Lorema women, collecting domestic water during the dry season means a tremendous drudgery of their labour force.

During the rainy season water collection is much easier since they can collect domestic water in the small seasonal streams about one hour away from the homesteads.

The majority of the population is living in non-fenced villages on the plains towards the mountain. A large number of homesteads are also found in the slopes and upon the hills. Most people living on the plains have got fields in the hills, but in some parts, for instance in the villages of Kikilai and Betalado, the mountain slopes are to rocky to be arable The ridges in Lorema are to a large extent occupied by livestock, mostly goats and sheep. Cattle is kept in approximately the same number and fashion as in Chukudum.

The hills and plains are cultivated as in Chukudum. The valleys are the most fertile areas, and they are only used for cultivation. People walk from their compounds to the valleys some few kilometres away. Animals are not allowed to graze in this area except after harvesting when they graze on the crop residues.

Because of its dry climate, Lorema is among the most vulnerable areas in Didinga, and in years with minimal precipitation, the area is severely hit by drought (as e.g. in 1980/81 and 1984/85). Due to the poorer agricultural performance, the Lorema people have put more emphasise on livestock. This has attracted the attention of the Karimojong groups, and Lorema has repeatedly been exposed to raiding from them. The fear for further attacks has made the Lorema people retreat from the western part of their area, and concentrate their production along the hills. These fields have been cultivated for many years without rotation or fallow. Soil exhaustion is thus a recurrent problem in Lorema.

### 5.3.4 Lotukei

Lotukei makes the south-eastern corner of Didinga, bordering Uganda and Kenya. In north the Didinga Mountains dominate the landscape. The rest of the area is mostly plains. The soils are sandy (whitish to light brown) and only fertile in the mountain slopes and the areas closest to the mountains. The rainfall in this areas is erratic and unreliable. This makes Lotukei to be among the driest and most vulnerable part of the whole Didinga. In years with minimal rainfall the area looks like a semi-desert. In accordance with this the vegetation of the plains is open, thorny savannah. The settlements are found at the foot of the mountains, and people cultivate the slops and parts of the plains.

Livestock is very important in this harsher environments both for feeding and food security. Because of the close distance to the border, Lotukei is - as Lorema - frequently exposed to cattle raiding both from Turkana in Kenya and Dodos and

Jie in Uganda. Beside cattle, sheep and goats in particular plays an important role in the economy in this part of Didinga.

### 5.3.5 Ngatuba

The whole of Ngatuba is situated within the highlands of Didinga. The people live in clusters of homesteads on the ranges where they cultivate nearby valleys and valley slopes. The soils are sandy loams and fertile, and in this higher altitude areas rainfall is reliable. The vegetation is open and not thorny. Ngatuba is also vulnerable to cattle raiding, in particular from the Turkana.

### 5.3.6 Nathelani

Nathelani is together with Lauro and Kibongorok the only parts of Didinga situated "on the other side of the mountains", i.e. on the northern side, bordering the Toposa. Because of this situation these areas have no natural protection against the Toposa.

The soils of Nathelani are generally red and clayey, and the vegetation is open and thorny. The area is moderately fertile when reliable rainfall.

Most of Nathelani consists of ranges and ridges with valleys in-between. While the ranges are barren, the slopes and the valleys are very fertile. The rest of the area is to a large extent thorny scrubs. The people lives on the ranges and cultivating the valley-bottoms and slopes. In the valleys there are some traditional, local varieties of sweet-potatoes.

The area used to be among the more densely populated areas of Didinga, but because of warfare and raiding both from Toposa and Uganda, many people have moved to the village of Kapeta (note: not Kapoeta) further into the mountains where they feel more secure.

### 5.3.7 Lauro

Lauro is located at a lower altitude north of Nathelani, and closer to the heartland of the Toposa. The population is concentrated on the slopes and on the ranges. The village of Lauro is a trading centre where merchants and private persons come from Kapoeta to purchase tobacco and cereals. Between Lauro and Nathelani the local people plus people from many other different areas are

panning gold from mines dug in the beds of former rivers. A lot of foodstuff is sold to the miners.

The soils of Lauro is mostly of the red and clayey type, and the vegetation is open savannah with thorns. The plains lay between the ranges in east and west. The slopes are slightly forested. While the valleys are fertile, the plains are not. The rainfall is sufficient in most years.

### 5.3.8 Kibongorok

The greater part of Kibongorok is situated up in the mountains on the northern side of the range. Kibongorok is a recently established chief-area, formed when parts of Lauro and Ngarich were merged. The area looks very much similar to Nagishot. The soils are black, sandy loams, and fertile. The rainfall is regular, and the vegetation is open without thorns. Due to these favourable conditions, Kibongorok is densely populated. The whole area is hilly with settlements erected up in the hills. Tobacco has a substantial economic importance.

## 5.4 SETTLEMENT PATTERN AND TERRITORIAL UNITS

In Didinga there are two types of settlement patterns - scattered and gregarious. In the foothills and mountains, and in the north-eastern and central parts of the lowland, people live in separate homesteads (compounds) or small clusters of homesteads, based on kinship ties, spread over a large area. Generally, a group from one to seven compounds or homesteads form a sub-village, two to five sub-villages form a village, and one to three villages form a section or chief area. In the south-eastern parts, towards the Ugandan border, especially in the chief-areas of Lorema and Lotukei, and on the northern side of the mountains (toward the Toposa) - in the chief-areas of Lauro and Nathelani - the population live together in bigger settlements, or more typical villages. These bigger settlements are generally not stockaded or fenced as is the pattern in Boya. Two reasons are given for the gregarious settlement pattern. Firstly, that it allows more land for grazing and crop cultivation. Secondly, that it allows for a larger degree of security.

The explanation given by the Didinga for the scattered settlement pattern is that families prefer to live at a distance from each other due to the function of witchcraft. It seems probable that the greater the settlements, the greater the

potential for tensions and even open conflicts. Antagonism and contradictions between individuals and families frequently ends up in witchcraft accusations.

Whether we find a scattered or a more gregarious settlement pattern, we will experience that the same types of social groupings, based on residence, are found throughout Didinga: the hut, the compound, and the hamlet.

# CHAPTER 6

# THE AGRO-TECHNICAL CONDITIONS

## 6.1 INTRODUCTION

### 6.1.1 Economy

The Didinga economy can typically be characterised as a subsistence economy, but under a partial, but distinctive market economic influence. Besides the traditional bartering between the mountain and plain Didinga, trading at the market in Chukudum is important. The impact of the monetary economy can presently be observed throughout Didinga. Cash cropping has been the main vehicle in this development. The most important crops traded at the market are tobacco and maize, but trading of exotic vegetables, mainly grown in and around Nagishot, is gaining importance. Livestock is, of course, also important in this respect. The Arab merchants with their lorries and their small shops at the market site, have obviously been the main brokers in the monetary sphere of the Didinga economy. The economic intercourse with the neighbouring groups, mainly based on barter, is also very important. The Lotuko regularly come to Didinga to exchange small stock (at particular instances even cattle) and iron goods for grain. The Toposa exchange small stock for tobacco and durra. In periods with agriculture failures on the East Bank, the crops from the Didinga Mountains are vital both for the livelihood of the Didinga and the adjacent ethnic groups.

### 6.1.2 The agricultural complex

The Didinga agricultural complex includes two separate, but interrelated enterprise patterns - crop and animal husbandry. Although crop production is both economically and nutritionally the most essential activity, its socio-cultural importance is quite minor compared to animal husbandry.

To grasp the totality of the Didinga pattern of adaptation, it is important to add such economic enterprises as hunting, gathering of wild plants, manufacturing of tools and equipment, beer-brewing, bartering and even - to a certain extent - cattle raidings as they play substantial roles in the livelihood of the Didinga.

Despite the fact that animals and animal husbandry occupies a key role in the Didinga culture, (in particular the "male" culture), agricultural production forms the economic foundation of the society, i.e. agricultural products represent the main source of food intake, and crop production occupies the major part of the total labour power.

Besides the more genuine cultural aspect, livestock occupy many other functions. It is, surely, these important functions that have given livestock, and in particular cattle, their dominant cultural importance. Besides their direct food providing capacities, cattle, for instance, is used both for food security, capital savings and investments, building of social relations and maintenance of social alliances and obligations. Goats and sheep are used as "small change" to meet everyday expenses and obligations. To slaughter or sell a goat or a sheep is therefore a regularly occurring activity, if - of course - one can afford it. To slaughter or sell a bull or a cow is a much more socially important - or dramatic - event. Slaughtering of cattle only takes place at a communal level, and at particular social events as, for instance, rainmaking ceremonies, initiation rites, funerals, age-set meetings, and so on.

## 6.2. ANIMAL AND CROP HUSBANDRY

### 6.2.1 The farm survey

The information for these presentation is collected from four various sources: (1) participatory observation including informal interviews/talks which took place at regular intervals throughout the period from November 1983 to January 1986. (2) Formal interviewing by questionnaire. Interviews were made with three local leaders and with eight farmers. (3) Field measurements to get more precise information about the cropping pattern. Measurements were conducted in 35 different fields. Within each field a squared sample plot was selected by random. The size of each sample plot was 1/100 of a feddan, i.e. 42$m^2$.[24] The sample plot was fenced with four poles, one in each corner. A string connected the poles. Within the square we counted each and every head of plant. In addition we recorded the number of plant stations, the number of plants destroyed, and the

[24]A feddan is approximately 4200 $m^2$.

causes for destruction. We also recorded plant species found in the field but not in the sample plot. (4) Application of secondary sources, i.e. information collected by other authors, e.g. Jack Driberg (1922, 1927 and 1935), Andreas Kronenberg (1972), and Atle Sandnes (1976).

### 6.2.2 The major crops

In Didinga as a whole, *durra* (sorghum) is the most important crop, and a substantial number of varieties of durra are grown. Since the different varieties mature at different times of the year, harvesting of a durra field continues for many weeks. The durra varieties can be gathered into two major categories; **labi** (short maturing, early season variety) and **mucka** (long maturing, late season variety). In the 1970s *Sorghum Serena* was introduced at a certain scale. Serena has many of the same characteristics as **labi**.

Millet is the number two crop grown in Didinga, and also here many varieties are cultivated.[25] The millets grown can be divided into two major types: *bulrush millet*, **lathik**, and *finger millet*, **kiro**. While the importance of **kiro** has dropped after the majority of Didinga moved from the mountains down to the lowland, it is still grown to some extent in the highlands and to a much lesser extent in the lowlands. **Lathik** is, in order of importance, the number two crop variety in Didinga, competing for this position only with maize, **locheri**, which is the most important crop cultivated in the mountains. Maize was introduced at a much later stage than the other cereal crops (except for Sorghum Serena) - at around the turn of the century.

Sesame (**kanyim**), kidney beans (**modo**), cowpeas (**kihidor**) are important as subsidiary crops, usually intercropped in minor proportions within the durra, maize and millet fields. Pumpkins, melons and gourds are also intercropped in the same manner, but of mush less importance.

Crops like cassava, sweet potatoes and groundnuts were introduced during the colonial period, mostly as garden crops cultivated close to the homesteads. They have gained some importance in parts of Didinga, but have never reached the same level of importance as cereals, sesame (simsim) and beans.

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[25]Driberg claims that the Didinga distinguish between thirty species of "rain millet" and twenty species of the "dry-season millets" that are generally grown and favoured according to locality (Driberg 1927:399). Obviously Driberg here includes sorghums as millets.

### 6.2.3 Crop characteristics

Local sorghum, **labi**: low, light coloured, sweet, and short maturing (about three-four months). The particular attribute of **labi** which makes it indispensable to the Didinga, is its short maturing capacity. This characteristic makes **labi** fill an important function as the main source of food in the intermediate period between the previous harvest and the present year's harvest. **Labi** fills the "hunger gap", and it supplies the farmers with food through the arduous and energy-consuming period of cultivation. The **labi** also has a particular quality that makes it very popular - its sweet stalks. After cutting the panicles, the stalks are cut, collected and brought to the homestead where they are chewed in big numbers. The sugary stalks are important both as a supplier of energy during harvesting, and as a snack.

**Labi** is grown in areas with medium to high soil moisture as in depressions, shallow valleys along seasonal streams, and in the mountains. **Labi** is high yielding under optimal circumstances, but is susceptible to water stress and bird and insect attacks. *Striga* is a common problem both to the sorghums and the maize. **Labi** is, as **mucka** and **lathik**, used both for beer and porridge.

Out of the 35 field measurements performed in Didinga, **labi** was cultivated in altogether 28 fields (80%). It was the *number one crop* in 13 fields, the *number two crop* in 7 fields, the *number three crop* in 4 fields, and the *number four or five crop* in 4 fields.

Local sorghum, **mucka**: tall, reddish, often bitter, long maturing (about six months), resistant to water stress and attacks from birds. **Mucka** has better storing ability than **labi**, but the yields are generally lower. **Mucka** is not suitable for the highest parts of Didinga due mainly to the temperate climate. **Mucka** is typically a subsidiary crop. Most fields contain some amounts of it, but one rarely find **mucka** as the main crop. **Mucka** was grown on 31 out of 35 fields (89%), but only on 2 fields as the *main crop*. In 14 samples it was the *number two crop*, and in 15 samples it was *number three or four crop*.

Sorghum Serena was recently introduced from Uganda. Serena is short, yellowish in colour, has big sweet, seeds, is short maturing (about three months), and is rather resistant to drought, but not to attacks from insects and birds. Serena is high-yielding under good growing conditions, but not as storable as **mucka**. Serena is still of little importance, but it is spreading.

Bulrush millet, **lathik**: both bearded and non-bearded varieties are cultivated. **Lathik** is very important as a food security crop since it has a higher tolerance to water stress and can grow on poor soils. **Lathik** is not that susceptible to attacks from birds (especially the bearded varieties) and insects, it is storable, and it is not as affected by Striga as the other cereal crops. **Lathik** was cultivated on 21 out of the 35 measured fields (60%). Although **lathik** was grown on fewer fields than **mucka** and **labi**, it was the crop most often found as the *dominant crop* (18 cases). Only in 3 cases was **lathik** grown as a *subsidiary crop*.

Finger millet, **kiro**. Since **kiro** has a higher water requirement, its importance decreases with lower rainfall. It is still cultivated to some extent in the mountains. Finger millet is not very high-yielding, but is preferred for its taste and its beer-brewing qualities. In our measurements we found Kiro in only 6 fields.

Maize, **locheri**: generally cropped in the mountains, but also together with **labi** in the shallow valleys of the plains. **Locheri** gives nice yields under good growing conditions, and has a medium maturity period (4-5 months). While millet and sorghum are only used for subsistence, some amounts of maize are traded at the market. Out of the 11 samples cultivating maize (31%), it was found to be the *dominant crop* only in 2 samples, both in the mountains, and as a *subsidiary crop* in 9 cases. When cultivated as a subsidiary crop, it was always intercropped with **labi** as the main crop.

The three species of cereals that are extensively grown, durra, millet and maize, are most often intercropped with each other, and with other species such as cowpeas, cassava, sesame (simsim), okra, cowpeas, beans and groundnuts. The latter crops can also be planted in sole stands if the necessary amount of planting material is available. None of the major cereals are generally ratooned.

Sesame, **kanyim**; the most important oil-crop in Didinga, and next to the cereals the most important crop in Didinga agriculture at all. **Kanyim** was found in 26 of the 35 measured fields (74%), out of which it was 7 times cultivated as the *number two crop*, and 10 times as the *number three crop*.

Cowpeas, **kihidor**: cropped both for its seeds and leaves. Cowpeas has a secondary importance.

Common beans (**modo**) and green grams (mung beans): May be compared partly with cowpeas regarding usage and popularity, but with a lesser importance as cowpeas leaves are a popular relish.

Sweet potatoes and cassava: The importance of tuber crops has varied very much in Didinga, both from period to period, and from district to district. Today the tubers are only grown in some few places. Due to the drier climate, it has been very difficult to keep the necessary vines and cuttings alive throughout the dry season. Many farmers express their willingness to reinstate tubers in their cropping pattern if vines and cuttings became available. Sweet potatoes have an advantage due to the fact that they are quick maturing and give good yields under favourable weather conditions. The advantage of cassava is its high resistance to drought and its capacity of being stored in the soil. The Didinga show some preference for the tubers, but not at all to the same degree as the cereals.

Water melon, pumpkins and gourds are cultivated by almost every farmer, but in small amounts. Since these crops can not be stored, they are eaten directly when ripe. The gourds are used to produce calabashes which are among the main domestic utensil in Didinga, used as storing devices, for fetching water, containers, etc.

Okra is very popular as a relish. An important reason for its popularity is the fact that it can be dried and stored, and hence also utilised in the dry season.

Tobacco is the most important cash crop in Didinga, but it is also very much preferred for local consumption. Tobacco is cultivated around the homesteads mostly in the mountains, but also in the lower altitude areas.

Groundnuts is a crop of a minor, and decreasing, importance. The major reasons why groundnuts seem to loose its importance is the general poorer soil quality throughout Didinga, and the *rosette virus disease.*

Carrots, cabbage and irish potatoes: These temperate, exotic crops were introduced in Didinga in the 1970s, and they are almost only grown around Nagishot. Even though the Didinga consume some of the harvest, most of it is traded at the market for cash.

Some trials with wheat were conducted in the last part of the 1970s and the first part of the 1980s. As a result some farmers have started wheat cultivation on a small scale.

### 6.2.4 Crop pests

Crop pests regularly ruin a substantial proportion of the yields. While still in the fields the most important pests are birds (*Quellaquella weaver birds*), stem borers (*Sesamia* spp.) and green bugs (*Nezara viridula*). In drier years, soil termites (white ants) attack the roots of the plants and cause heavy losses. In particular years, grasshoppers do great damage to the crops. The years with the greatest damages are the years with least rainfall. This is not only because competition for moisture retards the crops, but because in these years the crops attract predators in big numbers. The drier the years, the heavier the attacks from birds, termites, bugs and wild animals since their natural sources of food and moisture are deprived.

While stored in the granaries, both the cereal and leguminous grains are exposed to attacks mainly from rats and weevils, but also from fungi.

The proportion of crops ruined by pests and diseases will, of course, vary from year to year, but it is safe to say that a substantial percentage of the yields (more than 25%) is damaged each year, and the drier the year the larger the damages.

## 6.3 ENTERPRISE PATTERNS

### 6.3.1 The lowland pattern

The agricultural enterprise pattern of the households residing in the Didinga lowland is rather simple and uniform throughout. We can, however, depict some minor variations according to altitude, south-west/north-east axis, position of the fields and micro-environmental factors. According to these factors, it is possible to distinguish between four agro-ecological environments or zones utilised by the households inhabiting the lowlands: (1) *the lowland plains* situated at an altitude of about 600-1100 m, (2) *the shallow valleys of the seasonal streams in the low altitude areas* (600-1100 m), (3) *the slopes and the foothills in the medium altitude areas* (900-1500 m), and (4) *the fields in the mountains* (above 1500 m). The borders between the three first zones may in some parts of Didinga be rather

obscure, in other parts quite clear. Many households in the south-eastern part of Didinga, e.g. within the chieftaincies of Lorema and Lotukei, do not have access to fields in the fourth zone (above 1500 m).

The cropping system of the lowland can be described as a combination of mainly two enterprise patterns: *permanent "quasi"-irrigated cultivation*, and *the rain fed, fallow (or shifting) cultivation*. Permanent cultivation takes place in the fields on alluvial soils in the valleys of the seasonal streams. These fields receive moisture from the streams which starts to carry water (falling in the mountains) even before the on-start of the rainy season. This allows the fields to be cultivated as early as in March. Planting the short maturing durra, **labi**, gives people an early season crop. Since the streams carries rather large amount of silt from the mountains, the fertility is replenished every season. After harvesting, usually accomplished in the late part of September/beginning of October, the fields are left to rest to the commencing of the next rainy season.

Shifting, or fallow, agriculture takes place on the plains and at the foot of the mountains/hills. Also, to a more limited degree, in the valleys and gullies up in the mountains. The fields in these areas are dependent on moisture saturation from rains, and can therefore not be cultivated before April/May. There are no external supplies of nutrients and organic matter to these fields while under cultivation. This fact, combined with soil exhaustion, increased weed infestation - particularly by the parasitic *Striga* (*S. hermonthica*), leads to a decline in yields from one year to the next. When the production comes down to a level when the expenditures in seeds, energy etc. will be high in comparison with the produce gained (generally after three to five years of cultivation), the fields will be abandoned for a number of years to regenerate (generally from two to five years). After three to five repetitions of this *production-fallow cycle*, the general level of production do eventually decrease to such a level that the whole area is abandoned, and a completely new area of cultivation will be opened.

The cultivation of **labi** (often intercropped with the long maturing durra, **mucka**, and sesame) and bulrush millet, **lathik**, (most often combined with **mucka**, and sometimes also with sesame) are the two main agricultural enterprises found in lowland Didinga. The first is related to the permanent quasi-irrigated enterprise pattern, and the second to the "rainfed-fallow" pattern. Finger millet, okra, beans, cowpeas, cucurbits and green grams will often be intermixed in both enterprises, but always of lesser importance. Minor agricultural enterprises are cultivation of

small patches of simsim (**kanyim**), groundnuts, sweet potatoes, cassava and tobacco around the homesteads. Domestic waste water, organic garbage etc., is used to nourish these patches.

When the **labi** enterprise is conducted in the shallow valleys crossing the plains, the **labi** itself will always be dominant. When cropped in the slopes and foothills, maize is regularly intermixed, often at an equal level, and in many cases, maize may in this zone even be dominant. In the high altitude areas, maize is generally found to be more important than **labi**.

Coming to the **lathik** enterprise, we experience that it is generally intercropped with both **mucka** and sesame, and frequently even with **labi**. The proportions of seeds in the mixture will differ from case to case. While most fields are completely dominated by **lathik**, others are more balanced. Some few fields are even dominated by **mucka**. The differences may, to some extent, be related to the sowing process (broadcasting automatically lead to some kind of randomisation when it comes to germination), but more importantly to the food preferences, and to the micro environmental factors which the farmers have experienced will benefit one mixture before another.

The reasons why **lathik** (in some or another combination) is the prevalent enterprise in the lowland are manifold, but some general features are important: First, the area for cultivation of **labi** is restricted to the narrow and shallow valleys of the seasonal streams. Such fields of alluvial soils form only a minor part of arable land in the lowlands. Secondly, both the long maturing durra, **mucka**, and bulrush millet, **lathik**, thrive much better than **labi** in hot and dry climate, and on poorer soils, conditions found abundantly throughout Didinga. While **labi** easily becomes stressed by insufficiency of water and high temperatures, it performs well with higher moisture and lower temperatures. A bit surprising is the importance attributed to bulrush millet, **lathik**, in the temperate and high rainfall areas in the mountains. This is, most probably, related to the fact that large tracts of land on the ridges are barren - rocky and gravellous - and hence, have a low soil fertility. Millet grows much better on such soils than sorghum and maize.

In years with normal (average) rainfalls the sowing (broadcasting) of the **lathik** "enterprise" takes place in April/May, and the harvesting lasts from November to January. The short maturing durra, **labi**, is sown in March, and harvested in July-August-September. When the last year's stocks are about to finish, the farmers

can start to harvest the **labi** (or labi/maize). In years with late commencing of rains, or with little rain, this pattern can be broken. Because of the low rainfall in 1984 (718.5 mm) that lead to a poor harvest, a famine broke out in 1985 as the previous year's stocks of grains were finished very early.

From this we can see that it is neither convenient nor rational for the farmers to base their livelihood solely on the more drought resistant **lathik**. This would, first of all, imply a dependency upon only one enterprise which could mean disaster in case of crop failure. Secondly, this would imply that they had to produce for a whole year of storage. The simple storing facilities available (muddied grainbins) means a serious deprivation on the quality and quantity of the foodstuff. Rats, insects and fungi ruins a substantial part of the harvested food. In addition long-time storing in grainbins reduce the nutritional quality of the grains. The combination of the two patterns is, in these respects, optimal.

The reasons why **lathik** and **mucka** are preferred in lowland Didinga go beyond their adaptability to the edaphic and climatic conditions. The tall **mucka** (often higher than 2,5 meters) has an open panicle with drooping "fingers". The small, hard and often bitter seeds are not very susceptible to attacks from birds. In addition the constitution of the seed, especially the hard husk, gives **mucka** an excellent capability of being stored for longer periods. The **labi** with its closed, compact and erect panicle with bigger, softer and sweeter seeds, is very susceptible to bird attacks, especially when it is in the "milky" stage. The constitution of the seeds makes **labi** less storageable and highly exposed to weevils, the destructive granary-beetles.

The preference for **lathik** is both related to its taste, its capacity to withstand drought, and its ability to grow on poor, gravelled soils.

In the livestock-crop combination, the residues from crop cultivation are important since the animals are fed on the roughages in the first part of the dry season. An effective and systematic utilisation of manure is not a significant part of the Didinga cropping system, but obviously droppings from the grazing animals have a soil improving effect.

Because of what seems like a generally drier climate since the first part of the 1970s, and a high frequency of raiding activities from various Karimojong groups which have forced the Didinga to abandon huge tracts of land south-east of the

mountains, the cultivation pattern on the plains is endangered. The imbalance ratio between cultivation and fallow has lead to soil exhaustion due to over utilisation of the accessible (safe) fields. The soil-deteriorating agricultural practices together with monocropping of cereals puts heavy constraints on the development of agriculture.

### 6.3.2 The highland pattern

For the households residing in the higher altitude areas, the enterprise pattern is different to that of the lowland due to climatic and environmental conditions. With higher precipitation and a more temperate climate, maize and finger millet (**kiro**) increase in importance. The same applies to exotic vegetables. When asked about the crops in order of importance, the farmers at Nagishot (1980 m) first mentioned maize, then the short maturing durra, **labi**, and thereafter bulrush millet, **lathik**. Other important crops mentioned were **kiro**, beans, irish potatoes, marrow, African melon and tobacco. Cabbages, onions, carrots and beans were mentioned as crops of minor importance. The latter mentioned crops, plus tobacco, were cultivated mainly as cash crops. Also chickens, beans and beer were traded for money. The three major farming enterprises in the highlands were: (1) **locheri** (maize) intercropped with beans and pumpkins, (2) **lathik** (bulrush millet) intercropped with **kiro** (finger millet) and African melon, and (3) **labi**. An interesting feature of highland agriculture is that **mucka** was not mentioned as a part of the cropping system, neither were cowpeas, simsim, groundnuts, cassava nor sweet potatoes. It also seems that goats are extensively kept why cattle are fewer in number. The reason for the rather big number of goats can, at least partly, be attributed to their browsing habits, as trees are abundant in the mountains.

## 6.4 LAND USE

The land use system consists predominantly of a combination of arable cropping and grazing, but with considerable importance attached to the "natural" (off-farm) environment for its supply of necessary resources such as wild plants and animals; raw materials for house building, tool-making, etc.; fuel wood; honey etc..

Employing Ruthenberg's definitions and classifications, it will be correct to state that a shift has taken place in the Didinga farming system. While the Didinga

farming system before the exile typically had a more "shifting" character (R < 33), it is presently more accurate to depict it as a "fallow" system since the R-value today is higher than 33 (Ruthenberg 1980: 15-16. See also 3.3.1, above). This is particularly true for the lowlands in general. According to the type of rotation, the system of the lowland plains can be classified as a *savannah fallow* system with 33<R<66, and a natural vegetation comprising a mixture of fire-resistant trees and grasses in which grasses are ecologically dominant. In the highlands, we will still find a shifting system that can be classified as a *forest* or, possibly, a *bush shifting* system where either trees or bush are ecologically dominant (Ibid.: 15-16).

The cultivation-fallow cycle on the plains may vary from site to site due to variation in altitude, edaphic differences and cultivation practices, but on average the farmers cultivate four-five years, and then leave the field to rest for one-two years. The cropping sequence do in general include the following procedure: First year, simsim intercropped with durra (alternatively, simsim/bulrush millet). Second year, durra/maize. In the rest of the sequence, durra or durra/bulrush millet.

The remarkably high ratio of cultivation to fallow (high R-value) seems to have devastating effects on the system of agricultural production. The farmers gave different explanations for this practice. One explanation given was that because of the drier climate in the recent years, crop production has generally taken place in the more favourable areas (valleys, depressions and along the foot hills). This has resulted in over-exploitation of these sites. Another explanation given was that a lot of families did not have sufficient acreage in the mountains, or they did not have fields in that zone at all. They were hence compelled to cultivate the fields on the plains only, and on the plains the most productive parcels were too much utilised because of reasons stated in the first explanation. A third explanation given was insecurity due to raiding activities performed by the neighbouring Dodos and Jie from Karamoja in Uganda. The fear for attacks made people cluster together in areas in vicinity of the densely populated area of Chukudum village.

The Didinga lowland is generally separated into two zones, classified by the local people as either arid or fertile. Arid land is used for pasture, fertile land for cultivation (see fig. 5.4, above). In periods with regular rains and peaceful coexistence with the neighbouring groups, arable land is sufficient to support their shifting (or fallow) system. The more frequent and life-threatening attacks from Ugandan groups have lead to a situation where people of the lowlands have

abandoned the southern part of their territory. As a consequence, scarcity of land has in some chieftaincies, e.g. Lotukei and Lorema, become a problem.

The number and size of the fields which a farm family occupies, depends to a substantial degree on the size and composition of the households. To be socially and economically viable, a household will operate the following fields: one field with the early durra (**labi**), one field with bulrush millet (**lathik**), and one field with maize (**locheri**). In addition, many families cultivate one field with simsim (most often intercropped with durra), and one field of groundnuts (close to the homestead). In particular areas, many households dig small plots with cassava, sweet potatoes, green grams and cowpeas. Because of the prevailing land scarcity in the south-eastern areas (e.g. Lorema and Lotukei), many families have only one major field. When this is the situation, **lathik** and **mucka** are preferred. By all farmers interviewed in Lorema and Lotukei, **lathik** was mentioned as the most important crop, and in most instances it was intercropped with **mucka**. I believe the main reason for this to be that those two crops are the "safest": they are both the most resistant to drought and bird attacks; and they are the most storable crops. In addition, **lathik** is the cereal crop least affected by *Striga* (a weed which escalation in infestation is proportional to the degree of soil exhaustion), and it grows rather well on poor, gravellous soils.

To exemplify the structure and function of the land use system in the lowland, I will mention the result from seven farm households interviewed in Lorema and Lotukei. The seven households had respectively 3,3,4,4,7,7 and 10 fields each. One farmer with only three fields was a young unmarried man who got some assistance from his mother, sisters and other relatives for cultivation. One of his fields was dominated by **lathik** (bulrush millet), another by **labi** (short maturing sorghum), and the third **locheri** (maize). **Kanyim** (simsim) was intercropped in both the **lathik** and the **labi** fields. He used to have some cattle and small stock, but all of his animals were raided in June 1985. Although still a member of his mother's household, **cieth**, he is in some sense an independent economic unit. He has laid the necessary material foundation to get a wife, and thence to establish a family of his own.

The other farmer with only three fields was a single young woman with one small child. She received help from her mother and sister for cultivation. The first field, measuring approximately 3/4 of a feddan (0,3 ha), was dominated by **labi**, the second field, measuring approximately 1,9 feddan (0,79 ha.) had one part

with the combination of **lathik** and **mucka** (intercropped with some simsim), and a smaller part with mainly finger millet (**kiro**). The third field, situated in the mountains, (**mana ci ethena** = field in the mountain) was approximately of the same size as the second field. This field was dominated by maize, but included some beans and tobacco. Around the homesteads she grew some small amounts of cowpeas and gourds. She had 15 goats. Her 5 cows were stolen in 1983.

One farmer with four fields had, in order of importance, the following fields; 1) **lathik**, 2) **labi**, 3) **mucka**, and 4) **locheri** (in the mountains). This farm was managed by a husband and a wife (number of children unknown) who also kept 5 heads of cattle, 20 goats and 10 sheep.

The other household with four fields was also managed by a husband and a wife (number of children unknown). They had one field mainly with **labi**, one with **lathik**, one with Sorghum Serena, and one with **locheri** (maize). In all fields, some **mucka** was mixed in. They also had a small plot with tobacco close to the homestead. The farmer kept some number of livestock, but we did not manage to get the number.

The first farm with seven fields consisted of a couple with one small child. They had the following fields: one with **lathik** mixed with **kanyim** (sesame), one with **lathik** pure, one with **labi**, one with **kiro** (finger millet), one with **mucka**, and two with **locheri** (in the mountain slopes). In addition they had a small plot with cowpeas. While the cattle have been raided, the family still had one stable with goats (30-40 animals).

The second farm with seven fields was managed by a husband and a wife with four small children (the oldest was 4-5 years of age, the youngest newly born). This family operated four fields with **labi** (probably small fields), two with **locheri** (mainly mixed with beans), and one field with **lathik** mixed with **mucka**. They had some cattle and goats, but we did not manage to get the numbers.

The farm consisting of ten fields was headed by the chief of Lotukei. He had recently been appointed chief after have been living away for many years. The chief was a man in his early thirties with a wife and three small children, all of them too young to participate in agricultural production. Although the farmer explained that he had ten fields, we observed only three that were in actual operation. The biggest field was cropped with **lathik** mixed with **mucka** and

**kanyim**. The second was planted with **locheri** mixed with some **lathik**. **Labi** dominated the third field. Around the homestead he grew tobacco, cowpeas and beans. Tobacco was mainly grown as a cash crop. The chief said that when seeds were available he also grew groundnuts. The family kept two heads of cattle, 5 goats and 10 sheep. No information was received about the last seven fields.

## 6.5 LAND TENURE

The Didinga land tenure system is based on the idea that land should be, as the air you breathe, a free asset for the village people. Consequently, land tenure is basically communal both when it comes to arable land and pastures. Pastures are wholly and fully utilised as on a communal basis as "commons". Regarding arable land, any individual belonging to a local community (village or sub-village) has usufruct rights to plots of adequate size and quality. In principal no tax or rent is paid for these rights, but some small tributes or gifts are most often paid to the **bati-lotu** ("owner/father of land"), but then as a reciprocation for his/her services. Formerly it was customary to pay tributes to the rainmaker in Boya for his services, but he now seems to have lost most of his influence.[26]

To understand the role of **bati-lotu** it must be added that every inch of land in Didinga is "owned" by a particular clan. The **bati-lotu** represents the "ownership group", i.e. the original clan that settled in a particular area. The **bati-lotu** plays a significant but limited role in the agricultural production process. He or she[27] decides when to start the cultivation, weeding and harvesting activities. **Bati-lotu** can also inspect the fields and gardens to control if they are in good order. If the land is not kept well, the **bati-lotu** can punish the farmer according to the seriousness of the offence committed. Small mistakes will lead to fines, grave offences may lead to expulsion. In each chief-area there are one to three "fathers of land" (the role and function of **bati-lotu** will be explained more in detail in the next chapter).

Through my survey I received some signals which indicated that the scarcity of land has lead to some changes in the traditional tenure pattern. A farmer said that if it was impossible to obtain unoccupied arable land adjacent to his present

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[26]The Didinga and the Boya have, since they arrived to the present area of inhabitation, shared the same rainmaker. The rainmaker comes from a particular rainmaker clan in Boya.

[27] The title can be transferred from both a man and a woman to either a son or a daughter. The general pattern is, however, that the title is transferred from father to son.

fields, it was possible to donate a sheep or a goat to a person with plenty of land nearby to receive a parcel for cultivation.

In the lowlands it is often found that a whole village, for instance Lotukei, Kikilai and Lorema, cultivates one or two huge fields, each exceeding more than 200 feddans (more than 80 ha). The fields are not cultivated jointly as each household digs its separate parcels. But working parties are frequently organised by individual households giving production certain communal characteristics.

Normally a household digs two to three parcels within the communal field. If a man has two or more wives, each wife will in principle have the same number of parcels of about equal size and equal quality.

## 6.6 LAND ACQUISITION

The amount of land a family needs to secure its social and economic viability, will vary according to its phase in the *domestic cycle*. In the initial phase when the newly weds settle down, their requirement for produce will not be that high. On the other hand, this is also a period when the family labour is in short supplies. In the initial phase it is therefore very important to have functioning social relationships with the natal families of the new couple, and often we find a close co-operation between the new and the old families in this phase. Both the bride price and the matrimonial service that the bridegroom has to pay to his mother-in-law are important components of this viability securing pattern (see next chapter).

Arable land is traditionally inherited in the way that the fields of the household (**cieth**) are divided among the sons. While the oldest son is the principal heir to his father's status and property, including his fields, the youngest son is the principal heir to his mother's property, including his mother's fields. In return, the youngest son has to take the responsibility for his mother in her old age. Although land acquisition is traditionally through inheritance from parents to sons, it is common to acquire land both from patrilinear and matrilineal relatives.

If the amount of land acquired in the manners mentioned above does not suffice, it is possible to ask a neighbour or friend to contribute arable land for cultivation. It is also common to borrow land for a number of years, but it is, in principle, quite impossible to purchase land since land has no price. When a person is

borrowing land from another person, something is usually contributed for its usage. The size of the contribution may vary according to size of the parcel and the number of years it has been borrowed, but it can be anything from a hoe to a bull. The borrowed land must be returned at the claim of the original possessor.

If the presently cultivated area of a village is not sufficient, an individual is free to break new, unoccupied land after first having sought the permission and the recommendation of the **bati-lotu**. Fallow land is not considered to be unoccupied, and even land that has not been cultivated for a whole generation still belongs to the original family that cultivated that land.

It is also possible for a person to move to another village where land is available. Outsiders will be allocated sufficient amounts of land by the village chief if they are accepted into the village community. This land will first be allocated on a temporary basis, but after a reasonable number of years, for instance a generation, this land will be considered theirs.

Since land in Didinga is generally abundant, land acquisition rarely represents a problem to any individual.

## 6.7 ORGANIZATION OF LABOUR

The cultivation process is very much organised according to the division of labour between males and females, and between old and young. Children start to participate in the production process at about eight to ten years of age. While the boys most often are used as shepherds for the small stock, the girls assist their mothers with household work, taking care of younger siblings, collection of water and firewood, and so on. At the age of about 13-14 the youngsters start to take part in cultivation of the fields.

In principle it is only men that inherit land, and can claim ownership to land, i.e. the husband is formally the only one vested the rights for usufruct of communal land. But since agricultural activities very often are organised around the wife, and often with her as the main crop producer, she occupies a crucial role in the decision-making process, and - therefore - a key position in the total socio-economic structure.

While the animal husbandry activities are the males' domain, except for milking where also women and girls can take part, the agricultural production process is a joint household activity with reciprocal rights and duties between the husband and the wife. In monogamous marriages, which are the most common, husband and wife are performing many of the activities together, but there are certain activities assigned to men, and others assigned to women.

- Clearing the fields and breaking of new land are generally performed by the husband.
- Digging and sowing (broadcasting) are done jointly.
- Replanting, thinning and weeding are done jointly.
- Harvesting (cutting the panicles), transport of crops from the fields to the homestead, and threshing are done by women. The biggest panicles are bundled and kept in the main hut, usually tied in the roof above the fire so the smoke will protect it from insects and other pests. It is grain from these panicles which will be used as next years seeds. The women are generally in charge of selecting the seeds, but the husband can include seeds he thinks are productive. The small panicles are threshed, and the grain stored in the grainbins.
- All domestic work is in principle done by women and girls, but younger boys can also assist. A mother without daughters will, for instance, send a son to fetch water. The adult men can give some assistance, for instance by collecting firewood.

The major agricultural labour operations like bush clearance, cultivation, weeding and harvesting is frequently done by communal labour parties.

A man with several wives often plays a mere management role in the agricultural production process even if special tasks are assigned to him.

The Didinga farmers emphasise two labour peaks within the production cycle. The first and most labour demanding peak commences with the onset of the rains, and lasts through the months of March, April and May. The operations to be undertaken in this period are digging, sowing, replanting, thinning and weeding.

The second peak is the main period for bird scaring and harvesting. It encompasses the months of August, September and October.

For bird scaring platforms are either made in trees or erected in the middle of the fields. Boys and girls are important agents in this period. They sit on the platforms from dawn to sunset, shouting, singing and throwing stones and mud bullets at the big flocks of weaver birds approaching the fields.

During June and July weeding, thinning and replanting of **lathik** (bulrush millet) are the major labour operations. The **locheri** (maize) is by now ready to be harvested.

Besides land preparation for the next agricultural season, the activities within the dry season (November-March) include, for instance, building and maintaining the huts. Also here there are clear divisions of labour. While men cut the poles for fortification and the bamboo for the roof, and actually raise the building and thatch the roof, the women cut the grass for thatching, and they are in charge of plastering the walls and floor with mud.

Other dry (or low) season activities are hunting, honey gathering, brewing beer (both for self-consumption and for sales), production of tools and handicrafts. The metalwork for the most important farm tools are done by blacksmiths.

### 6.7.1 Scarcity of labour due to diseases.

Scarcity of labour power in the peak season represents a problem to the farmers. This scarcity is not only caused by lack of people, but also to a substantial degree by sickness among the local population. One of the most serious diseases in this dry, dusty area is *trachoma* which has caused blindness to a great number of people. Besides the terrible fate this is to each affected individual, trachoma also negatively affects the whole community since those people affected are permanently exempted from production. They must rely on support from the productive members. In years with drought and famine, the blind people suffer considerably as the little there is to be eaten, is given to the productive part of the population. According to the local opinion, it is mostly women that are affected by trachoma. I have no medical or statistical data that can confirm this, but if this is correct, it could be related to the diet where men -because of their closer connection to the livestock - receive more protein via meat, milk and blood.

Since the most common tropical diseases occur most frequently in the rainy season, they seriously weaken the agricultural production process. The typical

rainy season diseases most often mentioned by the local population to be creating problems are malaria, common cold, diarrhoea and tropical ulcers.

Diseases that may occur at any time of the year are *zoonoses* (animal-borne diseases like *brucellosis* and *tuberculosis*) and measles.

As the medical data from this part of the Sudan are extremely limited, and probably not very reliable, it is difficult to estimate to what extent health problems actually limit agricultural production, but from my own experience I would guess that at least 30-40 % of the population in the course of a year are affected by diseases to such an extent that it has serious negative consequences on their labour capacity. Since the most common diseases occur in the rainy season, which is also the peak of the agricultural season, the livelihood of the farmers is aggravated. That the peak of cultivation occurs at a period when food is often at its scarcest, does only add to the problems. In many respects, it is correct to say that there is an adverse relationship between the demands from the agricultural system and the actual health and nutrition situation among the farmers.

## 6.8 COMMUNAL WORKING PARTIES

Communal working parties are very common, and are found throughout Didinga. They are of two different types: **kolek-thoc** and **kita**. **Kolek-thoc** may involve as many as one hundred people. The organiser of the communal work will ask his friends to collect a high number of people, and often persons from many miles away will participate. **Kolek-thoc** has a duration of one day, but then from early morning to late evening. Home-made beer brewed on durra or millet is a major ingredient in the working party, and with a **kolek-thoc** enormous amounts are needed. The expenses for a big **kolek-thoc** may involve as many as 20 big pots of beer, each containing up to 100 litres. With the working force of a **kolek-thoc**, a field of about four feddans can be dug, but the working party may be used for all main activities within the yearly production cycle. During the working party, the first beer is brought around at noon. When the work for the day is finished, the actual party takes place, and it usually lasts into the next morning. Then the left-over beer is brought in tins one to two miles away from the place of the party. The guests will follow the beer, and continue the drinking at the new site. After all the beer is finished, the participants start footing back to their homesteads.

**Kita** is a working party at a much smaller scale, involving from 15-20 persons, typically drawn from the neighbourhood. **Kita** is also a one-day activity that can be utilised for any agricultural process, and also for the building of houses. Four to six pots of beer are supplied, and up to two feddans can be dug. If the farmer is short of grains, he can slaughter a goat instead of supplying beer.

Unlike the Acholi working parties, **komponis** (see T. Allen 1985),[28] the working parties in Didinga are not neatly structured and formalised. The social aspects of the working parties appear to be as important as the productive aspects, and during the work people - particularly the women - sing and dance. A lot of non-productive people - such as elders and disabled - will participate in the feasting, although not in the work. Organising working-parties means that work is not just a drudgery, a tedious and back-breaking activity. The distinction between work and leisure is erased. A **kolek-thoc** is an important social event, and whether it is deemed as a success or a failure seems more dependent on the social than the productive aspects of it.

## 6.9 THE DIDINGA AGRICULTURAL CALENDAR

### 6.9.1 The Lunar calendar

Traditionally the Didinga did not apply the intervals of months as a way of distinguishing the various parts of the year. Instead a year was divided in seasons according to the rainfall pattern and the concomitant labour processes within the agricultural cycle. Due, however, to the contact with the neighbouring groups, and in particular with the Toposa, it has become more common to apply the division in months. The various names of the months are all, except for **titimarin** and **terehiji** adapted from the Toposa language. Below, I have listed the name of the different months. The English terms in brackets correspond roughly with the local intervals:[29]

-**Lomuk** (January), the month of "cloudy weather".

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[28]Allen, T. (1985):"Kwete and Kweri: Acholi Farm Groups in Southern Sudan." Manchester Discussion Paper in Development Studies, International Development Centre, Univ. of Manchester.

[29]Kronenberg has presented a similar list of names with some exceptions for variations in spelling and interpretation (1972: 177-178).

-**Lokwang** (February), "white", "clear" or "bright", i.e. the month when weather is bright.
-**Lodunge** (March), "sleepy", approaching the rainy season. Quite regularly some showers appear, at least in the last part of the month.
-**Lomaruk** (April), "mushrooms", the first month of the rainy season proper. The humidity makes the mushrooms germinate.
-**Titimarin** (May), blossoming of the trees.
-**Locoto** (June), "mud", the rains have made the ground muddy.
-**Lolingacino** (July), **loli** means pattern, **ngacino** means stool or faeces, i.e. this is the month when the pattern of the stools can be recognised by the new food. The new food make the faeces change colour and substance.
-**Lomodohogec** (August), **gec** is the stick that is used for preparing porridge. The whole term means that the "stick for making food is stuck with porridge", implying that this is the time of plenty when people are careless about the food, they don't even bother to eat up the porridge that is stuck to the stick
-**Lotyak** (September), "between" or "divide", i.e. this is the month that "divides" the rainy season from the dry season.
-**Terehiji** (October), "people dance until the moon is shining in the morning", i.e. the crops have been harvested, it is now time for feasting and celebrations.
-**Loipo** (November), the tree called **nyeipo** is now flowering. **Loipo** is also connected with "wind", i.e. the windy month.
-**Loara** (December), some also call it **lorara**, "shining", the sun is bright, trees are shedding their leaves.

### 6.9.2 The annual seasons

The Didinga divide the annual cycle into the following seasons:

-**Lolo**, the "spring", the season for land preparation and initial cultivation. It includes the months of **Lodunge, Lomoruk** and **Titimaran** (approximately March-May).

-**Orat**, the "summer", the height of the rainy season, involving cultivation and weeding. It includes the months of **Locoto, Lolingacino** and **Lomodogohec** (approximately June-August). This is the peak agricultural season when all able-bodied individuals work from early morning to late evening. Many people stay at the field during night time. As this is also the season for the annual hunger gap, it represents an arduous and trying period for many Didinga families.

-**Lomotin**, the "autumn", harvest time with plenty of food. Includes the months of **Lotyak** and **Terehiji**.

-**Tagith**, the "winter" or dry season. Whereas the agricultural season is now completed in the lowlands, harvesting and scaring of birds will still continue in the highlands. Includes the months of **Loipo**, **Loara**, **Lomuk** and **Lokwang**. **Tagith**, and in particular the first half of it, represents the main seasons both for celebrations such as marriages and initiations, and political meetings such as **nyakerehenya** (see next chapter).

### 6.9.3 The seasons and the heavenly bodies

The Didinga term for heaven or sky is **ket kujien** (which is also a term for god). **Ket kujien** covers the territory "above the trees". When it comes to the heavenly bodies, the sun is called **kor** the moon is called **nyilok** and the stars are called **munyuny** (sl. **munac**). Although the Didinga have not developed elaborated astronomic theories regarding the position and the movement of the sun, the moon and the stars, they use the information revealed by the movements of the heavenly bodies to make plans for the various seasons as it is the heavenly bodies that describe the divisions between the seasons. In addition, the sun, the moon and the stars are used for the prediction of future events and for "navigation". The moon, particularly when wane or new, can inform about bad or good luck. It is considered a bad omen when the crescent of the moon is facing north, i.e. when the moon is new. This signifies sickness and poor harvests. When the crescent is facing towards the south, i.e. when the moon is waning, this signifies plenty of food, health and happiness. When the moon is hazy, there will be plenty of rain. The moon is somehow conceived of as being of a female character. It is, for instance, common to say to a small boy, jokingly though, that the "bright thing up there (the moon) is your wife".

The position of the sun, in particular its orbit in relation to the Lotukei mountain, signifies the different seasons. When, for instance, the sun's orbit is on the eastern side of the mountain, it is the dry season, when moving on the western side of the mountain, it is the rainy season. Whereas the moon is considered to be light, the sun is considered to be fire.

Regarding the stars, the Didinga usually consider five constellations to be of importance because of their astronomic revelations.

1. **Tibiti Ngayik** ("the cluster of girls"), a constellation of six stars that tell about of the different agricultural seasons, i.e. when to start cultivation and so on. The position of this constellation at night is combined with the position of the sun at day to give more exact information.

2. **Ngirikohinei** ("chain/line of goats"), also a constellation of six stars. This constellation follows **Tibiti Ngayik**, and reveals almost the same information.

3. **Ongolua** ("elephants"), seven stars occurring on the northern part of the sky. This constellation is the "Charles's wain"/"the Great bear". The four stars in the square are conceived to be the four feet of an elephant, the two stars next to the square are two hunters chasing the elephant, the second one gives the first one a spear with which to kill the elephant. The last star, i.e. the star following the two hunters, is a dog. Also this constellation reveals the various seasons.

4. **Ngetelua** ("rhinos"), moves together with **Ongolua** but in the southern part of the sky. Together, these two constellations are important for navigation when moving at night, and can more or less be thought of as the Didinga compass.

5. **Cobonya** ("the big stars"), although this constellation consists of several stars, the main ones are two, one in east and one in west. The one in east appears in the sky just some few hours before sunrise, the one in West appears in the evening, right after sunset. In some part of the night they "meet", and then they "return together". If the two stars do not meet, it signals a disaster, e.g. an epidemic or drought.

As both the sun, the moon and the starts are put there by god, the Didinga do not speculate much about the character of the bodies, and none of the bodies are in any respect praised or have been given any religious significance.

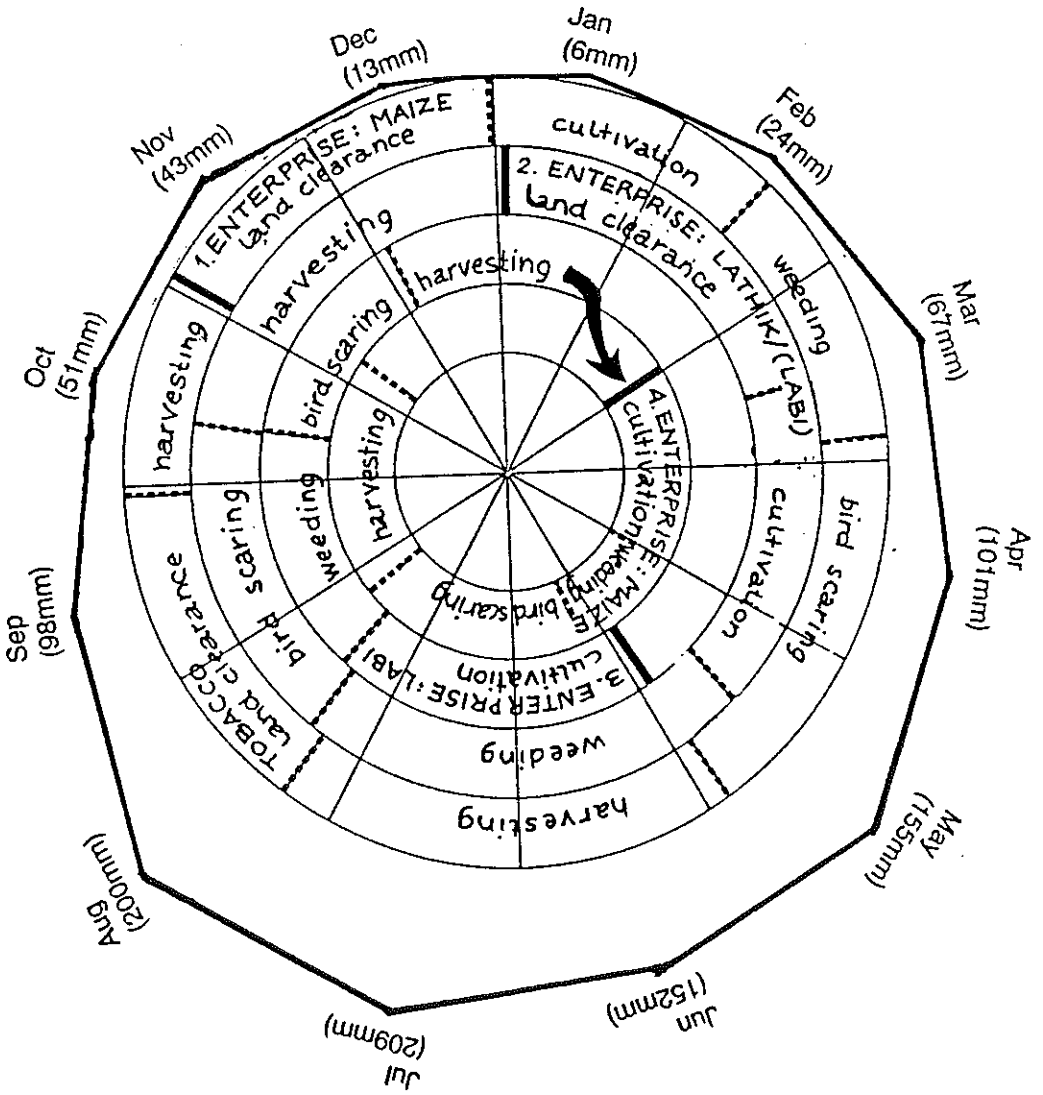
## 6.10 CROPPING CALENDAR

Due to the variation in altitude, and therefore also in climate and micro environmental conditions, two cropping calendars are found in Didinga: one for the lowland, another for the highland. The main features of this variation is

firstly that in the highlands crops are also grown in the dry season; secondly that maize is more important in the highlands; and thirdly that sorghum **mucka**, the late maturing variety, is almost absent from the highlands, at least in the upper parts. Since most lowland households have additional fields in the highland, (**mana ci ethane**) there are some overlapping between the two cropping calendars.

### 6.10.1 The highland cropping calendar

**Fig. 6.1**: The highland cropping calendar in Didinga (including rainfall per month).




To comprehend the enterprise pattern in the highland Didinga, two considerations should be mentioned. First, there are substantial altitudinal differences within the mountains which influence the cropping pattern. The Didinga do not grow durra at all in the highest parts of the mountains, i.e. the plateaux at about 1900 m and above, in the rainy season as they consider it to be too cold. Maize can, however, be grown in these parts in the rainy season. In the

areas at middle and lower altitudes, both the short maturing **labi** and the long maturing **mucka** can be grown in the rainy season, and **labi** is also extensively grown in these areas. In the dry season, which is also the hot season, the high altitude areas can be cultivated with durra, and **labi** is commonly grown. Coming to the lower laying areas, the heat and the dryness prevent these areas to be cultivated in the dry season.

Secondly, several cropping enterprises in this area do in reality constitute different stages within one rotation cycle. A particular highland field may in the rainy season be planted with maize, and in the dry season be cropped with durra or millet. Considering a new field that has recently been opened, we may observe that the first crop to be planted is typically maize. After the maize has been harvested, the field is planted with bulrush millet, **lathik**, and durra **labi**. After the harvesting of this combination, the field is again planted with maize, at this stage, often in combination with **labi**. Thereafter, when the field is harvested, tobacco, **babu**, is planted. After the harvesting of the tobacco, the field is usually abandoned for some years to regenerate. The actual crop occupying a field thence signals at what stage in the rotation cycle the field is presently in. Since each household has several fields, each field will be at different phases of the cycle, implying hence that the various enterprises will be performed simultaneously.

The *first enterprise* (see fig. 6.1, above) to be described, *the rainy season maize cultivation in the mountain and the slopes*, belongs to the highland cropping system, but is also performed by lowland households having maize fields in the mountain/mountain slopes. A great deal of the lowland household undertaking this enterprise do it either because they prefer maize as a staple, or as a means for food security. A main function of the maize enterprise is to secure an early stopgap crop. Some amount of **labi**, beans and even tobacco are regularly mixed into the field of maize. The field is generally *cleared in November and December* and *cultivated (dug) in January and February*. The reason why this process can commence even before the onset of the main rains, is that the climatic conditions at this altitude (1500-2000 m) are favourable to early cropping. There are generally some small rains, night dew etc. that supply adequate soil moisture for cultivation. The field will be *weeded in February and March. Bird scaring* is the main activity within this field in the period *March to May*. The maize is *harvested* in the period from *June to August*. After the harvest, the field will be cleared, and tobacco (**babu**) will be planted. The tobacco is usually harvested towards the end of the year.

The *second enterprise* to be performed in the highland is the cultivation of bulrush millet, **lathik**. Some durra is usually mixed in. *Land preparation* takes place after the maize is planted, regularly in *March-May*. These fields are *weeded* from *May to August*, and *August to October* are the most busy months for *bird scaring*. *Harvesting* is usually performed from *October to December*, but may even continue in January.

The *third enterprise* is the "dry season"[30] cultivation of **labi**. This enterprise is often performed on the same fields as the second enterprise that was recently harvested. These fields are thence firstly cleared. The *cultivation* is usually undertaken in the period from *June to August*. *Weeding* takes place from *August to October; bird scaring from October to December;* and *harvesting from December to January/February*.

The *fourth enterprise* is directly linked to the third in that the fields for **labi** is planted with a *second crop of maize* as the **labi** is harvested. *Cultivation* usually takes place in the period from *the last part of February to the beginning of May*. Thereafter, *weeding is performed from April to June; bird scaring from May/June to August;* and *harvesting from August/ September to November/December*.

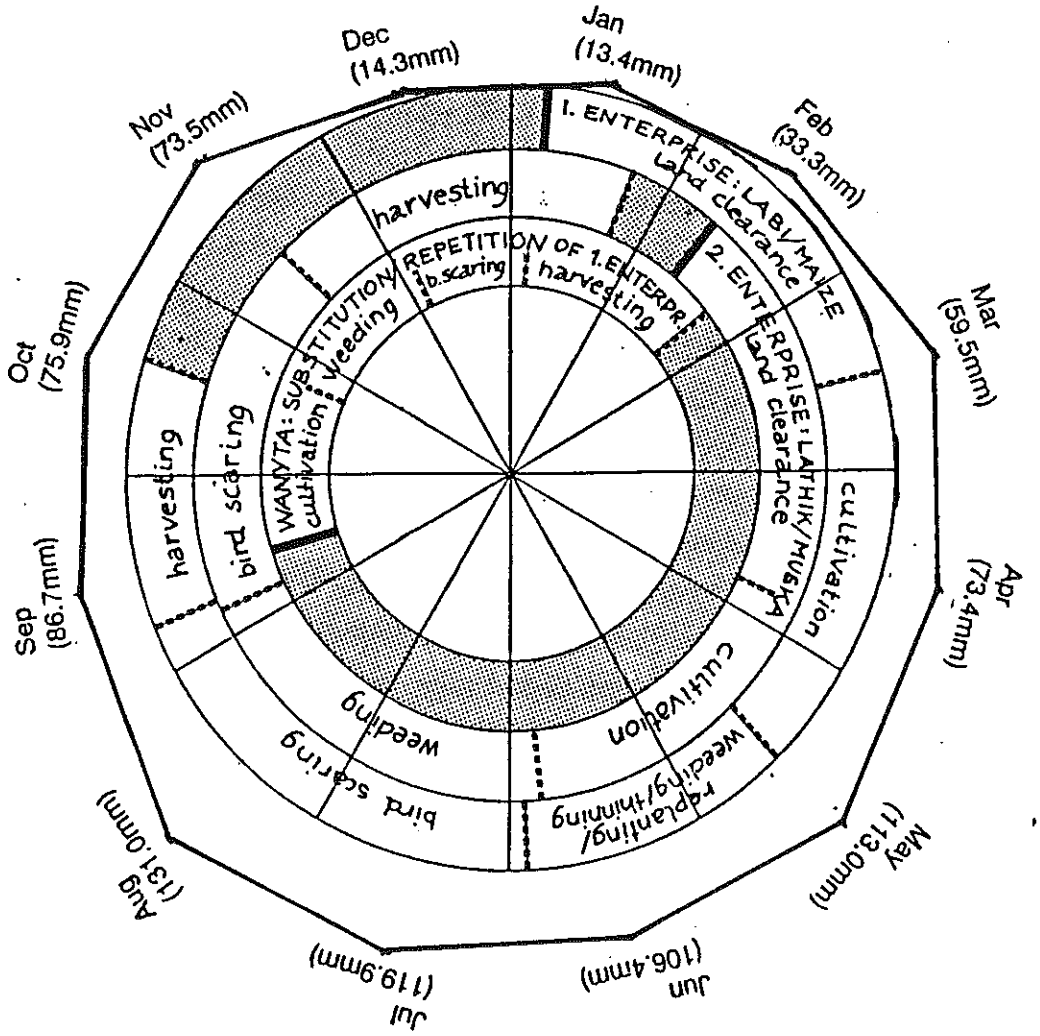
According to Sandnes, out of the 33 households in Kadumakuj,[31] all 33 have both a field of bulrush millet, *enterprise no. 2* and a field of durra for the dry season, *enterprise no. 3*. 26 households have a field of maize, *enterprise no.4* (Sandnes 1979: 216). When Sandnes did his research in 1976, maize had not yet gained the importance it had ten years later. In 1976, it was still common for many highland farmers to grow a field of early sorghum, **labi**. Quite commonly, this enterprise has later been replaced by the early maize, *enterprise no. 1*.

[30]To secure a crop for the next dry season.

[31]Kadumakuj is situated in a valley south-east of Nagishot, at a medio altitude level of about 1100-1200 m.

### 6.10.2 The lowland cropping calendar

Fig. 6.2: The lowland cropping calendar in Didinga (including rainfall per month).




The *first enterprise* to be undertaken is the durra ***labi/maize combination*** in the shallow valleys of the plains. The ratio between maize and **labi** will vary according to both micro-environmental conditions and food preferences. In some fields **labi** is cultivated in almost sole stands. In others there is a more equal ratio between maize and durra. Some amounts of beans are mixed in. The *clearing of the fields starts in the last part of December and keeps on into January and even to February* if necessary. If an old field is cleared, the crop residues from the previous harvest are collected and burnt. The old fence, made of twigs and shrubs, is repaired or replaced. Everything is made ready so that the digging can start at the onset of the first rains. In case of breaking a new field, trees and shrubs are chopped down some months in advance so they can dry up. The stumps are

not removed. In the clearing period, the dried trunks, twigs and shrubs are collected and burnt, and the field is fenced.

*Digging and sowing take place simultaneously.* This combined process usually starts when there is enough humidity in the soil, generally in *March*, and it can continue the whole of *April* depending on the weather conditions and the size and number of fields. The sowing, or planting, is performed in the following manner: the farmer has a calabash with mixed maize and **labi** seeds. The seeds are sown by throwing (broadcasting) them in a crescent in front of the sower while he or she is moving. The farmer sows as much of the fields as he or she expects to be dug the same day. After sowing, the actual digging starts. This is done by hoeing the upper layer of the soil to cut loose the grass and its roots. During this operation, most of the seeds are trampled into the fresh, soft soil surface. When the digging is finished, the grass is either collected in rows crossing the field - thrash lines - which function both as a simple form of erosion control and as green manure, or it is removed.

*Replanting of seedlings* from densely populated spots to less populated spots, *weeding and thinning* of the maize/**labi** combination is also done in one process, usually taking place in *April and May*. This operation is only done once.

*Bird scaring* is a most important activity throughout the whole period from seeding to harvesting, but particularly so when the new seeds are in the milky stage some weeks before harvesting.

*Harvesting can start in the middle of August* when the **labi** starts to ripe. The harvesting of **labi** will continue until *the last part of August/beginning of September*. Maize ripens about one month later than **labi**, and the *harvesting will last all the way up to December.*

In many instances, and in particular when this latter enterprise fails due to drought or other unfortunate causes, the same cycle can be repeated on the same fields. The fields are first cleared directly after harvest of the first enterprise, and then re-sown with the same crop combination. The *new enterprise* is usually ready for *harvesting in December/January*. This practice is called **wanyta**, and the rationality behind it is to substitute the crops that failed. **Wanyta** is generally performed by women as the men have other important tasks to accomplish. This

is namely the most important period for hunting and for **nyepiyonya** (see next chapter).

The *second enterprise* to consider in the lowland is the bulrush millet,***lathik/ mucka*** *combination on the plains.* The sequence to be followed and the operations that take place are in general the same as with the first enterprise, but *four to six weeks later.* When simsim (**kanyim**) is intercropped, which is most often the case, the simsim seeds are not sown together with the seeds of millet and durra, but broadcasted alone as the last operation that day. The reason given for this practice is that because of the small size and dark colour of simsim seeds, they are almost invisible. These seeds could therefore easily be removed together with the grass if they were sown before the grass was removed from the field.

Regarding these two lowland enterprises, Atle Sandnes found that among the 87 households of Monita and Lotukei, 86 households were conducting the **lathik/mucka** enterprise, whereas 83 were conducting the **labi**/maize enterprise. The households in Lotukei recognised the possibility of growing a dry season crop of maize in the mountain, but nobody did that in 1976 (Sandnes 1979: 216-219).

Finger millet (**kiro**) is much appreciated both because of its short maturing ability - about three months growing period, and because its brewing and cooking qualities. Due to the prevailing dry climatic conditions, **kiro** is about to vanish from many farmers' cropping associations. Presently, some farmers intercrop it in some small amounts in the **lathik/mucka** enterprise. In more favourable years when seeds are plentiful, many farmers plant pure fields with **kiro**.

In addition to these main enterprises, small parcels with gourds, groundnuts, cowpeas, pumpkins and tobacco are frequently dug around the homestead. If cassava-cuttings and potato-vines are available, small plots with these crops will be cultivated in the same area.

## 6.11 ANIMAL HUSBANDRY

### 6.11.1 Ownership and utilisation

Livestock can be utilised directly or indirectly: directly by consumption of animal products such as milk, meat and blood; and indirectly by exchanging livestock

(mainly goats and sheep) for grains. Livestock is slaughtered and consumed at particular social and cultural occasions throughout the year, e.g. weddings, funerals, fertility rites, annual celebrations. Slaughters are also important in order to conduct special sacrifices. When, for instance, a woman is barren, a goat can be sacrificed. The bowel of the animal is opened, and the intestines will tell, by interpretation performed by a diviner, what is the cause of the barrenness.

The importance of each event will determine what kind of animal should be slaughtered. There are, of course, also practical reasons why small animals are more frequently used than cattle. When slaughtering a bull or a cow a big amount of meat is made available. This has to be consumed within a short period of time since there is no way to store the meat for longer periods. To eat all the meat a big number of people is needed, and to gather a big number of people requires an important social occasion. A goat or a sheep can be consumed by half-a-dozen people at one meal. The size of the animal as such therefore, to a certain extent, determines the social prestige attached to the occasion.

In contradiction to land, livestock is considered to be private property, and each family herd belongs to the head of the family. The family herd is, for most practical purposes, divided among the wives of the family head, and it is the sons of each of the head's wives that take care of their portion of the joint herd. As the sons grow up, more and more of the family herd will be distributed to them. When a sons marries, his wife will be allocated some animals for the utilisation of animal products, most importantly milk. These animals will be taken from that portion of the herd under the domain of her mother-in-law. They form the embryo of a new family herd, which will eventually be headed by the wife's oldest son.

When a man is going for marriage, the major part of the cattle for the bride price will be collected from the herd allocated to his mother's household, but additional animals can be collected from the herds of the other wives of the father (if any) and from the herds of other patrilinear relatives. At the death of the head of the family, each group of sons will inherit the cattle under their respective mothers' domain.

Even though livestock can be perceived as a private estate owned by the male head of a family group, there are important constraints or limitations attached to his ownership rights. The cross cutting ownership rights to livestock can, for

example, be seen regarding the animals used as bride price. After negotiating and settling the size of the bride price, it is not common for the bride's family to receive the whole payment in one block. This may be related to several reasons, for instance lack of animals, or that some of the payment is withheld until the quality of the woman is ensured. The quality is determined by her capability to beget children, her capacity to work, or her ability to adjust to the husbands family. The bride price is therefore, as a rule, paid in instalments. The husband will thus be indebted to his wife's family. Occasionally such debts are not cleared out within the lifetime of a man, which means that his sons will be responsible for the repayment. As long as the bride price is not fully paid, the man will be indebted to his parents-in-law, implying that they have claims against his herd. There is also another aspect of the bride price which is of importance in this respect. The payment of the bride price is not the single responsibility of the bridegroom's natal family. The bridegroom's uncles and other patrilinear relatives are expected to contribute to his marriage. In this respect, the husband will be in debt to these contributors, and the "pledge" for this debt is his animals.

Due only to the system of marriage, any Didinga will have various social and economic responsibilities both toward his consanguinal as well as affinal relatives. These responsibilities are important for the creation and maintenance of social relationships. The prohibition for a man to marry from his own clan, from his mother's clan, and from his wife's clan, are important to safeguard the creation and strengthening of social relationships. This "network" of social responsibilities between individual men, families and lineages on both the patrilineal and matrilineal side caused (among other things) by this system of "delayed exchange" (every person owes an other person something that must be reciprocated at a later stage) is socially important because it creates bonds between all members of the society in some respect or another, and economically important because it limits the exclusiveness of property.

There are also other types of "delayed exchange" which create cross cutting rights to livestock, and hence function to reduce the exclusiveness of property, for example certain sacrifices. If a man wants to sacrifice a bull at a ceremony, for instance a funeral, he will rarely sacrifice one of his own bulls, but one he has "borrowed" from an age-mate. In return the age-mate will receive an heifer as a "pledge". This transaction creates or strengthens an already existing tie between the two men (and their families). The borrower will now be in debt to the lender, but he is not expected to repay before at a much later state. An immediate

repayment would mean that the social relationship between the two persons will loose its importance. It is hence correct to say that debt and credit relationships create social cohesion in the Didinga community.

The actual herding of animals is also an indication of the cross cutting ownership rights. A man does not usually herd all his animals by himself. Parts of the herd are spread to a number of relatives and friends living in different parts of Didinga. Thus each particular herd of animals tended together will consist of beasts from a number of families. This entails several implications. One is certainly the spread of risk. Another is the need for many people to act and function together, which again is important for the creation and maintenance of social alliances, and, hence, social cohesion. The man in charge of a joint herd has usufruct rights regarding livestock products such as milk and blood, but he has also some particular rights regarding off-springs.

Beside the fact that these few examples illuminate the limitations to private ownership of livestock, they also indicate the social importance of livestock. Through the systems of utilisation, exchange, and distribution, and through the common husbandry practices, alliances and social obligations are continuously created and maintained. Livestock is hence a key factor in social integration and cohesion. The cultural patterns among the Didinga, as manifested in songs, folklore, tales, dances, and religious beliefs and rituals, strongly emphasise the role of livestock in Didinga life. The cultural patterns do therefore, in turn, reinforce the role of animals in the overall Didinga mode of adaptation.

### 6.11.2 Livestock calendar

The livestock calendar is, relatively speaking, more simple than the cropping calendar. The most crucial aspect is, anyhow, the close interconnections between the two calendars. The most important enterprises in the calendar are herding, milking, breeding and tapping of blood.

During the rainy season herding takes place in the lowland pastures close to the homesteads. In the first part of the dry season, the animals, and in particular the cows, are brought to the fields that have been harvested to feed on the crop residues. Later on in the rainy season the animals are taken to graze the ridges or the pastures on the plains where water is available. Usually the animals stay away from the homesteads up to the onset of the first rains when they are brought home to supply milk for the new cropping season.

When it comes to breeding, there seem to be no regular pattern for mating and birth of off-springs although some informants mentioned that mating usually takes place in January and September.

Milk production is closely correlated to the rainy season, and the main months for this enterprise are from March up to September. Milking is done twice a day: the first between cockcrow and dawn; the second after sunset. Two reasons are given for this milking pattern, firstly that the animals have to be kept away from the village during the day in order not to interfere with the other activities taking place, and secondly that milking should take place when the flies are inactive, i.e. before sunrise and after sunset. For many farmers milk is the main source of nutrition during the first part of the cultivation period.

The importance of blood as a source of food varies according to the availability of other sources, and its particular importance is first of all related to hunger-gaps and periods of famine. The important months for blood-tapping are June, July and August. Blood can either be taken fresh, in which case it is said to bring most energy, it can be boiled, or it can, most preferably, be mixed with milk. Blood is obviously not a preferred dish in Didinga, and is only utilised when other sources are emptied.

### 6.10.3 Livestock pests and diseases

The domestic animals are regularly exposed to diseases. Generally it looks like goats are less susceptible than sheep and cattle.

The most common cattle diseases mentioned by the farmers are the virus causing rabies and rinderpest, tick-borne diseases - in particular East Coast Fever, pneumonia (contagious pleuro-pneumonia) caused by mycoplasma, trypanosomiasis transmitted by tsetse flies, and liver-flukes.

Regarding sheep the most common diseases are lung diseases (probably haermorrhagic septicaemia), diarrhoea, heart-water caused by rickettsia, and skin diseases.

For the goats the only big problems mentioned were skin diseases and ulcers in throats and on lips.

## 6.12 FOOD CALENDAR

The feeding habits among the Didinga differ a lot throughout the year. In general adult people have one meal with solid food per day. This meal takes place around 19.00-20.00 hours. Porridge made from cereals is the staple food. Meat and vegetables are the main relish. Root crops, although appreciated as substitute staples, can not at all be compared with cereals regarding popularity. In times of plenty another meal of solid food will be enjoyed before noon.

Beer is considered to be an important source of nutrition for men, and it is taken in the morning as long as cereals are available. To give an indication of the importance of beer as a source of nourishment, a woman with a small family and with three fields to cultivate, used four bags (approximately 350-400 KGs.) of cereals for brewing beer in the 1985 cultivation season. When cereals start to get scarce, the women will keep some amounts away for brewing in the cultivation period when beer is considered the most appropriate way of nourishment.

Children are fed at least two times per day, and sometimes three. Milk is considered a most appropriate source of nutrition for children, and children are always the first to get milk in times when milk is scarce.

The food calendar must be seen in correlation with both the cropping and livestock calendars, but in addition the gathering of wild fruit and vegetables have a significant importance.

**January and February**

In years with regular rainfall, these two months are months of plenty. Harvesting has just been completed and the grainbins are filled. The most important food is porridge made from millets, durras and maize. The men drink large amounts of beer. Wild fruits (for example laluk and Balanites) are often plentiful, and very much enjoyed. Usually there are some small amounts of milk for the children.

**March**

In March the level of grain in the granaries is dropping, some amount is put aside to be used during cultivation. Wild fruits and vegetables gain in importance: palm nuts, wild yams, leaves etc. Some amounts of beer are supplied during the preparatory work in the fields. From now and up to the peak of the harvest the energy expenditures are often higher than the energy intake.

**April and May**

The cultivation is by now in full swing, and beer for digging is essential. Wild vegetables are still very important. As the grass is lush and plenty, milk yields are increasing. In this period okra, grains of cowpeas, and leaves from pumpkins and cowpeas, all supplied from the fields in the mountains, are important foodstuffs.

**June**

June is essentially similar to April and May excepts for an increased consumption of cultivated vegetables, and the use of blood in case of poor food supplies.

**July**

The beer is usually finished, but some fresh maize is often available. This first maize is always boiled on the cob. Milk is by now invaluable for many farmers, and blood can still be important.

**August**

At this time the new produce from the early season durra, **labi**, and maize start to ripe in increasing amounts. The fresh, soft grains are considered delicacies, and are always cooked whole without any preparation. Wild fruits are often plentiful. Still no beer.

**September**

**Lathik** and **mucka** are ripening and harvested to such an extent that brewing on the present year's yields is made possible. On the other hand the amount of milk starts to shrink. The calorie rich simsim is now harvested, which means that the supply of energy is adequate.

**October, November and December**

The peak of the harvest is over, the supply of cultivated food is at its climax. This is the time for big celebrations like weddings and **nyepiyonya**. Beer is taken in large amounts by men, porridge, vegetables and wild fruit are sufficient for women and children. The energy intake exceeds the energy expenses.

# CHAPTER 7

# SOCIOCULTURAL FACTORS

## 7.1 SOCIAL ORGANIZATION ACCORDING TO AGE

### 7.1.1 Introduction

The social organisation based on age is the most important governing body within the Didinga society. As such, it very much follows the principles found among Nilo-Hamitic groups, regarding which Bernardi states that "The age-system...must be conceived as a basic principle for the structural organisation of the society. As such, it covers the entire ground of the society, and integrates into a social whole the fragmentation brought about by the territorial and clan systems" (Bernardi 1952: 326), and further "It is by defining everybody's structural position that the age-system provides the Nilo-Hamitic societies with the machinery for organising every form of corporate activity -social, military, juridical and ceremonial. The stratification of classes and the differentiation of authority determine a typical differentiation of functions among all classes" (ibid: 331). Even if it is doubtful to classify the Didinga as a Nilo-Hamitic group[32] (a label that is rarely used among present-day authors), a similar validity may be attached to their age-system.

### 7.1.2 Age-sets and the politico-military set-up

The age-set system must be comprehended from its historical roots where it originally played a major function in the politico-military set-up. Regarding the age-set system of the Murle, who are of the same "stock" as the Didinga[33], Lewis claims that "the age-sets were primarily military in the past, and stratified the manpower of the tribe into divisions with their own distinctive colours, songs, and names. Each age-set is allotted a task suitable to the age and standing of its members, who as they grow older, gradually progress through the grades of

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[32] A.N. Tucker and M.A. Bryan classify Didinga-Murle as an "Isolated Language Group" (1956:87).

[33] B.A. Lewis writes that "these tribes (Murle, Didinga, Longarim) were evidently at one time parts of the same tribe. Almost all that Driberg wrote about the Didinga is applicable to the Murle...I believe much of what I have written about the Murle is also applicable to them, and that originally they were all members of the same tribe" (1972:18).

warriorhood, junior elderhood, and finally full elderhood, the highest grade of all. It is the members of the last grade who hear cases and decide on tribal policy, under the presidency of the chiefs; the junior elders raise families, provide the reserve of warriors in times of trouble, and cultivate crops, while the warriors form a standing guard for the protection of the country and have the duty of herding the cattle." (Lewis 1972: 84). Also Driberg underlines the military aspects of the age-set system when he describes the "Best Friend" institution in Didinga as an integrated and conspicuous component of the age-set system, and that "The primary object of this special friendship is military" (Driberg 1935: 101).

Although the military bearing of the age-set system has diminished in importance, the age-sets are still important as instruments for social organisation and cohesion. Despite some variations between the different age-set districts, the age-set system is basically the same throughout the whole Didinga, implying that the social relationships created through this system crosscut both the kinship ties and territorial boundaries and place all the Didinga people into one all-encompassing network of statuses and roles.

Men from the same age-set within each sub-village, village, or section (chieftaincy), for many purposes form a corporate group with a *common estate* consisting of songs, ornaments, rituals and norms. They often eat together in each other's compounds, they hunt together, assist each other in cultivation, herding, house-building and so on. When a man from one village visits another village outside his age-set district, he will be well received by his age mates from the village he visits. If a man should choose to settle in another chieftaincy, he will be incorporated into the local structure according to his age-status. But when it comes to age-set *fees* and *fines*, **nyepiyonya**, the man will, as a general principle, return to his original age-set district, the same applies to his sons, i.e. the sons will, as a general rule, be members of the same age-set district as their fathers.

### 7.1.3 Age-set mobility

The age-set system in Didinga is based on the premises that each and every "adult" Didinga, and in particular males, is a member of an age-set (**lorong**).[34] The women have no separate age-set system. As girls they agemate with the boys of

[34]According to Kronenberg the members of an age-set ("altersklasse") are tied together into a row by a rope, **lorong**, by the age-set in front of them. This is symbolic expression showing the interdependency between age-set members, and that the age-set in front of them that have tied them together in order to make them pay the **napiyo** (fines and fees) which the younger group owes them (1972:95).

the same age, and as married women they follow the rank of their husbands. Concerning the official and ritual aspects of the age-set meetings, the women play no part. Unofficially, however, they are very important, especially the unmarried girls and women, i.e. the daughters of the elders, who bring important contributions in the form of simsim, flour or beer.

Ideally, the age-sets are organised into a sequence which moves upwards in the social structure according to the combined effect of two important features: (1) the regular *exit* ("dissassignment") of the oldest age-set from the top of the system due to death of its members. As the oldest age-set leaves the system, it will be replaced by the age-set that was formerly the second in the sequence, and also the other age-sets in the sequence will move one step up. (2) The regular *entry* (or formation) of new age-sets from the bottom of the system. As a new age-set is incorporated into the age-set sequence as the youngest set, the former youngest age-set will move one step upwards. Accordingly, we will find a hierarchy of *strata* through which the separate age-sets will move. So, while the separate sets move upwards, the position of the strata remains unaffected by that movement. As Bernardi claims: "This constant position of a stratum within the system constitutes a permanent status, which can properly be called the **office** or **power** which is held in succession by the age-classes, but is itself unaltered by their progressive movement" (Bernardi 1952: 321). The outcome of this system is a fundamental principle of *seniority-juniority*, a principle that analytically indicates two essential functions of the age-system: (1) the organisation of a hierarchy of classes with distinct statuses, and (2) the definition of commitments, statuses and roles, and behaviour pattern between these classes. As the status of the whole age-set is projected to its individual members, the individuals are as important for the age-set as the age-set is for the individuals. For the functioning of the "acephalous" Didinga as a socio-political unit, relative age is the most important determinant for the structuring of the whole community. Political and legal authority, military organisation, behaviour patterns, division of labour, etc., are to a substantial degree based on relative age. Thus, it can be said that any individual's statuses and roles in this system are not primarily related to his personal qualities or achievements but to his membership in collectives and corporations. The performance of important social transactions, such as marriage, rituals and ceremonies, initiation of one's own sons, etc., are dependent on an individual's age position. Ideally, thus, an individual's position in the society will not be determined by his own efforts, or his own performance, but to that of his group, his **lorong**. Accodring to Bernardi "It is only within and through the structure of

the age-system that...personal qualifications can enhance and define prestige and influence of the individual class-member" (ibid: 331). There are, however, some modifications to this "ideal" as also other corporations than the one based on age will influence an individual member's position within the structure and functioning of the society. An individual from a rich family which forms a segment of an influential lineage or clan will, for example, have some obvious advantages in this respect.

### 7.1.4 Thapaninit: initiation

Before a man is admitted into the age-set system, he must undergo **thapaninit**,[35] the initiation ritual. The most important part of **thapaninit** is for man, or a boy, to spear his first bull or possibly a he-goat. Initiation generally takes place at the traditional ritual site, **nyakerehet**, in that particular neighbourhood, **lil**,[36] and is seen as the end of childhood. The time of the spearing will determine his social age. If, for instance, several boys spear their bulls/goats on the same day, it will be the one who first speared his bull who will be considered to be the oldest among those boys. Hence, the earlier a man undergoes initiation, the older, i.e. the more senior he will be within his own age-set. Being from a rich family, a boy can be initiated at an earlier age than a person from a poor family who cannot afford the cost. As a consequence, a boy that is initiated at an age of 15 years will be senior to a young man of 20 years or older who has had to delay his initiation due to lack of the necessary means. A "rich" father will be interested to sponsor an early initiation for his son since this may forward his own carrier within the age-system. Since the age span between the oldest and the youngest to be initiated into the same age-set may vary between considerably, we may observe substantial discrepancies between physical age and social age, both *within* and *between* age-sets. We may, for instance experience, that even within the youngest age-set, the physically oldest members will be "full" elders. The oldest members within each age-set will function as its leaders. The age-set district within which a person undergoes initiation will forever be that person's "political" district.

As **thapaninit** usually takes place at the particular ritual site, **nyakerehet**, covering a village area, it will be boys from that area who are initiated at that site. Quite regularly, one or may be two boys are initiated simultaneously, but up to five boys

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[35]Denoted **nameto** by Driberg (1922: 213), and **zapaninit** by Kronenberg (1972: 94).

[36]**Lil** (pl. **liliok**) literally means a stream. When used as a territorial unit it denotes a village or neighbourhood area, i.e. homesteads situated along a stream.

can be initiated at the same occasion. This latter incident may occur when the **thapaninit** ritual has been delayed for many young men due to some irregular event, as for example war or a prolonged drought.

It is the father of the boy who formally decides when his son is to be initiated. Other elders from the father's clan will push him to arrange **thapaninit**. And when the father has decided that the time is ripe, which usually means that he has the necessary means available, he will together with his brothers and some elders from the same clan make the necessary arrangements. **Thapaninit** is very much a clan affair, and the people to be called for a **thapaninit** are commonly clan members. But customarily also neighbours from other clans and members of the father's age-set are invited.

The **thapaninit** ritual, does from the boy's perspective include two major acts. The first is for him to spear a bull, or alternatively a big he-goat (never a ram). The animal, contributed by the father, will be speared through the chest in order to penetrate the heart of the animal and kill it. If the boy is inexperienced with spearing, he can do the spearing symbolically by a stroke of the spear over the back or side of the animal. An experienced spearer will do the actual killing of the animal. The second part of the ritual is to jump over the fire.

#### 7.1.4.1 The essential thapaninit elements

The specific elements of **thapaninit** appear in the following sequence: Quite commonly the **thapaninit** commences with the elders of the clan telling the father that his son is old, and should therefore do the **thapaninit**. It is a disgrace to the clan when its young men are not initiated. The elders will also tell the father that the son should either kill a he-goat or bull. Whether it will be a bull or a goat depends on the position of this particular son in the sequence of sons from the same mother. As a principle, brothers can never be initiated simultaneously but in order of their age. For a group of brothers from the same mother, numbering for example three or four, it is common for the oldest and the youngest to spear a bull. The brothers in-between regularly spear a he-goat. If there are two brothers, one of them, usually the oldest, spear a bull, the other an he-goat.

Let us presume that the boy who is now to undergo initiation is a younger brother, and that an elder brother has already speared a bull sometime back. This boy will therefore have to spear a he-goat. The father will now start to look for the right animal. He can not use one from his own, or his clan's herd, so he has to

get it from somebody else, usually from an age-mate. When he comes across the right goat, he has to negotiate for it. The owner of the goat will ensure himself that the father "is a man of means", i.e. that he can reciprocate with a "pledge". If they strike a bargain, it will entail more or less the same features as with the bulls speared at the age-set gatherings: The father has to return a she-goat to the owner of the he-goat. If the she-goat is small and young, it will be permanently given to the owner of the he-goat. If it is a big and fat one, the owner of the he-goat will keep it for a couple of years after which the father will claim it back. One of the off-springs will, however, be given to the other man. It is a sign of good-will if the father even leaves the she-goat with him, a good relationship between the two will thence be established.

The he-goat is brought to the **nyakerehet** where the son will spear it. After the spearing, the goat is skinned. While skinning it, a bonfire is set. The meat is cut to pieces.

After the skinning, the bowels are opened. The half-digested grass of the intestines is smeared on the boy from head to toes. This smearing is both meant as a cleansing and a blessing, and the dung will bear witness that he is now an adult. After finishing the smearing, four elders, armed with twigs, will take up position, two on each side of the fire. The two elders standing on one side of the fire, will order the boy to jump from that side of the fire to the other. As he jumps, they will beat him with the twigs. After having jumped from one side to the other, the elders on that side will order him to jump back again, and he will again be beaten. The young man has now jumped from childhood to manhood, burning the bridges behind.

After having jumped the fire, the elders will order him to roast the meat. The head of the goat will be thrown into the fire first, thereafter, the rest of the meat is put on the fire.

The boy will thereafter collect fresh leaves which he puts down on the ground beside the fire. The roasted meat is put on the leaves. At this stage, the elders will select one among themselves to distribute the meat. The distribution is taking place in order of the seniority of age-sets and initiation. The boy will now be allowed to sit in the semi-circle, **rihanit**, of initiated men.

When the meat is finished, the boy will be told that from now on he will be *within* the semi-circle, and a speech will be given by a counsellor, **nyetukuohit**. In the speech he will give advice to the young man to live in accordance with the **nyepite ci Didinga**, the traditions of the Didinga, that he must respect his elders, that he must pay his **nyepiyonya**, and that he must perform sacrifices. The counsellor is usually an important elder within the clan.

The boys who are initiated within the same season and are announced at the next age-set meeting at **nyakerehet**, usually form an age-sub-unit. And their promotion in the age grade hierarchy regularly happens together. But, as we shall see later, whereas some individuals may rise quicker, others' promotion will be delayed.

### 7.1.5 Inauguration of an age-set

Although the **thapaninit** prepares an individual for admittance to the age-set system, he does at first not become a member of a properly functioning and structured age-set. After initiation, he automatically becomes a **ngohit**, i.e. a member of the basic level of the age-set system. This group includes all individuals that have been initiated, but who have not entered into a separate age-set proper. **Ngohinya** (plural of **ngohit**) thus consist of a great number of persons ranging in age from about 15 up to about 50-60 years of age. **Ngohinya**, as it functions today, have not been inaugurated as a separate age-set, it can be considered more as a group of candidate members to the system proper. It may take several years before the official formation of a new age-set takes place. Since 1959, and probably long before that, only one new age-set, **miricena**, has been formed in Didinga (see 7.1.5.1, below).

Before I continue this presentation, I will refer to some theoretical terms applied by B. Bernardi which I have found useful for my own analysis. Bernardi applies the term *age-unit* to refer to the temporary association of initiates prior to the formation of the age-class. Additionally, he applies the term *age-sub-unit* to a division of the age-unit (Bernardi 1952: 317). Accordingly, the entire group of **ngohinya** in Didinga can be depicted as an *age-unit*, and the group of **ngohinya** within an age-set district can be depicted as an *age-sub-unit*.

The Didinga men that have undergone initiation but who have still not been admitted into the age-set system as a separate age-set, i.e. the *age-unit* **ngohinya**, participate in the ritual meetings at the **nyakerehet** occupying the role as minors.

At the **nyakerehet** they are given the poorest meat, they are regularly not allowed to speak, and at the dances they will participate only marginally. Quite often they feel mistreated by the senior age-sets, especially the age-set next to them in age. As more and more youth undergo **thapaninit**, the size and strength of the age-unit will increase. When feeling strong enough, they will challenge their immediate seniors by "demanding their rights", implying that they will no longer accept the lousy treatment by their seniors anymore. Up to now they have been imposed a lot of responsibilities, they have slaughtered bulls and rams and supplied beer for the older age-sets, they have been punished, etc., but have had little to gain for themselves for their efforts. The age-unit will now start to act and behave as an age-set. They may for instance start to use emblems and ornaments symbolising the status of the age-set in front of them. This is a break of the code of behaviour as this latter age-set has paid **nyepiyo**[37] to their immediate senior age-set for the usage of these emblems. For this misuse, the age-set *in spe* has to pay **nyepiyo** to the last formed age-set. The relation between age-sets is very much regulated by the **nyepiyo**.

A lot of conflicts may in this period occur between this group and their immediate seniors. The seniors may punish them both physically and economically. After a while they will, as a rule, be recognised by the senior age-sets as an age-set by themselves. At the next official age-set ceremony at the district **nyakerehet** they will hence be "promoted" ("announced" or "inaugurated") and become a new age-set within the hierarchy of age-sets within that district. The promotion will only apply to those who have fulfilled certain conditions and have reached the appropriate degree of physical and social maturity.

#### 7.1.5.1 The establishment of the **miricena** age-set

To give a concrete example on how an age-set can be established, I will describe how the **miricena** came into existence.

In the mid 1970s, when the Didinga returned from exile, the entire age-set system had to be re-vitalised as an important impact of the exile had been to prevent the continuous functioning of it. One effect, for instance, was that the number of

[37]Kronenberg interprets **napiyo (nyepiyo)** as "Alterklassen-Zahlung" (1972:93). M.H. Fetterman calls "nypio" the traditional court system, (1981: 44). Stewart calls this mechanism between the age-sets for the **handling down system**: A senior age-group transfers a series of rights to a junior one, e.g. the permission to wear certain clothes or ornaments, or rights to certain portions of a sacrificial animal. For these rights the junior age-group have to pay a price (1977: 144).

uninitiated had grown excessively. Another effect was that many **ngohinya** had turned old as their further promotion through the age grades had come to a stand-still.

At the return, many boys and men were initiated. This meant that the **ngohinya** increased largely in numbers. Whereas some **ngohinya** could be absorbed into the age-set of **nangolekorinya**, the majority did not have the opportunity to be promoted either because their fathers or older brothers were in the next age-grade, or because they were not accepted. Some **ngohinya** insisted that they were not admitted into the **nangolekorinya** because this age-set, which was very important at the return from exile as the older age-sets had been severely weakened due to lack of number and old age, wanted to protect their privileges.
Anyway, the system was choked up, and something had to be done. To get a solution to the problem, the senior **ngohinya** approached the elders and asked if they could "buy" the **miricena** age-set. **Miricena** at that time was a "free" age-set floating in the system as all the members had passed away many years ago.[38] The elders gave the group of older **ngohinya** permission to "buy" the **miricena** age-set, i.e. they gave them permission to use the ornaments, songs etc. belonging to this age-set. In return, those **ngohinya** had to pay **nyepiyonya** to the **nangolekorinya**, the age-set next to them in seniority.

In one particular age-set area, namely Ngatuba, the group of older **ngohinya**, i.e. the *age-sub-unit*, who now established the **miricena** age-set consisted of about 20 individuals. As **nyepiyonya** for the age-set emblems they together had to pay the age-set of **nangolekorinya** one bull, in addition each **ngohit** had to pay one tin full of beer flour. The person who supplied the bull for the whole group became the most respected member, and acted as an informal leader for the age-set.

During my research, the establishment of **miricena** was still not completed throughout Didinga, and in some districts, e.g. **Monita**, the **ngohinya** and **miricena** were not entirely separated, i.e. **miricena** had not completed their separation from **ngohinya**, hence the two age-sets were a bit mixed up. Some even persisted that **miricena** did not exist as an age-set.

[38]**Miricena** is mentioned by Kronenberg as an extinct age-set (Kronenberg 1972: 96), and by Driberg as a senior age-set (1922: 213).

### 7.1.6 The relevance of age-set membership

For a number of reasons which are not easy to account for, it is not a simple task to map the Didinga age-sets. As I was investigating the matter, different persons gave different information about the various age-sets, their names, the actual age of the members, etc.. The reason for this is, I believe, attributable to a situation where different persons present their personal perspectives based on their own first hand experiences As age-sets are initiated differently in the separate age-set districts, a person from one particular village within one particular age-set district will quite possibly give other details than a person from another village within another age-set district. This is of analytical importance as we, for instance, may find that one particular age-set will be virtually absent from one village due to the lack of recruits to that particular age-set from that particular village at the time of inauguration. We may also find that some age-sets have more or less been dissolved in some villages because some age-set members have moved to other areas while other members have been assimilated into other age-sets. The variation between the separate age-set districts, **lonyini**, does not only concern which age-sets that actually exist in each district, or when they were inaugurated, but also particular features related to the use of emblems, songs, etc.. In Ngatuba district, for example, the uninitiated **ngicolongmoru** are allowed to sit on stools (**taba**) while this is prohibited in Lotukei. In Lorema the **ngicolongmoru** are allowed to use some particular ornaments freely. In Lotukei this is strictly forbidden.

When analyzing the significant features of the age-set system, it is important to notice that age-set membership looses some of its more vital functions for members as they grow older. Older men with their own families have most often established a firm foundation for their own social existence, and are in much less need to take part in collective social affairs to fulfil their interests and obligations, and hence to secure their future livelihood. For the oldest age-sets, which are severely decimated in numbers and where the remaining members are physically weak, their participation at the **nyakerehet** or other important ritual occasions is rarely conspicuous at all. This does not imply that the oldest age-sets have lost their structural importance. According to Didinga traditional belief, an age-set reaches its absolute climax in the socio-political structure when it is approaching its own dissolution. At this stage, as the oldest age-sets have transferred most of their political, military and juridical authority to the age-sets of the "middle-aged" elders, their ultimate position within the age-set system is mainly related to their religious or spiritual functions. The close relationship between the oldest age-sets

and the spiritual world is recognised by all. Apparently, the authority and status of the oldest age-set is related to their functioning as "go-betweens" or "messengers" between the spiritual ("invisible") world and the secular ("visible") world. The old men's authority over the younger age-sets is most significantly related to their capacity for both cursing and blessing. The power embedded in cursing and blessing increases with age as the old people can utilise their relationship with the spiritual world to a much larger extent than the younger. Cursing and blessing are hence two important forms of social sanctions within the Didinga society, both underlining the basic *gerontocratic* features of the Didinga socio-political system.

For the generation of young unmarried men who have still not been officially promoted into the age-set system, the situation is rather opposite. For them, age-set membership founds the stepping stone into the larger community outside their own family group. There is hence a lot of activity among these young men in order to be promoted. To be promoted means that you are given a better position both in eating and dancing at the **nyakerehet**. The age-sets of uninitiated men are usually "pushed away" by the elders at the dances, implying that it is difficult to make a "show-off" for the girls. The elders are more relaxed as nobody bothers them or harasses them, and as they are given the most prominent positions when eating and dancing.

As the social security and the future "happiness" of the youngsters depend to a determining degree on the performance of the local age-set they will be incorporated into, a lot of time and energy will be committed to the activities of the age-unit, and therefore also the strict "esprit de corps" between age-mates. If a man is so fortunate as to be initiated into a large, "rich", important and respected age-set, he may receive a lot of assistance from his age-mates, and may eventually, by promotion, become an important member of the community of influential elders.[39] If a man, on the other hand, becomes a member of an age-set that is not capable of meeting its social obligations, the age-set might, through negative social sanctions from the senior age-sets, come to a rather quick standstill in their upward social mobility. It must, however, be added that even if an age-set is checked in its further upward mobility, individual members or even units from that age-set may be admitted into senior age-sets. Individual upward mobility in the age-system is first and foremost related to the "inheritance" of a more senior age status (see 7.1.8.2, below).

[39]This seemed to be the siuation for the **nangolekorinya** when I did my reseach in the first part of the 1980s.

### 7.1.7 Mapping the Didinga age-sets

When comparing my notes with those of Driberg (1922: 213-214) and Kronenberg (1972: 95-96), I found that despite the lapse of time between the respective analytical efforts undertaken, there are resemblances which are quite significant, in particular between the names of the age-sets that I found and those found by Kronenberg in the last part of the 1950s. Some of the main differences between my description and that of Kronenberg can be attributed to the fact that his research took place before the "migration" to Uganda. Before presenting the list of age-sets, it ought to be mentioned that each of the listed sets consists of two sub-sets, the *seniors* or the "big" ones, **cik obik**, i.e. the leaders of the age-set, and the *juniors* or "small" ones, **cik hidicik**, the "back benchers". The senior sub-set contains members that are on the verge to pass to the next level. The members of the junior sub-set have still some **nyepiyonya** to fulfil to become a senior. Both the *intra-set* passage from junior to senior membership, and the *inter-set* passage from one age-set to the next, involves many steps or stages. Each stage involves the paying of **nyepiyonya**. Usually in the form of beer, honey, groundnut paste, a goat or a bull. Some of the ornaments bought with the **nyepiyonya** are more expensive than others as they are more exclusive, for example the use of **nyahomuto**, the black ostrich feathers.

**Nyelimoret** is a particular type of **nyepiyo** as it is the final payment a man has to pay in order to be admitted into the next age-set. The **nyelimoret** can be anything that the men in the senior age-set may claim, e.g. a bull, tobacco, honey, groundnut paste. Quite regularly we find that the men who performed **thapaninit** within the same season also pay **nyelimoret** at the same time, and are hence promoted together.

With these considerations mentioned, I found that in the early 1980s there were ten age-sets (excluding here the uninitiated **ngicolongmoru/ngadokenya** but including the **ngohinya**) represented in Didinga:

**Table 7.1:** List of age-sets in Didinga, 1984.

| Name of age sets | in English | (Approx. age) |
|---|---|---|
| **Olomet (sl. Olomi)** | Ostriches | + 100 |
| **Natiret (Natirec)** | A particular tree | 90-100 |
| **Nyatolojorenya (Nyatolojorec)** | War veterans[40] | 80-90 |
| **Nangatunyonya (Nangatunoc)/Mata** | Lions | 70-80 |
| **Nacumahilenya (Nacumahilec)/ Khabatwa** | Knife spearers | 60-70 |
| **Nangorkonya (Nangorkoc)/ Ilaceta (Ilaci)** | Guinea fowls | 50-60 |
| **Nangolekorinya (Nangolekoric)/ Tagota** | Giraffes | 40-50 |
| **Miricena (Miricenit)** | Grant's Gazelle | 30-40 |
| **Ngohinya (Ngohit)** | Warthogs | 20-30 |
| **Ngicolongmoru** | "those who sit on stones" | 15-20 |
| **Ngadokenya** | Mice | 10-15 |

Going a bit into detail regarding this table, it can initially be mentioned that what is said about the age-span of each age-set is extremely approximative. Any age-set includes members representing a much wider age-span, and, in addition, two following age-sets may be overlapping in the sense that they include members of nearly the same age. The age mentioned in the table must be seen as the average age of the core members.

The oldest age-sets, i.e. **olomet, natiret, nyatolojorenya** and **nangatunyonya,** contain the very old men within the system. It is possible to hear about individuals belonging to these age-sets, but their level of participation in the socio-political life of the Didinga is at a minimum. In many villages, and, most probably, in some age-set districts, these age-sets, at least the three first ones, will be extinct.

**Nacumahilenya (nacumahilec)/khabatwa** are the real leaders and judges "symbolising" the totality of Didinga culture and traditions, **nyepite ci Didinga** (see 7.4, below). This set is rarely active at the **nyakerhet**, the members are few in numbers and physically weak due to age. While **nacumahilenya** is a loan word from Toposa, **khabatwa** is the same word in Arabic.

[40]According to Kronenberg it means "Europäer" (1972: 96). I found no Didinga who could confirm this translation. Driberg translates it with "Warrior" (1922: 213).

**Nangorkonya (nangorkoc)/ilaceta (ilaci)**, the active elders, function as advisors to the **nacumangelenya**. Supervise initiations, are important in funerals, marriages etc. While **ilaceta** is a Didinga word, **nangorkonya** (sl. **nangorkoc**) is a loan word from Toposa with the same interpretation.

**Nangolekorinya (nangolekoric)/tagota**. This set functions as "administrators" or "functionaries" at the age-set meetings at **nyakerehenya**. As this group is large in number and physically strong, it has an important impact on the daily running of the Didinga community. **Tagota** is a Didinga word, and **nangolekorinya** is a loan word from Toposa, both with the same interpretation. In a military set-up, this group would constitute the "captains".

**Miricena (miricenit)**. As already mentioned, this set was established rather recently (in the mid-seventies), and is still not found throughout Didinga. It exists in some districts like e.g. Ngatuba, Lotukei and Lorema, but not in others, as e.g. Laudo. In Monita, **miricena** and **ngohinya** are still mixed up (see description of the establishment of **miricena** above). **Miricena** is a Didinga word.

**Ngohinya (ngohit)** is not really an age-set in the respect that it has its own internal organisation and clear-cut duties at the **nyakerehet** and so on. In any district, most initiated men will be **ngohinya**. Anybody that has performed **thapaninit** will be accepted automatically. They form the main stronghold of the society's defence, they hunt, they dig, they protect the cattle from attack, and so on. To become a "big", **ngohit cik obik**, a person must have paid some basic **nyepiyonya** and have reached a certain age, i.e. he must be "adult". Many of the "big" ones are middle-aged men who were promoted into the their present position several years ago. New groups of "small" ones originating from **ngadokenya/ngicolongmoru** are promoted into **ngohinya** as **cik hidicik** at regular intervals. The promotion allows the new members from the **ngadokenya/ngicolongmoru** into "full manhood". The new members will then have to perform the responsibilities attached to the status of **ngohinya**. They will also be given a place to sit in the **rihanit** (the semi-circle of initiated men) at **nyakerehet**, and will be allowed to take part in the **nyakerehet** dances.

In some districts in the Didinga lowlands, the "big" **ngohinya** will have no chance to be promoted beyond their present position. The members have come to a stand-still in their social advancement, and will hence remain within the same grade up to their deaths. The reasons given for this are manifold, but relate to

misbehaviour, failing to abide the elders, lack of social activity etc.[41] But alternative explanations are also given for their prolonged stay in this age-set. These explanations relate to the structural "brake" factors connected to the age-set membership of father and older brothers (see 7.1.8.1, below) which might ultimately result in a situation where some middle-aged men are not even initiated. These men will be **ngicolongmoru**, and must sit along with the small boys at the **nyakerehet**.

The consequence of this check in further advancement for the **ngohinya** age-unit, has been that the regular upward mobility of age-sets by the regular opening of new age-sets from the bottom is seriously delayed. While the old age-sets leave the age-system from the top of the hierarchy, new age-sets are not opened from the ground level. If we compare the establishment of age-sets in the forty years period between Driberg's research around 1920 and Kronenberg's in 1959-60, with the twenty five years period between Kronenberg and my research in the first part of the 1980s, we see that in the first period three age-sets were formed in Didinga: first **nangorkonya** who, according to Kronenberg (1972: 96), were between 40-50 years in 1959-60: then **nangolekorinya** who were between 30-40 years (Ibid.: 96); and lastly **ngohinya** who were between 20-30 years (Ibid.: 96). In the period between Kronenberg and my own research in 1983-86, only one new age-set, **miricena**, was formed.[42]

When investigating the hierarchy of Didinga age-sets today, it may initially look as though **ngohinya** will always be the lowest age-set. When I asked some current **ngohinya** if their fathers and grandfathers had also started off as **ngohinya**, they

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[41] A reason could be that this group in particular was very much influenced by the cultural changes that took place during the Didinga's exile in Uganda. As the Didinga returned from Uganda, this group of **ngokhinya** were between 20-30 years of age. Many, may be more than a half of them, had spent their adolescence in Uganda. At their return to Didinga many were characterized by "Ugandan minds", implying that many of the traditionally values and believes, codes of conduct, etc, had been changed dramatically. It seems to have been an attempt between 1970-1971 among some Didinga youth in Uganda to overthrow the **nyepiyo** tradition. The "revolt" took place as the youth arranged a **lokimbe** dance which coincided with a **nyepiyo** occasion where the youth had been summoned by elders but refused to go. According to several Didinga elders, the group of young Didinga returning from Uganda were responsible for declining moral and lack of adherence to customs. It was, for instance, common for the youngsters returning not to pay proper attention to the **nyepiyo** institution.

[42] Two conclusions can be drawn from this: First, it means that many of the **ngohinya** of today were not even born when **ngohinya** were initially formed but have been admitted into the set within the last 20 years or so. Secondly, as Kronenberg performed his research immediately before the main wave of emigration to Uganda, many of these original **ngohinya** were disturbed in their upward mobility by the exile, implying that they continued in this age-set up to the return in the first part of the 1970s. Some have even continued in this age-set up to present.

responded positively. This seemed also to be confirmed when looking at Kronenberg's description from the latter part of the 1960s (Kronenberg 1972: 95-98) when **ngohinya** appeared as the junior-most age-set. But it is *not* confirmed applying Driberg's description from the 1920s (Driberg 1922: 213-214). A detail in Kronenberg's description also weakens the idea of **ngohinya** permanently being the youngest age-set. He claims, namely, that there are <u>two</u> **ngohinya** age-sets (or "Altersklassen"), one young and one *extinct*, and that the younger has taken their name from the older one.[43] Before the formation of the last **ngohinya** age-set there must, logically, have been another age-set which was the youngest. A detail in this picture which is a bit puzzling is that whereas Kronenberg depicts two **ngohinya** age-sets, Driberg does not mention **ngohinya** at all. The **ngohinya** age-set that Kronenberg claims became extinct in 1941, should have been a regular functioning age-set of "full" elders in 1920. The only explanation to this must be that they performed their studies in separate age-set districts.[44]

As long as **ngohinya** hold the position as the youngest age-set, members from **ngadokenya/ngicolongmoru** can not be inaugurated as separate age-sets but have to be inaugurated *through* **ngohinya**. The **ngadokenya/ ngicolongmoru** members that are inaugurated into **ngohinya** as **ci hidicik** ("small ones") can, however, continue their way upwards in the system beyond the level occupied by **ngohinya cik obik** ("big ones").

As mentioned earlier, the members of **ngadokenya** and **ngicolongmoru** are not initiated, and are hence not members of the age-set system proper. They are, however, recorded here as they are important participants in the Didinga socio-political and economic set-up, and as they regularly participate at **nyakerehet**. **Ngicolongmoru**, have as group, been given different names in different chieftaincies. Generally they are sub-divided into sub-groups according to body paintings and ornaments used during ritual dances. Kronenberg writes that **nicolongmoru** is the group of young men in the district of Kadumakuj that have speared their initiation-bull but have not, as a group, been admitted into the age-class system. He estimates their age to be between 12-22 (1972: 95). This does not correspond with my findings as it was clearly stated that **ngicolongmoru** are

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[43] According to Kronenberg, the last **ngohinya** member died in 1941. The youngest age-set that was established thereafter took that name (Kronenberg 1972: 96). This must have happened sometime between 1941 and 1959-60 (when Kronenberg did his research).

[44] Kronenberg's analysis is drawn from Kadumakuc. Driberg never mentions from which district he has collected his material.

adolescents that have not performed **thapaninit**. The term **ngicolongmoru**, "those who sits on stones" also implies that the members of this group are not allowed to sit on stools, **taba**, at the **nyakerehet** as they are reserved for initiated men.

Both **ngicolongmoru** and **ngadokenya** are to be considered more as general categories of youngsters within approximately the same age span. There is not a clear cut distinction between the two groups, and the two terms are sometimes applied interchangeably. Some men say that after initiation they were promoted from **ngadokenya** to **ngohinya**, others that they were promoted from **ngicolongmoru**. Quite commonly, however, **ngadokenya** are conceived to be younger than **ngicolongmoru.** We can hence say that whereas the **ngadokenya** are boys between the age of 8 to 14-15 "running around like mice", the **ngicolongmoru** are the youth, **bul**, with the main task of herding livestock. They have started to participate in the big district meetings at **nyakerehet**, but are not allowed to sit together with the age-sets, and are generally not allowed to participate in the dances. If allowed to dance, they will be pushed away to the peripheral areas of the dancing site where the girls can not observe them.

Besides the **ngicolongmoru** not being allowed to sit on stools, there are other important restrictions as well, varying from one **nyakerehet** to the next. In Lorema, for example, **ngicolongmoru** are not allowed to use such important ornaments as **buruhec** teeth (warthog teeth), **nyalado** (giraffe tail), and **nyahamuto** (black ostrich feathers).

The older among the **ngicolongmoru** do usually start to paint their bodies when participating at dances. At dances they are commonly divided into separate sub-groups, such as **ngitamo** ("elephants"), **ngingoletiang** ("oryx antelopes") and **lotim** ("monkeys"). These groups are all on the same level, the only feature that divides them are the body-paintings or decorations used at dances. It is the name (or pattern) of the decoration that determines your group. It is the elders who have decided their name and decorations. **Ngitamo, ngingoletiang** and **lotim** can be comprehended as a category between **ngicolongmoru** and **ngohinya** and at dances they are given calabashes of beer to drink. Any young man must first belong to one of those three before he can become a **ngohinya**, and anyone among them will automatically become a **ngohit** after initiation.

The **ngadokenya/ngicolongmoru** stand in a very unfavourable position as they have to contribute a lot of labour and material necessary for the functioning of the Didinga society while getting very little in return. Looking, for instance, at cultivation, most work is performed communally, and the **ngadokenya** and the **ngicolongmoru** are the ones who work hardest. But after the work is finished, and the participants are seated according to their age-sets for the eating and drinking, the elders will be served first. The elders who have otherwise contributed very little or no labour at all to the working party may finish most of the food and beer meant for the workers. Many elders do only turn up for the eating and drinking. While the elders are eating, the youngsters will have to wait in the surroundings to see what is left for them to consume. Often they feel mistreated, and in some areas they have even rebelled against this practice. The elders are concerned about the protests as they may have problems in attracting the youngsters to cultivate their fields.

### 7.1.8 Limitations on age-set mobility

If each Didinga age grade, e.g. "full" elders, **nyakanganya** (see 7.1.9, below) was only to include one age-set, the members could be unwilling to accept new members as this would dilute the privileges attached to their position in the hierarchy. This would in the long run create tension in the system as the senior members among the "junior" elders, **nyahapan**, who feel superior to the junior members, were not allowed to proceed. So, an important feature of the age-set system is to accept members that have "grown out of" a junior age-set to become members of a more senior one. But the system contains several limitations to effectuate this.

Some age-sets are restrictive in allowing new members to enter. Some young Didinga, for instance, complain that the **nangolekorinya** are very restrictive in admitting new members. The reasons for this was said to be that they wanted to protect their privileges. The **nangolekorinya** are, for example, the main agents organising the **nyakerehet**. In this function they control the flow of meat and beer. Further, they control the work of the younger age-sets, the uninitiated, and the women at **nyakerehet**. They are also the ones to demand honey, groundnut paste etc. from the younger age-sets and the uninitiated. Occupying such central offices give them much power and influence.

Revenge was another reason mentioned for not admitting new members to an age-set. Theoretically, at least, there is perceived to be a certain degree of

animosity between one age-set and the next. So what one age-set has suffered under their seniors, they will take out on their juniors - who are the sons of their seniors. Seen, for instance, from the perspective of the **nangolekorinya**, they have been "mistreated" and have had to pay **nyepiyonya** to their seniors, the **ilaceta**, their older brothers. The **nangolekorinya** may seek revenge by not allowing the sons of the **ilaceta**, i.e. the **miricena** and **ngohinya**, to enter into their age-set, or they could stop their advancement by claiming heavy fees, **nyepiyonya**, or by claiming, falsely or truly, that they were misbehaving. Such factors restrict mobility within the system, and may cause increased tensions between the age-sets. A way out of this inertia is to create new age-sets to incorporate those who are not otherwise allowed to proceed. The **miricena** age-set (see 7.1.5.1, above) was typically established by senior **ngohinya** who were not admitted into **nangolekorinya**.

#### 7.1.8.1 Structural features limiting age-set mobility

Basically, the Didinga age-set hierarchy represents escalating age grade levels each including separate "offices", and any person should ideally pass through all of them together with his age-mates in sequential order as he gets older. For a proper functioning of the system, each and everyone should have access to the next age level when he is old enough and has paid the required **nyepiyonya**. But, as stated already, there are several obstacles to this. Besides the limitations described above, there are also important structural limitations to age-set mobility. First of all, a son can never become a member of the same age-set as his father. It is even considered impossible for a son to belong to the age-set *next* to his father. The reason is that this would imply that the father has to *fine* his own son, i.e. the son has to pay **nyepiyonya** to his own father, which is socially ridiculous as it is the father who generally pays his son's fines. The only exception from this rule is that one may find a father among the **miricena** and his son(s) among the **ngohinya** as anybody who is initiated automatically becomes a **ngohit**.

An age-set pays **nyepiyonya** to the age-set next *above* them (an age-set they will later join), and receives **nyepiyonya** from the age-set next *below* them (which members will later join them). As age-sets next to each other can not contain father and sons, the common feature is for *every second* age-set to consist of fathers and sons. What we may typically find, is than in an "old" age-set, e.g. *AS*1, we find a particular father (*F*); in the next set, *AS*2, we will find the father's brother next to him in age (*FB*1); in the next, *AS*3, we will find father's oldest son

(*FS1*) and possibly a younger brother (*FB2*); in the next, *AS4*, we will find father's second oldest son (*FS2*) and possibly a even younger brother (*FB3*), and so on.

A second feature, is the principle that two "full" brothers should not belong to the same age-set, not even if they are twins. Although there are exceptions to this rule (e.g. two "full" brothers may both be **ngohinya**), this is anyway a basic feature of the system. This may also create tension within the system, as advancement of the younger will be restrained by the lack of advancement by their senior brothers. If the father, in addition, belongs to a young age-set, e.g. if he is **miricenit**, and there are four brothers, it would be virtually impossible for the younger brothers ever to ascend in the hierarchy. This is a major reason for the rather big group of elderly men still belonging to the **ngohinya**. If this should be the situation for a great number of adult men in a **nyakerehet** district, this may eventually lead to the formation of a new age-set.

When there are several brothers it is a common for the oldest to proceed rather smoothly through the hierarchy supposing he has the necessary means to pay his way through and supposing he is behaving according to the **nyepite ci Didinga** (Didinga traditions). A generous man with access to a large herd of cattle may climb rather quick in the hierarchy as he will have few problems of rising the payment, and, additionally, as the elders will be interested in incorporating him in their age-set.

For the younger brothers the situation can be somewhat reverse. Brother number three, four or five, for example, may have to wait for an excessively long time before they are promoted above the basic level, **ngohinya**. If they, in addition, come from poor families where it is even difficult to finance the **thapaninit**, they will face great problems of ascending in the hierarchy at all. As these social juniors will only play marginal roles at dances and feasts, it may cause agony to the individual and tension to the system.

A third structural feature which may cause delays in mobility is when a senior age-set is satisfied with its present position, and its members unwilling to be promoted to the next level despite the fact that that level is more senior. This can be explained by the fact that the more senior age-set is severely weakened by lack of members and old age. Its members do, accordingly, not participate to the same degree at **nyakerehet** and other important social occasions. Due to lack of recruitment, this older age-set will eventually disappear as their members die off.

If this should happen regularly without the opening of new age-sets from below, only some few age-sets would eventually remain, and the competition to join them would escalate. As this would create intolerable social tensions, it must be avoided. Mechanisms are hence built in to the system to accommodate flexibility.

#### 7.1.8.2 Inheritance of age-set membership

A particular feature regarding the age-set system which has been briefly mentioned already, is the inheritance of age-set membership. Two different, but very related instances may occur. First, if a man who belongs to a particular age-set dies, it may be possible for his oldest son eventually to reach the level where his father should have been if he had still been alive. In this respect, he will be accepted into his father's age-set to replace him. For a son to inherit the age-set membership of his father can only occur if the deceased man has no brother who could "inherit" his membership, i.e. could take his place in the age-set. This leads to the second instance of age-set inheritance: a younger brother of a deceased man can be invited to join the latter's age-set.

### 7.1.9 Age-grading principles

While Driberg's analysis of the Didinga age-system is extremely brief, Kronenberg's analysis is both comprehensive and detailed, giving a good presentation of the system in itself and its inner logic. A major problem when applying the analyses of both is that neither describe the dynamical or processual aspects of the system. Driberg never tried to,[45] Kronenberg did it only partially, and with some misconceptions.[46]

To catch the processual aspect of the Didinga age-system, I will employ Radcliffe-Brown's analytical distinction between age-sets and age-grades where the former is defined as "A recognised and sometimes organised group consisting of persons...who are of the same age... Once a person enters a given age-set, whether by birth of initiation, he remains a member of the same age-set for the remainder

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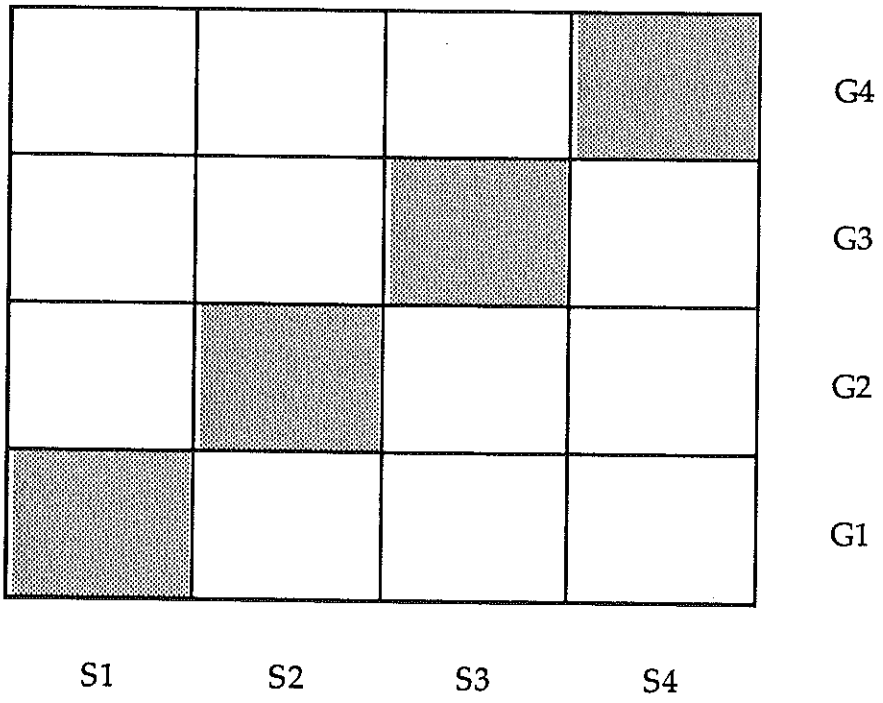
[45]Although in his paper:"The 'Best friend' among the Didinga", he speaks of a situation when an age-set is admitted to the age-grade (or status) of junior warrior (1935:101).

[46]Kronenberg argues, for instance, that after an "Altersklasse (sich) geformt hat" it will be closed for additional recruitment. The new group of men who undergo **thapaninit** after an age-set has been formed must thus form their own age-set. According to my findings, an age-set that has been formed ("inaugurated", "announced") will recruit members for many years to come. Although, particularly applicable to the lowest age-set, it is also valid for the senior age-sets. New **age-sub-units** can be continuously be incorporated into senior sets as *juniors*, **ci obi**, sub-sets.

of his life." Age-grades are defined as "recognised divisions of the life of an individual as he passes from infancy to old age... infant, boy, youth, young man, elder, or whatever it may be" (1929). The main difference between Radcliffe-Brown's definition of an age-set and the age-sets actually found in Didinga regards the permanency of membership: in Didinga persons, i.e. both individual men and **age-sub-units**, can change age-set membership several times throughout their lifetime.

To demonstrate the relation between age-sets and age-grades, we may employ the simplified model below as an illustration:

**Fig. 7.1:** An idealised model of the relation between age-sets and age-grades




Age-sets: S1,S2,S3 and S4. S1 is the lowest; S4 is the highest.
Age-grades: G1,G2,G3 and G4. G1 is the youngest; G4 is the oldest.

According to this model, there is a neat relationship between age-sets and age-grades: the lowest age-set (i.e. the age-set that was the last one to be inaugurated), S1, is located within the youngest age-grade, G1; further, S2 in G2; S3 in G3; and S4 (the highest) in G4 (oldest).

Despite the fact that Radcliffe-Brown's definition of an age-set is not completely consistent with the phenomenon found among the Didinga, his distinction

between age-sets as groups or corporations, and age-grades as steps or stages within a upward process of social mobility, is of great theoretical importance. Analytically, it is possible to view the Didinga age-sets, both those which are already instituted and those waiting in line to be instituted, to exist within a hierarchy of age-grades. Age-grades are related to status or position, i.e. the higher the grade, the higher the status. An old man's status, or position, within the age-set system is of considerable more importance than that of a youngster. The closer two men are in age, the closer they will be in status.[47] Men sharing the same status will be in the same age-grade. F.H. Stewart, in order to provide a working definition of an age-grade system, introduces the notion of a *rule-set*, arguing that "An age-grade system, roughly speaking, is a collection of different rule-sets, $G_1$, $G_2$,...., $G_n$, such that a person who enters the system is successively assigned each set once in this fixed order... The rules that assign and dissassign age-grades are *transition rules*...an *age-grade system* consists of three elements: an age-grade sequence, transition rules, and persons... either an individual or a corporation" (1977: 130-131).

Ideally, each age-set will pass through all the age-grades before it is extinguished by the death of its last member. But this is, as we have already seen, not always the case in Didinga. During its upward movement in the age-grade hierarchy, an age-set may leave some members behind at certain age-grade stages because they could not fulfil the requirements for promotion, and it may overlap, or even pass by individual members and sub-units from age-sets originally before them in the upward movement. An important aspect of age-grading is that it is both possible and probable for an age-grade, for instance "elders", to include more than one age-set. Typically, one of them will then be senior to the other(s). Since it is quite natural to compare an age-grade with a generation, we can say that Kronenberg partially covers this aspect of age-grading when he argues that *two subsequent age-sets*, e.g. **Ngohinya** and **Nangolekorinya**, *form a generation* (1972: 103). I am however more doubtful to his assertion that *every second generation stand in a father-son relationship* (Ibid.: same page). It is, I believe, more accurate to assert that *every second age-set stand in a father-son relationship.*

### 7.1.10 Didinga age-grades

Following a Didinga from childhood to "immobile" elderhood, we can differentiate between the following stages:

[47]I am all the time referring to "social" age, i.e. generally the time since initiation.

Table 7.2: A list of Didinga age-grades

1. -**Doholi** (sl. **Doholec**), children, both girls and boys, from 0 up to about 10-15 years of age.
2. -**Bul**, (sl. **bulinit**), young, usually unmarried man, from about 12-15 up to about 25-30 years of age.
   -**Buheci** (sl. **buhec**), young, usually unmarried woman, from approximately 12-15 up to about 20 years of age.
3. -**Nyahapanit** (sl. **nyahapan**), adults or "junior elders", from approximately 20 to about 40-50 years of age.
   -**Carama** (sl. **caramac**) youngish married woman, from about 18 to about 35-40 years of age.
4. -**Nyakanganya** (sl. **Nyakangan**), old men ("full elders"), from about 50 up to about 70 years of age. This is also a respectful term for father. A leader of an age-set, no matter his age, will be called **nyakangan**.
   -**Moruak** (pl. **moruahit**), can mean both an elderly woman or a mother. **Moruahit** is a respectful term. **Atahanya** means ageing, i.e. an ageing woman.
5. -**Bokot**, very old men, "retired/immobile elders".

It is quite common to address people in the age group from about 30 up to about 60 years of age as **et cik obitik** (pl. **makatik**); "big people".

In Didinga we do find that the class of men comprising the **nyakanganya** are very influential. They are the actual political leaders or administrators as the **bokot** in general are too old for these responsibilities. To be an elder, **nyakangan**, a man has to be married, he has to have sons who are initiated, and he has to have cattle. Cattle is very important in the age hierarchy as it make the advancement in the age hierarchy much quicker. Cattle are hence the most important means for social advancement in Didinga. The **nyakanganya** is a rather heterogeneous class, embracing men from about 40-50 to about 70-80. While the older men aspires to the grade of **bokot**, the younger have just recently come from the grade of **nyahapan**. Quite generally we may say that while **nyakanganya** are the "mature" fathers, i.e. the fathers with initiated sons, the **bokot** are the "mature" grandfathers, i.e. grandfathers with initiated grandsons. It must, however, be added, that the different terms used for the age grades do include nearly as many

social as physical attributes, and in everyday language they do not involve very precise connotations.

The basic structure of the Didinga age-set system is that at any point of time there should be enough age-sets to enable proper divisions between the age classes **bokot, nyakanganya, nyahapanya** and **bul**. So, at a minimum the age-set system has to constitute four hierarchical levels to comprise these four age classes. If, however, the entire classes of **nyahapanit, nyakanganya** and **bokot** should respectively form one age-set each, such sets would not function properly as organisational units. An important issue regarding the age-set system is, namely, that each set, in order to function adequately in the socio-political set-up, must show some basic homogeneous features when it comes to its members. This implies that the members of an age-set, which can be comprehended as a political unit holding certain offices, must be of approximately equal status. Equality of status is measured primarily by three factors: the actual physical age factor, cattle wealth, and position within a group of brothers. As a consequence, each class, or grade, is separated into smaller age-sets.

#### 7.1.10.1 Status related to age and kin

In Didinga, the status related to a particular age will generally be the same both within the age-grade system and the kinship system, i.e. an "elder" in the age-system will also be an elder in the kinship group. Kronenberg emphasises that status in the kinship system is identical to the position a person occupies towards the family's herd of cattle, i.e. a person's status in the age-set system is relative to classes of men carrying either the same, a superior, or an inferior position towards their family herds (see Kronenberg 1972: 92). This is, in principle, correct, but it is more to it than that. The most senior elder within the family group, i.e. the **bati olu** (see 7.2.3, below) will, among the members of that family group, typically also be the most senior elder in the age-system. He will represent the extended family in the age-organisation. The senior within a group of brothers, the **bati tinu** (see 7.2.1, below), will represent his group in the age-organisation when their father passes away. Therefore he will take his father's place in the age-organisation. Younger "full" brothers (same mother), "half" brothers (same father), or paternal male cousins (also called brothers) will contact the senior male in the family group to be the spokesman, i.e. the representative, in funeral ceremonies, wedding arrangements etc. If the senior male in the family group, **olo**, is not a member of one of the senior age-sets, i.e. has not reached the level of at least **nangolekorinya**, a man from another **olo** but from the same lineage may

represent the group at funerals, initiations, marriages and other important social occasions.

A bit peculiar is the fact that the structuring of the age organisation and the structuring of the land-owning clans are not comparable. The highest position within the clan is the **bati-lotu** (the "father of land" or "owner of land"). **Bati-lotu** is a hereditary position going from the **bati-lotu** to one of his/her children, most commonly a son, but not necessarily the oldest.[48] As **bati-lotu** is more a *ritual* than an organisational/administrative position, the **bati-lotu** will select the child who he/she considers to entail the best ritual capabilities to follow him/her.

Regardless of this last feature, it his, however, correct to claim that rights and positions with reference to the various spheres involving land, cattle and political authority form a complex, holistic system which underlies the structure of the entire Didinga community.

### 7.1.11 Age-grade transitions

The transition of an individual from one age-grade to the next is marked by particular promotion rituals or ceremonies. Two of the most important transitional ceremonies are marked by what are regularly denoted *rites de passage.*

In the Didinga age-system, the first *rite de passage* to consider is initiation or **thapaninit**. The boys that have undergone **thapaninit** become candidates to the next age-set to be instituted. Initiation transfers the individual from the lowest age-grade, "childhood", into the next age-grade, "manhood" or "adulthood". The initiated boy has reached a certain degree of physical maturity, at a minimum puberty, and has received social recognition as an adult. In the literature, this age-grade is regularly denoted "warriorhood" (see e.g. Driberg 1935, Bernardi 1952, Stewart 1977, and Lewis 1972), since at this stage the young men are for the first time allowed to take up arms. During the years to come, they will also receive military training under the supervision of the youngest instituted age-set. The newly initiated men occupy a position as "freshmen" or "trainees" in the politico-military set-up.

Although the term "warriorhood" is not applied by the Didinga to denote the youngest initiated age-sets in Didinga, it is, however, quite clear that the **ngohinya**

[48]When the **bati-lotu** of Lorema, Longeyia, died in 1978, his youngest son, Orii, inherited the office.

(and **miricena**) represent the group of Didinga warriors, and that the **nangolekorinya** represents the group of commanding officers. This pattern was much clearer before the Didinga were pacified by the British in the first part of the 1920s (see e.g. Driberg 1935: 101).

The second *rite de passage* to consider in the upward promotion process within the age-grade system is marriage. Marriage, as an institution for age-grading, is of utmost importance as it separates adulthood from the first step into "elderhood". But marriage is not directly relevant when it comes to age-sets. There exist, on one hand, Didinga men who are married but still not initiated, and, on the other, we find unmarried members even among senior age-sets. But those are exceptions. As an uninitiated married man, i.e. a married man without an age-set membership can never become a "real" elder, **nyakangan**, no matter his age, the same is applicable to a unmarried man, even if belonging to a senior age-set. The latter may partake in rituals together with his age-set, but he will never be recognised, given the status, of an elder. As he is not married, he can not be promoted into "elderhood". Marriage is of such importance in Didinga that a man who has the means for marriage but chooses to stay single, is considered abnormal, and may be treated as a witch.

It is no *rite de passage* for a man to be promoted from "junior" elderhood to "full" elderhood, but to be recognised as a "full" elder, a person must have reached full maturity both physically and socially. The recognition of a man as a full elder is most importantly related to the initiation of his son(s). **Thapaninit** represents, so to speak, both a son's promotion into adulthood, and his father's promotion into "full" elderhood. The son in question does not necessarily have to be his own biological son, but could also be a classificatory son (e.g. the son of a brother) or somebody else that a man is "sponsoring" for initiation.

### 7.1.12 Marriage

Kronenberg analyses the entire structuring of the age-set pattern from a marital point of view.[49] Since marital status is again relative to the possession of cattle, cattle is the point of embarkation for his analysis of the Didinga age-set system.

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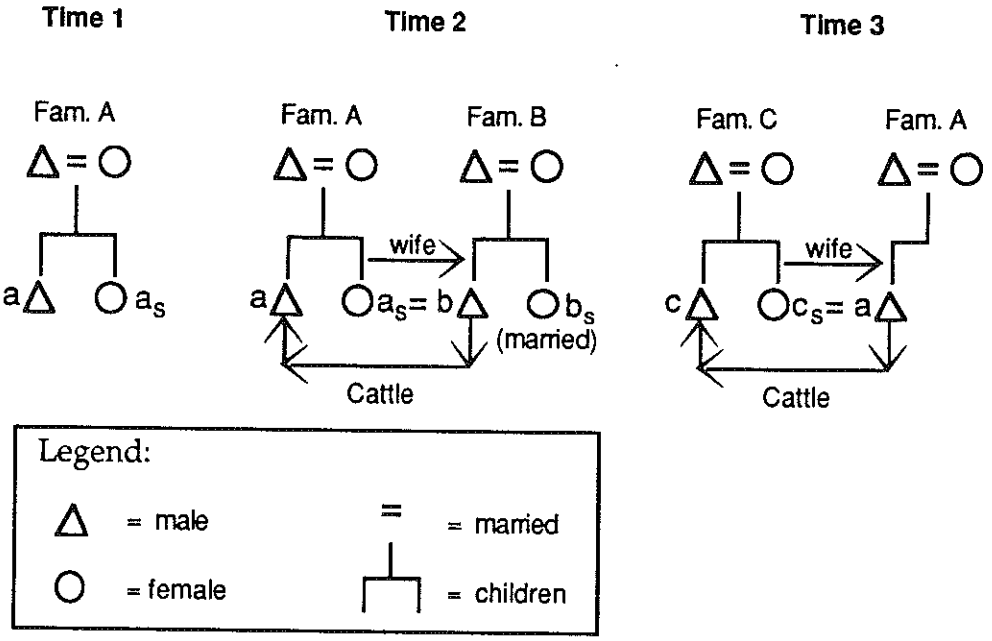
[49]"Das sosiale Alter bzw. der Status, den ein Mann bei den Didinga oder Longarim hat, und der seine Position in der Ganzen Gesellschaft ausdrückt, ist die Wertigkeit der Rinderherde dieses Mannes in Relation zu allen anderen Männern, wobei Männern gleicher Wertigkeit als miteinander identisch, als eine Gruppe gleichen 'Alters' bzw. gleichen Status gelten... Diese 'Alters'-Klassifikation beruht im wesentlichen darin, daß alle Männer, deren Schwestern noch unverheirated sind, eine Klasse bilden... Daher können ihre Schwestern nur Männer heiraten, deren Schwestern schon verheiratet

To elucidate Kronenberg's analytical approach, we may look at the model below:

**Fig 7.2:** The relationship between brothers-in-law regarding the exchange of sisters with cattle:




At Time 1, the unmarried son **a** from family **A** has an unmarried sister, $a_S$.

At Time 2, **a**'s sister $a_S$ is married to **b** from family **B**. In exchange for his sister, **a** receives a certain amount of cattle from family **B** which they in turn have received for the marriage of **b**'s sister, $b_S$. At this stage **b** will enter the position of "a married man". Together with other men employing the same status, **b** will, according to Kronenberg, form an age-set ("Altersklasse").

At Time 3, **a** will use the cattle received from family **B** as bride price for his sister to marry $c_S$, the sister of **c** from family **C**. At this stage **a** will enter the status of "a married man", and will hence form the next age-set together with men of equal status. **c** will in his turn use the cattle received from his sister's marriage to marry a wife for himself. He will then together with his coevals form the age-set following that of **a**.

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sind. Der Ehemann meiner Sw gehört so meiner senioren Alterklasse an; mein Va gehört seinerseits der Junioren Klasse des Ehemannes seiner Sw an usw" (Kronenberg 1972:92).

Following Kronenberg, the three men, **b,a,c**, will respectively belong to three sequential age-sets, $S_1$,$S_2$ and $S_3$, ordered according to the timing of their respective marriages.

Kronenberg has depicted a version of a model which, I believe, will be hard to detect in the "real world". We will, for instance, experience that usually a group of siblings consists of more than a brother and a sister, implying e.g. that a man with more than one sister will be senior to some brothers-in-law and junior to others. As a brother generally appears within a group of brothers, some within a particular brother-group will be senior and some will be junior to the brother-in-law according to their marital status before the sister was married off. If we should follow Kronenberg strictly, i.e. that brothers-in-law were to belong to sequential age-sets, there would within each generation emerge a tremendous amount of age-sets.

If we instead of putting the groups of brothers-in-law into sequential age-sets, put them into sequential age-sub-units, we would, I believe, come closer to reality. It is, however, important to stress that the Didinga frequently use kinship terms also for classifying persons external to the kinship group, and on this basis signify the relative status and behaviour pattern between two interacting individuals. In this respect Kronenberg's model are partially applicable. Additionally, his premises for the model are analytically correct: Marriage is related to a man's standing towards the family herd, and a sister's marriage is of great importance for her brother's marriage as her marriage brings cattle to the family herd that can be used for his marriage. This thence logically implies that an "idealised" man's "idealised" brother-in-law will by necessity be his senior since the brother-in-law was married first, i.e. that a wife-receiver will be senior to a wife-giver since the latter will use the cattle received from the former for his own marriage. In reality we, however, find that any particular *wife-giver* may be of a higher grade than any particular *wife-receiver*.

Applying the model above, we may easily see how a man who receives cattle wealth from his sisters' marriages but does not use it for his own marriage, will function as "brake" on the system. He will block the circulation of cattle, a most important means for social cohesion and integration, and is thus a threat to the functioning of the total society. Therefore, such cases rarely occur. A threat that is more common, at least on an individual level, is for a man not to get married at all due to lack of cattle. It is considered the greatest misfortune not to become

married since an individual will then not be considered a full social being. Every "normal" man will thus struggle very hard to get a wife.

Since marriage demands cattle it is quite possible to argue that marriage matters are cattle matters. Cattle-raiding between the ethnic groups in this area of the Sudan must thus be viewed from this perspective: young men raid cattle to increase their chances of getting a wife. Many conflicts and a lot of tensions also within the Didinga society are related to marriage matters, e.g. quarrels between brothers regarding the cattle wealth of the family.

### 7.1.13 Age-sets and age-grading

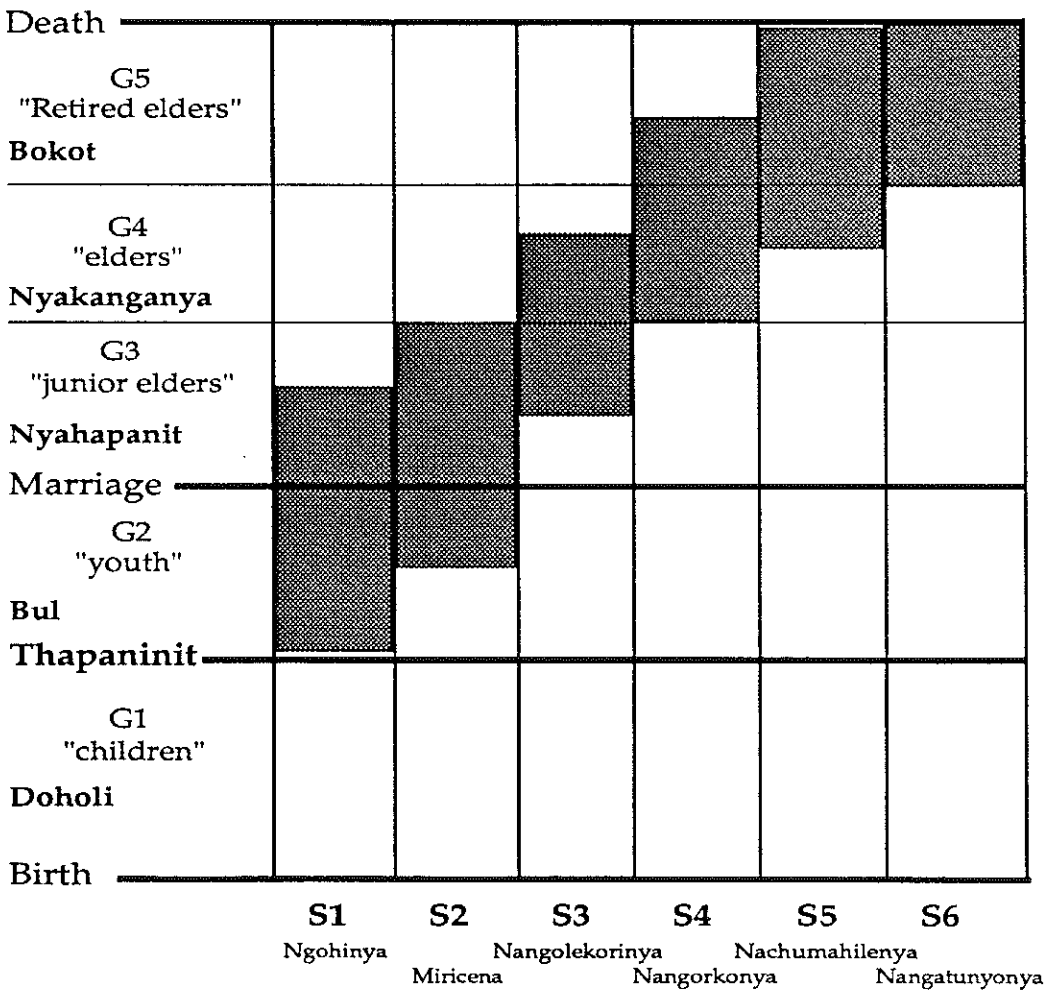
The regular pattern for a Didinga man is to perform initiation when he is between 15 and 20 years, and then to marry when he is between 25 and 35 years of age. Leaving his position as a bachelor, a man will also step by step leave his status as a "warrior". Although he himself or his local age-unit has not been officially promoted into a higher age-set, he now enters the age-grade position of "junior elderhood", and will spend more time with his own family, managing the family affairs. A married man will gradually identify himself and feel more attached to the senior age-set that has been promoted into the age-grade of "junior elders". This will, of course, affect his membership in the local age-unit, and the inner life of the age-unit as a corporate group. There will emerge a crucial division between those who are married and those who are still bachelors. As more and more men get married, the bulk of the age-unit members will consist of "junior elders". If the age-unit has behaved well, fulfilled their **nyepiyo** obligations, and conducted their affairs in a way that is considered beneficial to the whole community, there is a great possibility for it to be promoted into a "junior elder" age-set at the coming **nyakerehet**. This age-unit will then become the *junior*, **cik hidicik**, sub-set within the next age-set, belonging to the age-grade of "junior elders". But only those who are married will be promoted together. Those who remain behind have to wait for a later occasion to be promoted.

As time goes by, it could happen that the original age-unit will be split into three parts: the "core", the main bulk of members who have "moved" together; the "laggards", those who are still not married and have lagged behind in the promotion process; and the "advanced", those who were the first to marry, and who may have even been promoted into a senior age-set.

But we may also have a situation where a local age-unit has misbehaved, for instance by not respecting the elders, which have resulted in serious delays in their promotion. Even when most members are married, promotion into an age-set within the age-grade of "junior elderhood" may be denied them. The most dramatic consequence of this situation is that this age-unit will never become "full" elders within the community. Otherwise it has few negative consequences for the individual members. They may marry freely, and some of them may even be attached to some senior age-set on an individual or age-sub-unit basis.

The actual model of the relationship between age-sets and age-grades may therefore be perceived as the figure below indicates:

**Fig. 7.3:** A model of the relation between age-sets and age-grades in Didinga.




Age-sets:S1,S2,S3,S4,S5, S6 (S1 the lowest, S6 the highest)
Age-grades:G1,G2,G3,G4,G5 (G1 the youngest, G5 the oldest).

It must be remembered that this model represents a gross simplification of the actual system found on the "ground". As the variation between the separate districts is considerable , the information in this figure represents a synthesis of the whole Didinga, and must be treated with utmost caution.

The reason why I have exempted the oldest age-sets from this figure is that even if they have not been formally dissolved ("dissassigned"), they have more or less lost their function in the social structuring due to the members' high age and their low number.

Regarding the details of the model, I know, for instance, that the age spans of the age-sets, and in particular **ngohinya** (S1), expand outside the intervals set in the model. Whereas some Didinga classified the **ngohinya** to between 20-30 years of age, others said that they were between 30-40, and yet others that they were between 40-50. Yet, all of them are most certainly correct.

**Ngohinya** have at least recruited from back to between 1941 and 1959-60 (following Kronenberg) up to the beginning of the 1980s as no age-set has been formed under them during this period. Evidently though, as units of among **ngicolongmoru/ngadokenya** have been admitted into **ngohinya**, have also units among **ngohinya** been admitted to **miricena** and **nangolekorinya**. But there are individual **ngohinya** who have, due to limitations on mobility, been members since before the exile.

What has to be added regarding the structure and function of the Didinga age-sets within the age-grade structure is that although they are the most important means for social cohesion and organisation at the over-all social level, they are, at the community ("ethnic") level, to be considered more as social categories of individuals than actual and formalised social groups. By a social category I conceive a category of people that are conceptualised as a unit because of some relevant features they share in common (e.g. age, marital status, relative cattle wealth, etc.). Thus, at the community level, an age-set is more or less synonymous with an age-grade, indicating a social position in the social hierarchy. At the level of the individual age-set districts, and in particular at the village level, the age-sets act as social groups, i.e. corporations of individuals who interact within and between each other on the basis of specified sets of statuses and roles.

### 7.1.14 **Nyakerehet**: The Didinga Age-Set Council

**Nyakerehet** (pl. **nyakerehenya**), a loan word from Toposa denoting a "ritual meat party" taking place at particular ritual sites (see e.g. H. Müller 1989: chap.4.4.1 and Eriksen 1978: 20-38) is the Didinga society, or "parliament" of men. While **nyakerehet** is a particular place, **nyepiyo** (pl. **nyepiyonya**), the payment of age-set *fines* or *fees*, is the important activity (or rite) taking place at **nyakerehet**. **Nyepiyonya** are generally performed when there is enough food, in particular meat.

**Nyakerehet** exist on two levels, **loc** (= "land", pl. **lonyini**) a district, and **lil** (pl. **liliok**), a sub-district, i.e. the homesteads situated along a stream.[50] Any **nyakerehet**, whether arranged on the "big" or "small" level, are presided over by the elders, and the same rules apply to how the men are to be seated and how the meat is to be distributed.

At the **loc nyakerehenya** those persons who have been nominated for promotion will be announced together. The candidates must make a contribution, either in the form of a bull, a goat, a big amount of beer, or some other contributions to the immediate senior age-sets. Age-set sub-units formerly keeping the position as *juniors*, **cik hidicik**, will be promoted into *seniors*, **cik obik**, within the same set; *seniors* in one age-set will be promoted into *juniors* in the next age-set. The promotion is formally recognised as the younger age-set (or sub-set), after having paid **nyepiyonya** to the immediately preceding age-set, is allowed to use the ornaments belonging to that particular age status.

While **nyepiyo** at the **lil** level regularly takes place every year, at least if the situation is peaceful and a minimum of food is available as there will always be some issues that need to be discussed, **nyepiyonya** at the **loc** level take place with longer intervals between, traditionally every fourth or fifth year. At the "big" **nyakerehet** a large amount of animals for slaughtering are required, and also a large amount of grain for brewing beer.

Each **loc nyakerehet** contains from 3-6 **liliok nyakerehenya**. Besides the regular annual meetings at those latter **nyakerehenya**, they can also be called more instantly for urgent matters, and in this respects they function more as regular

[50]This division between **loc** and **lil nyakerehet** is made by me. The Didinga call the **nyakerehenya** on both levels for **nyakerehenya** only.

courts. If some particular, sudden issues appear that need to be fined, then a meeting at one of the smaller **nyakerehenya** may take place. This might apply, for example, to a situation where a man praises his bull in the middle of the night, which is strictly forbidden. For such offences he must be punished, i.e. fined immediately, and a meeting at one of the smaller **nyakerehet** is called. The offender, knowing and admitting his mistake, can immediately after such an offence has been committed, on his own initiative spear a bull for the elders, whereafter a meeting at the small **nyakerehet** is called. Such a meeting of reconciliation will be finished within one day. When these *instant* meetings is called at the **nyakerehet**, fining is always the most important aspect. It is also possible to postpone such penalties as here mentioned to the regular meeting taking place after harvest.

The **loc nyakerehenya** are only organised when peace has prevailed for an extended period and plenty of food (preferably bulls and goats) is available. Due both to the lack of livestock and the prevailing situation of war in the Sudan, which also seriously affects the Didinga, the last **loc nyakerehet** in Thuguro took place in the mid-seventies. In Nathelani **loc nyakerehenya** were arranged in 1976 and 1978, but none since that time. At the **loc nyakerehenya** in the mid-seventies, they had enough cattle, and a lot of bulls where slaughtered.

A more secular reason for arranging meetings at the **nyakerehenya** is to exchange bulls for cows. Quite customary, a Didinga would never exchange a cow for a bull as a cow has a much higher value as it is a breeder of new stock. For people with bulls, wanting to exchange them for cows, the only occasions available for exchanges are when other people want them for sacrifices.

We might hence say that there are three major reasons for arranging **nyepiyo** at the **nyakerehet**: to have an official meeting including a dance; to eat meat; and to exchange bulls for cows.

At **nyakerehenya**, and especially at the big ones, speeches are very important. Usually speeches are delivered from sunrise up to about 9-10 in the morning, and from sunset to about 9-10 in the night. And this may continue for up to three months.

In many respects **nyakerehet** can be comprehended as the "parliament" of the district, and as a social institution it is very similar to the **monyomiji** found in

Pari and Lotuko (see e.g. D. Vance Smith and A. Ojetuk 1985, and E. Kurimoto 1984).

Although the introduction of the colonial juridical court system meant that the **nyakerehet** lost some of its traditional authority, it still plays an important function in the Didinga society. A practice that was introduced during the colonial period, and has survived up to present, was for the chiefs, **khabueta**, and sub-chiefs, **mkungheta**, to be elected by the men at the **nyakerehenya**.

#### 7.1.14.1 Mapping the Didinga **nyakerehenya**

In Didinga there were six "classical" age-set areas, **nyakerehenya** were **nyepiyonya** traditionally took place: (1) Kibongorok and (2) Taala, covering the northern side of the Didinga Mountains (approaching the Toposa area); (3) Laudo, covering the eastern parts of the mountains; (4) Lotukei in the far south-eastern corner; (5) Kadumakuj (including Chukudum), covering the southern parts; and (6) Thuguro, covering the western parts (approaching the Boya). It is remarkable that all these districts were situated within the Didinga mountains.

Today, very much as a result of the fact that a great proportion of the people have moved down to the plains, these districts have divided and/or re-arranged. In 1983-1984 I was informed that there where 13 **nyakerehenya**. In addition to those already mentioned, they include (7) Betalado, (8) Kikilai/Lorema, (9) Kawda, (10) Tuluggi, (11) Nathelani/Kapeta, (12) Mathewa, and (13) Ngatuba. I do not believe that this number is quite exact as I know for example that in Lotukei there are three **loc nyakerehenya**. Somehow, people seem to confuse a **loc nyakerehet** with a "modern" chieftaincy which is rather understandable since most chieftaincies correspond with a particular **loc nyakerehet**.

#### 7.1.14.2 Age-sets fees and fines: **Nyepiyonya**

The most important events taking place at **nyakerehet** are **nyepiyonya** (sl. **nyepiyo**). **Nyepiyonya** are the ritual *fines* and *fees* that the junior age-sets have to pay to the senior age-sets either for "crimes" committed since the last meeting at the **nyakerehet** or for the employment of particular ornaments and emblems. Each **nyakerehet** is formally independent of the others, retaining their own **nyepiyonya**, performing their **nyepiyonya** according to their own separate schedules, and naming and announcing their age-sets at their own will. There will, however, be a great degree of correspondence between the various districts

regarding these matters, implying, for instance, that most of the names for the age-sets are commonly used throughout.

#### 7.1.14.3 **Rihanit**

At the **nyakerehet** the men sit in a line, or rather a semi-circle, **rihanit**, according to the principle of **seniority**. The oldest age-set sits at the far right end of the line, then the next age-sets follow in order of descending seniority. Within each age-set again, the men are seated according age. The oldest member, i.e. the member who was the first to perform **thapaninit**, is seated to the far right. The member that was initiated after him sits on his left, then the others follow. The "youngest" man within an age-set, hence, sits on the far left. The crescent of the semi-circle is facing east, and in front of the semi-circle is lit a bonfire where the meat is roasted. The men who are still not initiated are not sitting in this line but somewhere at a distance. They are not allowed to lit a fire.

Every now and then, a man rises up and delivers a speech. The most important topic taken up in these speeches are instructions to the younger age-sets to adhere to the **nyepite ci Didinga**, i.e. that they must respect their elders, that they perform their obligations towards the age-set organisation, that they pay **nyepiyonya** without delay, that they have to act brave, that they have to perform bull-offerings, etc..

#### 7.1.14.4 Spearing of the ritual bulls

The spearing of the ritual bulls at **nyakerehet** involves certain complications as spearing is not a straight-forward matter. If a person wants to spear a bull for his age-set, he must ask a man with a proper bull if he can spear that man's bull. It is a basic condition that a person can only spear a bull that belongs to a man from his own age-set. The owner of the bull will evaluate the potential spearer's possibility for paying him back the required "price" or "pledge". If the bull-owner accepts, he will in return for his bull receive a young cow or a heifer from the spearer. So in reality, it will always be rich persons that spear bulls since they are the only ones that can afford to *reciprocate* with an heifer. But the transaction does not end here. Some years after the spearing, the spearer will go to the man who received his heifer, i.e. the owner of the speared bull. The heifer has by now grown into an adult cow which has given birth to several off-springs. The spearer, i.e. the original owner of the heifer, will now claim his beast and its calves back. At least one of the calves will, however, be left with the man who has kept the beast for

these years. There is also an additional option for the spearer: if he wants to keep up a good relationship with the other man, he will also leave the cow with him and only take the off-springs minus the mandatory cow-calf. So when initially the spearer received the bull from the bull owner and paid an heifer in return, this heifer is not considered as payment for the bull but as a pledge or security. A man with a bull will never give it away to be speared by a man that could not raise a proper pledge in form of a cow or heifer. What is important in the transaction between the two men is that none of them are caused serious losses. The initial owner of the heifer gets it back as a full-grown cow together with its off-springs minus one. The owner of the bull receives a cow as a pledge. As long as the cow is in his possession, he can utilise the products it gives in form of milk and blood, and he will eventually, at a minimum, receive a female calf. In reality, he has exchanged a bull for a cow, which in Didinga is looked upon as a very favourable transaction.

#### 7.1.14.5 The ritual quality of the **lolukanya** bulls

The bulls speared at **nyakerehet** are called **lolukanya** (sl. **lolukat**). These bulls are considered "ripe", i.e. they are big, fat and oldish, and they are, as a rule, castrated. A **lolukat** is generally the "favourite beast", **oli ci nyamenat**,[51] of the bull owner. Each and every adult Didinga man has either a favourite bull or a favourite he-goat (see also Kronenberg: 1961). For a young man in particular, this animal is of great importance as there is a close relationship of identity between the man and his favourite beast. A man is called by the same name as his favourite beast, he composes songs for it, and so on. Because of this close relationship between a man and his favourite beast, to spear it at a **nyakerehet** is ritually a very serious matter. It would impossible for a man to spear his own favourite beast as this would imply a kind of ritual suicide. Spearing of the animal at **nyakerehet** by a man from the owner's own age-set is perceived as a sacrifice to the whole age-set, and, concurrently, a man who spears a bull is looked upon as a pride for the whole set. A man that spears many bulls at **nyakerehet** will gain a high status in his own age-set, and he will easily be promoted to a senior age-set as the elders will be interested in incorporating such a man within their own ranks.

After the bull is speared, the animal is cut to pieces and put on the fire for roasting. Each piece is generally very big, for example a leg, the head and neck, and so on. The big chunks of meat are usually only lightly roasted, then the

[51] Oli = bull/ox, **nyamenat** = "favourite"

chunks are removed from the fire to be cut into smaller pieces. These pieces are dropped on small beds of leaves made in front of the line of men sitting in the semi circle, **rihanit**. The meat is there divided further. Quite often the men do not eat the meat there and then, but bring it to their homes for further roasting, and for the actual consumption. As a rule, only the unmarried men eat their meat at the **nyakerehet**. But when a **loc nyakerehet** is arranged, the men may stay for several weeks, even up to three months if meat and beer are available in sufficient amounts. In these cases, each age-set have their separate "camps" at the **nyakerehet**.

While the socio-political features of the **loc nyakerehet** are most important, as this is the occasion when the whole age hierarchy of a district meets and discuss economic, juridical and political issues, eating the meat of the sacrificed bulls and goats is what really attracts the participants. It would not be possible to call for a meeting at the district (**loc**) **nyakerehet** if not plenty of meat was accessible.

### 7.1.15 Gonaget: "best friends"

A particular institution within the age-set organisation emphasised by J.H. Driberg for the Didinga (Driberg 1935), and by B.A. Lewis for the Murle (Lewis 1972) is the "best friend", called **gona** (pl. **gonaget**) in Didinga. According to Driberg, the primary objective of this special friendship institution is military, but it also entails legal, social and economic aspects. **Gonathet**, the "friendship" *institution*, is established when an age-set is first admitted to the status of junior warriors. At this stage, each junior warrior has to find a best friend among the ranks of senior warriors. The major duty of the senior is to instruct the junior in military exercises and conduct. The relationship created, which is of long-life duration, is so strong and binding that, if necessary, they have to sacrifice their lives in each other's defence. When the age-set of junior warrior has served for about five years, they will, after a rite of transition be promoted to senior warriors, in which capacity they will serve for another five years. Now, the former junior warrior will become the senior in a new friendship relation instituted with a fresh junior warrior. Each man will hence eventually have two **gonaget**, one in his senior age-set, and one in his junior age-set. Driberg stresses the strong socialising forces underlying the **gonathet** in that the whole age-system becomes closely integrated into a closely-knit homogeneous organisation from top to bottom. In this respect, the institution of "best friend" will counteract the exclusiveness of the separate age-sets. Since a person may have "best friends" in other age-set districts that his

own, the cross-cutting ties of **gonathet** makes it possible to mobilise all the resources of the Didinga when needed (Driberg 1935: 101-102).

Although the "best friend" institution has lost most of its military content, it is still important in Didinga. The **gonaget** of today do usually belong to the same age-set. The "best friend" is your closest friend, it is a person you share your thoughts and feelings with, it is a person that you will approach when in need. "Best friends" assist each other in production, marriage, etc. In many respects, a "best friend" can replace a close relative, e.g. a brother or a male cousin in marriage negotiations, funeral arrangements etc.. In marriage, if a particular kind of relative is missing on any of the sides, a "best friend" can replace this relative. This means that the "best friend", for example must pay that part of the bride wealth which in ordinary cases would have been paid by an uncle, brother or cousin. But then, when the daughter of his "best friend" marries, he will again receive that part of the bride wealth meant for that particular uncle, brother or cousin. Within the Didinga kinship system, it could be said that the "best friend" takes a similar position or role as the "Joker" in a pack of cards. The children of best friends are socially recognised as siblings, and can hence not marry each other. To seal the **gonathet**, the two mean will cut their flesh and suck each other's blood.

## 7.2 ORGANIZATION BASED ON MARRIAGE AND DESCENT

### 7.2.1 Cieth: home

According to the tradition, to have a "full family" in Didinga is to have (1) a wife (to produce children), (2) enough cows, goats, sheep and chickens to cater for your family and to take care of the necessary social expenses, and (3) to have a farm with a sufficient buffer stock at the beginning of the agricultural season (to avoid the hunger gap).

The most basic social unit found in Didinga is the domestic unit called **cieth**, a term that covers both the actual home or house of a married woman (or a formerly married woman: a widow or a divorcee) and the social unit occupying the house, i.e. a mother with her offsprings. A **cieth** is hence a mother centred unit. We may denote this unit a household. A husband does not belong to the **cieth** of his wife but to that of his mother. A man and his sons will hence belong

to two different **cieth**. To each home belongs also a cooking place, a granary, a kraal for the livestock allotted to the house, and fields for cultivation. The granary will be filled with produce from **manen cik ciethak**, the "fields of the house". The "fields of the house" typically belongs to the husband, i.e. it is the husband who will be endowed with the cultivation rights and will have the overall responsibility for the correct usage of the fields. He will be the "owner of the field", **bati manu** (**mana** = field). At marriage, these usufruct rights are transferred to his wife. Most commonly, the husband will have additional fields of his own (called **eehi**). The same may also apply for adult, unmarried daughters and sons. The produce from the sons' and daughters' fields will be kept in their mothers' granary, **iraga**. A son may exchange parts of his produce for livestock. A husband with several wives, each occupying a **cieth** and a rather large amount of livestock will operate more in the capacity as a "manager" than an actual cultivator. Some important agricultural tasks, as for instance the clearing of new fields for the **cieth**, will always be the responsibility of the husband.

At marriage, the **cieth** of the new wife will normally be allotted some cows, sheep and goats. These animals have two main functions. Firstly, to supply the household with milk and other animal products. Secondly, these animals are the embryo of the herd that will be used for marriage for the sons born to that **cieth**. As years pass by, the father will add animals to the herd, and as the sons grow up, they will take great care of the herd, and work hard to increase its number. Their sisters will bring additional number of animals to the herd as they are married off. As long as the father is alive, he will be in charge of the livestock, **bati tinu** (the "owner of cattle"), and will dispose them at his own will. But some conflicts may occur if he use livestock from one **cieth** to marry a son from another **cieth**. Livestock so used is considered as borrowed, and should be compensated at a later stage, for instance when a daughter from the second **cieth** is married off. At the death of the father, the oldest brother within each **cieth** will become the **bati tinu** of the cattle belonging to their mother's **cieth**. The **bati tinu** title of the oldest brother does not mean that he has private property rights over the herd, but that he is in charge of it. He has to take care of the livestock for the common good of the group of full brothers. The younger brothers will often try to divide the herd between them, in particularly if they have strong objections to the way the oldest brother is running it. The question of the use of the family herd for marriage is often the main reason for this drive for division.

Before the last civil war, when cattle were more plentiful, almost any wife would have enough milking cows in the kraal to cover the needs of her family. To keep up the delivery of milk to her family, these cows were exchanged at regular intervals with "fresh" cows coming from the cattle camps. Today, many wives have only one or two cows to supply the family with milk. Some few have no cows at all. Quite often we find that a number of **ciethi** have a kraal in common instead of each one having its own.

### 7.2.2 Halang: compound and family

**Halang** in Didinga has a double meaning. It may both mean a kinship segment, i.e. a family, and a domestic unit. As a kinship term, it may cover two groups with a difference in generational depth. First, it may be applied for the family of one man. If this man has several wives, each will form her own **cieth**, and each **cieth** will be an autonomous unit keeping its separate fields, kraal, granary, etc. But the combined **ciethi** of one man forms an **halang**. An **halang** is hence a husband centred family unit. But the Didinga also apply **halang** as a kinship term when talking about the kinship group formed on the basis of a grandfather, i.e. the grandfather himself, his wife/wives, his sons with their respective wives and off-springs. From an individual Didinga's point of view, his paternal grandfather with wife/wives, his father and paternal uncles with wives, and his brothers and paternal first cousins forms his **halang**, his family.

As a term depicting a domestic unit, what distinguishes a **cieth** from an **halang** is that in addition to the house(s) of the wife/wives, an **halang** also includes the house or hut of the husband and the hut(s) of unmarried sons. In case of a man with only one wife, which is most common, the **cieth** and **halang** will be more or less overlapping units. But the different terms will anyhow imply various conceptual connotations.

As the sons of a man start to marry and bring their wives to the patrilocal group, each son's wife will form her separate **cieth**. The **cieth** of a son's wife will become a part of the father's **halang**.

### 7.2.3 Olo: hamlet

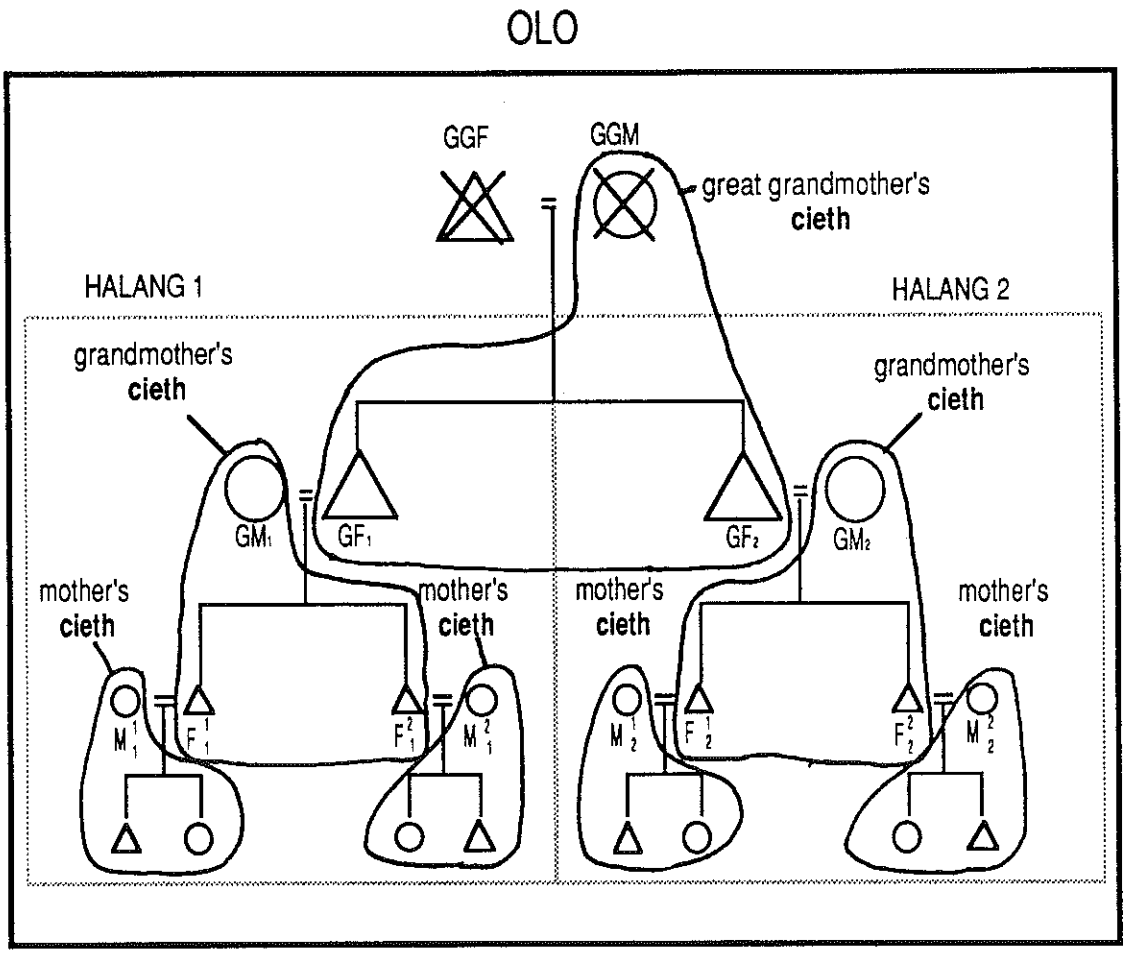
Generally, each **halang** belongs to a homestead or hamlet called **olo**. Basically, the **olo** is formed around a patrilineage with a depth of three, maximum four generations: grandfathers, fathers, sons (and sometimes grandsons). In this

respect, **olo** may be looked upon as the residential equivalent to an **halang** formed on the basis of a grandfather. But in addition an **olo** will quite commonly contain families that do not belong to the patrilineage. Very often the heads of these "outside" families are related by affinity to the patrilineage, or they may be close friends to one or more of the group of brothers. Anyhow, each **olo** will be structured by a kinship segment consisting of a group of brothers. The oldest brother (the first son of the first wife of their common father, the great-grandfather) will be the head of the homestead, **bati olu**. Quite commonly the **olo** carries his name. Although one **olo** very often will exist within the vicinity of others, forming a cluster of homesteads (a neighbourhood), the **olo** is, with some exceptions, the largest settlement unit within Didinga. The **olo** is not a very important group as far as corporation in the daily production is concerned. Each **cieth**, and even each individual will perform a lot of productive activities on their own. But the more the hamlet is based on kinship ties, the more corporative it will function as the common estate binding it together will be stronger. When communal work is organised on the field of a **cieth**, the manpower will be gathered from the **olo** to which the **cieth** belongs, and the neighbouring homesteads. A cluster of homesteads in a neighbourhood are normally bound together by ties of kinship, either through patrilinearity, matrilinearity or affinality.

The **halang** of each of the full brothers in the oldest generation (the "grandfathers") will form a yard or compound within the homestead. As this group of full brothers heading the **olo** (the "grandfathers") eventually pass way, the **olo** will usually break up. How this breaking up actually happens, will of course vary, but in principle it will break up in as many parts as there will be groups of full brothers in the next generation (the "fathers" generation), i.e. according to the number of wives the group of passed away brothers ("grand-fathers") were married to. For example: if the group of grandfathers consisted of three men, and the two oldest had two wives each, and the youngest had one, this group of grandfathers had all together five wives, i.e. there were five "grandmothers". Each grandmother will again be a mother to a separate a group of full brothers (within the generation of "fathers"). Hence, there are five groups of full brothers in the generation following the group of grandfathers who have now passed away. Each of these groups will form the nucleus of a new homestead, a new **olo**.

On each socio-territorial level it is hence a "mother" that determines the size of the socio-territorial unit. The limits of the **olo** is determined by the mother of the group of brothers in the oldest generation, i.e. the mother of the grandfathers; the **halang** is determined by the mother of the fathers; and the **cieth** is determined by the mother of the sons. The simple model below may illustrate this analytical point.

**Fig. 7.4:** The relation between socio-territorial units in Didinga.




In this figure, the grandfathers, $GF_1$ and $GF_2$, are full brothers, and the sons of GGM (great-grandmother) and GGF (great-grandfather) who have both passed away. The grandfathers both belonged to the **cieth** of GGM. As GGF is now dead, $GF_1$ will theoretically be the **bati tinu** of the total herd of the **olo**. But as these men are old, both with married sons, most of the herd will most likely have been divided, and transferred to the **ciethi** of their wives, $GM_1$ and $GM_2$, where their sons (in the generation of "fathers") will be in charge. The original herd has been

divided into two, each under the "ownership" of a grandfather, but with the sons of the grandfathers (the "fathers") as the actual caretakers. Some animals have also been transferred to the next generation, namely to the **ciethi** of the father's wives. The sisters of the grandfathers and the sisters of the fathers are all married off, and the cattle their marriages have brought in have partly been used for their brothers' marriage, and partly to increase the herd.

When the grandfathers, $GF_1$ and $GF_2$, pass away, the **olo** will most likely split into two new homesteads. This happens most commonly in the way that a group of full brothers from the generation of fathers, i.e. $F_2{}^1$ and $F_2{}^2$, move away with their families, and establishes a new homestead elsewhere. The new homestead is usually raised in the neighbourhood, or at least not far away. If animosity and conflicts characterised the **olo** before the fission, the group of brothers, or parts of it, may move to another area, for example to the neighbourhood of some in-laws or relatives of their mother.

When the "grandfathers" pass away, $F_1{}^1$ will follow $GF_1$, and $F_2{}^1$ will follow $GF_2$ as **bati tinu**. At this stage it is a big possibility that the younger brothers of the **bati tinu** will press to have the herd divided between the group of full brothers. If they succeed, these animals will be divided between their wives. How this transfer of cattle from generation to generation takes place, do influence the fission of the **olo**.

### 7.2.4 Kabucenya: clans

As Didinga **kabucenya** (sl. **kabucet**) are both kinship units, geographical units, spiritual units and legal units, they play a decisive role in the society, and are deeply embedded in all aspects of the social lives of the Didinga. Basically, we might say that clan membership both regulates and reflects the relationships between individuals and their spiritual, natural and social environment. The vital importance of clan membership can best be perceived when we understand that any clan consists both of persons that have passed away, i.e. the ancestors; the living; and those still not born. The clan hence represents the past, the present and the future. An important explanation for the strong drive for marriage, family and children in Didinga must be comprehended in this perspective. Lack of cattle diminishes the possibility of acquiring a wife, without a wife you can not have children, and without children, the continuity between the past, present and future will be broken. In the opposite direction: many animals means many wives, many wives means many children, and many children means a strong

link between the past, the present, and the future. Children, both those born and those still to be born, are the pride and wealth of the whole clan. For the individual mother and father children secure a continuation of their lives even after they have physically passed away as he or she will never die when they have children. If a woman dies before delivery, the foetus will be taken out and be buried together with the mother. A goat with a kid will then be sacrificed. This is to ensure that the misfortune will not spread to the rest of the clan so that it stands the chance of dying out (Solbakken 1982: 24 and 29).

We have earlier stated that in Didinga, marriage matters are cattle matters. At this stage it should be added that marriage matters are also, to a substantial degree, clan matters. This can be seen regarding the rule of clan exogamy, i.e. that a man should not marry a woman from his own clan, at least not within its lowest levels, e.g. the fourth or fifth cousin. To marry within the clan would imply that cattle will be exchanged within the clan instead of between clans. This would hinder the enhancement of the clan herd, and also hinder the circulation of both women and cattle. To marry within the clan is considered to be incestuous. When a man wants to marry a particular woman, the first thing to make sure of is if it is any kinship relation between the two. When a man marries a second wife, she should not come from the same clan as the first wife. Sexual relations between a brother and a sister is considered as witchcraft. The exchange of both women and cattle between clans is considered most important for the functioning of both the clans and the Didinga society as such. In the latter instance it safeguards the cohesiveness of the entire society.

The spiritual aspect of clan membership relates to the fact that people's connections to the supernatural powers are mediated through the ancestors. The ancestors exist in the world of the spirits, and are themselves spirits. The "closest" ancestors, i.e. those who have passed away within the last generation, are still very much connected to their relatives and concerned over family matters, in which they may well interfere. In cases where families are hit by famine, disease, barrenness of womenfolk or livestock, clan members may make appeals to the ancestors for help and guidance. When interpreting misfortunes that have happened to a family, the "seers" (or "diviners"), **ngarita**, often trace the problems back to some mischief performed towards the ancestors. As the ancestors may on one hand punish anti-social activities committed by clan members, they may on the other reward activities they consider to be beneficial to the clan and the society as such. The individuals within the clan with the nearest association to the

ancestors are the oldest men. The older the men, the closer the association. The power in the cursing and blessing of the oldest men is exactly related to their nearness to the ancestral spirits. The Didinga worship their ancestors through sacrifices at various ritual occasions.

Since clans are the land-owning units within Didinga, clan membership is also the basic social means to get access to natural resources. The clan that originally settled in a particular area keeps a position that is superior to the members from "alien" clans living within the same area. All land in Didinga is clan-land, i.e. each and every part of Didinga belongs to a particular clan. The **bati-lotu** ("father of the land") in an area will always be from the clan that originally inhabited that area. The names of the clans are very often equivalent to the name of their area of origin; the Taala clan, for instance, stems from the area of Taala as this clan was the first to settle there. The chiefs of the different sections and sub-sections have most often been elected among the original clan of that area.

That each Didinga clan has its own separate and distinct territory, can be attributed to the fact that when the Didinga people entered their present settlement area, they came clan by clan, and each clan occupied a particular district.[52] While some clans settled in what today may be considered the Didinga "heart-land" (in and around the Didinga mountains), others settled in the more peripheral areas, e.g. beyond the Kidepo river. As the clans were attacked by surrounding groups, Toposa, Turkana, Dodos, etc., the Didinga gathered in the mountains for protection (see Lino Tiboi in Kronenberg 1972: 14-15). The movement of the settlements to the mountains did not mean that the peripheral areas were abandoned. The clan areas in the periphery became important as grazing grounds for their animals, and the cattle camps were regularly situated there.

Today, we do not find a direct relationship between clan membership and residence. Many clan members, probably the great majority, are living outside their original clan district. Clans of today are only partly localised, as the local groups are only partly based on clans. Hence, as we may find members from each and any clan in all areas of Didinga, we may also find that in each area there will be representatives from each and any clan.

[52]Driberg believes it is reasonable to date the Didinga occupation of the area back to about 1775-1825 (Driberg 1922:211).

In 1983-84 I received information that enabled me to depict 23 major Didinga clans. I have compared the list of clans that I have compiled with those clans presented by Driberg in 1922 (pp. 212-213), and those mentioned by Lino Tiboi (in Kronenberg 1972: 14-15).

**Table 7.3**: A list of Didinga clans

| Didinga clans 1983-1984 | Didinga clans in Driberg | Didinga clans by L. Tiboi |
|---|---|---|
| Bulani cik (of) Chairong | Bulani | Bulani chik Cairong |
| Bulani cik (of)Rathachar | Bulani chik Kaulu | |
| Mella cik Iloring | Meelach | Mella |
| Mella cik Narus | | |
| Iri cik Lotukei | Irinit | Iri chik Lotuke |
| Iri cik Lomaili | | Iri chik Lomaili |
| Lorbokok | Lorborokok | Loborkok |
| Lodyat | | |
| Ciili | Chiili | Chili |
| Lorangi | Laranginit | Lorangi |
| Taala | Taalach | Tala |
| Lotuko | Lotuko | Lotuho |
| Lokuti | | |
| Lohabu | | |
| Laudo cik Taala | | |
| Laudo cik Lohodong | | |
| Mirichan | | |
| Kuhec | Kukuechit | |
| Borok cik Kibongorok | | |
| Maijok | Maijogit | Majcok |
| Kuwa | | |
| Buca | Buchinit | |
| | Kagumi | |
| | Xukanit | |
| Birkonga | | |

Lino Tiboi has also described in which order the various clans came to the area, and within which geographical area they settled. Driberg mentions various taboos attached to some of the clans.

## 7.3 DIDINGA COSMOLOGY

### 7.3.1 Introduction

The Didinga "universe" can be separated into three tiers or spheres: (1) *Up*, (2) *here* and (3) *down* (or below), or may be more precisely: (1) the *sky* (or heaven), i.e. the sphere "above the trees"; (2) the *earth*, i.e. the temporal or secular sphere; and (3) the *underground*, i.e. the sub-terranean sphere.

The first sphere, **ket kujien**, is related to god, and it is only god (and the birds) that lives "above the trees" (**ket** = trees, **kujien** = above). The second sphere is the sphere of the ordinary people, **eeta** [53] and everything connected to people: cows, land etc.. Generally all ordinary people, i.e. all village people, no matter their ethnicity or nationality, are called **eeta**. Over the ordinary people we find a category of "elite" people called **galla**. **Galla** covers "fine" or "rich" or "sophisticated" people, usually foreigners. Nowadays the term also includes those who are educated, including educated Didinga. When the Didinga apply the term **eeta**, it commonly means: "we, the "Didinga people". To separate "us" from "them", Didinga apply several terms which imply "stranger", among the most common are **mirohit** and **tahaniohit**. **Mirohit** is an extremely negative term signifying an *enemy*. Although this term is mostly used for an enemy from outside, it may also be applied for an enemy among the Didinga themselves. **Tahaniohit** refers to a person that does not know his whereabouts. This term does also have negative connotations, but not to the same degree as **mirohit**. As with **mirohit**, **tahaniohit** commonly indicates an outsider, but can also be used about a fellow Didinga who is unknown to an area. **Herinohit** is a positive term signifying a *visitor*.

The third sphere is the sphere of the spirits, **lori**, inhabited mainly by the "satanic" spirit **borohec** and the ghosts. The **lori** signify the *invisible world*. For example **Lori ci elemithi** is the Holy Spirit, **lori ci miningu** is the spirit of a departed person.

Even if it is analytically possible to discern between these spheres, it must be quite clear that each sphere is not exclusive or discontinuous as interaction between

[53] The Didinga term for "human being" is "**eet ci holi oo**" (as **holi oo** means "black head", the whole term means "people/individual with/of black head").

them is a regular feature. The **borohec**, for instance, although belonging undoubtedly to the sub-terranean sphere, is also associated with the sphere "above the trees" as he is the one causing thunder and lightning. Regarding rain (or water in general), a most important feature within the Didinga cosmology, it is not a clear cut division regarding the role of **borohec** and the role of god. God is obviously the provider of rain, but **borohec** is connected to the thunder and lightning accompanying the rains, and he is attached to the negative aspects of rain and water in general, for example floods, drowning, diseases brought by water etc. Water, one of the most crucial factors in the Didinga mode of adaptation, has, according to their belief, both very positive and extremely negative connotations, i.e. water is related both to holy and evil forces. Water is a condition for life, but it is also a condition for death, because within water rests also the evil spirit **borohec**. The Didinga will never stay close to river at nights, and traditionally they don't eat fish as this creature is living in the same environment as **borohec**.[54] The witch, **buyahit**, representing the strongest anti-social forces within the Didinga community, is able, with the assistance of **borohec**, to stop the rains and hence create drought and hunger. **Buyahit** is the most serious threat to the livelihood of the Didinga. Luckily, there also exist strong pro-social powers within the Didinga society, primarily represented by the **ngari** (diviner/witch doctor), which are able to counter balance the evil powers of **buyahit**.

Also between the underground ghosts, and **eeta** there are important channels of communication. The general term for a ghost in Didinga is **miningit** (pl. **mining**). If you want to specify that you mean an ancestor, you say **mining cik kibangi** ("ghost of ancestor"). In everyday language, however, **mining** imply ancestors. These human ghosts bring dreams (**kohonothi mining** = "dreams from ghosts") during night to guide their living people. The living people on their side sacrifice and give offerings to the spirits at the graveyard or other places. Every time beer is brewed in a Didinga home, early in the morning the wife of the home will take some beer and pour down in front of the door for the spirit of the ancestors.

The ghosts are known to remember their living ones and help them. For example the ghost of a father who departed one or two years ago, is very active in helping the family he left behind. Such a "person" is therefore given much attention by

[54]A Didinga explained to me that there are three reasons for not eating fish: Firstly, fish live in water where also **borohec** lives. Secondly, fish have shells exactly like snakes and other reptiles, and as they despise reptiles, they also despise fish. Thirdly, the Didinga have cattle, goats and sheep; why should they then eat fish? The aversion against fish did somehow lessen during their exile in Uganda, especially among youngsters.

sacrifices of rams at his grave. The ancestors keep the closest relationship with the elders of the Didinga community, and the older a person; the closer the relationship with the **mining cik kibangi**. The elders can strengthen their blessings or cursings by "swearing" with the sentence: "**Mining cik kibangi cik gang**," meaning "by the spirits of our ancestors". This sentence is also applied in Didinga to strengthen the implication of an expression, or to underline the importance of a request. Besides the contact between the ancestor spirits and their relatives of the temporal world, the **mining** also have close communication with the **ngarita** (diviners).

**Loc ci miningu** (**loc** = land/place) is where the ancestors live. In **loc ci miningu** they generally keep the same things that they owned when living in the villages, e.g. cows, dressings, their physical appearance, etc.. They live their lives underground pretty much in the same fashion as ordinary people do in the villages. As there is a little hole, **lok**, between this world and the underground, the **mining** can keep a watch on the affairs that take place in the villages, and they can now and then enter this world through the **lok** as it also happens that ordinary humans are taken underground through this hole. The **mining** are particularly active within the area of the graveyard, and the villagers will hence keep away from these sites.

The Didinga "respect" the **mining** but are not particularly found of them as they can cause trouble. Nobody looks forward to become an ancestor as their kind of life is not viewed as particularly attractive.

There is a qualitative difference between the manners in which the Didinga conceive **mining** and god. While god is eternally good and holy, **mining** are generally not connected with something positive or sacred. Although **mining** can influence your life both in a negative and positive manner, you will not pray to **mining** for help or good fortune. A Didinga will as much as possible try to avoid or protect himself against the **mining**. The Didinga, hence, perceive no particular relationship to exist between **mining** and god, they live in completely separate spheres: while **mining** are *down*, god is *up*.

### 7.3.2 God

God, the supreme omnipotent power, is addressed by several terms each signifying a separate meaning:

-**Nyekuc**: god (a loan word from Toposa).

-**Tamu kujien**: "Provider of rains" (**tamu** = rain, **kujien** = above).
-**Tirian**: god is power.
-**Nyekuc lori**: god the "Spirit".
-**Manyi-helegi vellek**: The "owner" or "provider" of everything (**Manyi-helegi** means "owner" or "creator" or "moulder" of things, **vellek** means "all" or "every")
-**Ket kujien** - "heaven" or "sky" ("above the trees")

These terms imply that the Didinga recognise god in several capacities: He is recognised as the *owner* of everything. As God is invoked to bless the Didinga and provide rain, high fertility of women, multiplication of the cattle wealth and good health, he is a *provider*. God will, for instance, listen to the cry of people if there is no rain. In particular he listen to the land owner, **bati-lotu** ("father of land"). God has also *moulded, created* everything. In his capacity as a "moulder" or "creator" or "owner", God is called either **Tirian** (power) or **Manyi-helegi vellek** ("owner", "provider" or " creator").

If something dangerously happens, the Didinga will always petition god with prayer. Although in such circumstances they will invoke his name, they fear to mention his name unnecessarily. Whereas all "positive" items, e.g. rains, good harvests and children are all sent by god; "negative" items such as drought, famine, epidemics are not commonly blamed on god, although he is capable of punishing people with such misfortunes. Misfortunes harassing the whole community is generally justified as bad luck which happens some years or as the work of **buyahit** in co-operation with **borohec**. The diviner, **ngari** (or **bati-cawa**, the **ngari** who is specialised in divination) must thence be called upon to counteract the powers of the **buyahit** by divining him or her.

The Didinga are conscious of god's omnipresence, and they can talk to him at any time, but particularly during sacrifices. His power is available to divine witches and reverse curses. He is infinitely good as he brings rain and blessings when people pray.

God has the ultimate power both in the spiritual world (the invisible world) and the secular world (the visible world). God is a just father who may bless his people with many children, a good health, nice crops, and many animals if they behave correctly. But sometimes he may have to punish them for misbehaviour by stopping the rain, by bringing pests and diseases etc.. Generally, god does not

punish *individuals* for evilness since evilness among individual human beings is related more to evil spirits than to some personal attributes. Because of this, protection against evil spirits is important as their deeds may result in god's punishment.

When things or events occur that are unexplainable, e.g. particular diseases or a drought, they are usually referred to as the work of god. At such instances more bulls or goats are sacrificed to god and the ancestors. Despite that god, in the Didinga belief, has strong powers and is of crucial importance for their existence, he is for any individual Didinga considered to be a rather remote and aloof power. Only two categories of people have individual contact with god, the rainmakers and the **manyi-lotu** (plural of **bati-lotu** = "father of land"). Ordinary people never pray individually to god. Not even a **ngari** stands in an individual, personal relationship to god. Instead he/she receives his/her powers from **mining**. As the rainmakers, who used to be of Boya origin, have lost most of their importance, **manyi-lotu** are the only individual persons in Didinga that pray to god. A **bati-lotu**'s prayers to god usually take place when he is alone, and usually at night. At this occasion he prays with a high voice to attract god's attention. The individual relationship between god and **bati-lotu** can mainly be attributed to the fact that **bati-lotu** is responsible for the fertility of the land. Both clearance of new land, cutting of forest etc., will be decided by **bati-lotu**. **Bati-lotu** is the protector of the environment.

Generally, all mediation between god and humans takes the form of collective rituals. To "pray" for rains, a certain rain dance, **loribo** is performed and certain songs are sung. **Loribo** usually takes place when the crops are at an early stage of growth and the rains suddenly stop. If rains do not occur even after performing **loribo**, the only solution is to approach **bati-cawa** to divine the cause why there is no rains.

There is not conceived to exist any individual connection between god and a person. To be *together* is the way to approach god. An individual relationship between god and a human being would most likely be considered as something similar to witchcraft. God is mostly called upon to provide rain and good health among people, animals and crops.

### 7.3.2.1 **Orok ket kujien**: birds' language

As the birds live in the same sphere as god, the birds' language, **orok ket kujien** (= noise/sound from heaven/sky) is very much respected among the Didinga as the messages of the birds are somehow messages from god. The Didinga perceive no direct relationship between birds and god, but as they live in the same sphere, the birds are able to receive certain types of messages which they can convey to human beings. The birds are also believed to communicate with spirits, a fact which increases the importance of communication with the birds. While ordinary villagers can not interpret the birds' messages, the birds' language specialist (belonging to the group of **ngari/bati-cawanu**) understands what the birds communicate when they sing.

The most important birds are **nyethulanyo**, weaver birds; **okiri**, woodpeckers; **cecer**, honeyguides/bee-eaters; **gumunu**, owls; and **tholobotec/lomenio**, bats (perceived as birds). When the **nyethulanyo** come soundlessly in large swarms to a particular home or kraal and fly in a circle over it, this is a bad omen, and the people should immediately evacuate the homestead as this information is considered to be of instant importance. The **okiri** usually appear at an homestead one by one. Its singing is regarded as a threatening sound that indicates that something bad will soon take place, for instance that one member of the home will be attacked by a lion or leopard, or bitten by a snake.

While the significance of **nyethulanyo** and **okiri** is related to their appearance close to the homesteads, **cecer**'s significance is related to its appearance in the bush. And whereas the two former are perceived to be representatives of negative forces, the latter is also attributed some positive values. Most importantly, **cecer** guide people to the natural beehives, **kurubuli**. Didinga consider it to be a kind if symbiotic relationship between themselves and **cecer**: The birds know all the beehives in an area, but are not able to utilise them directly. Instead, they direct people to where the beehives are located. In return, the birds receive the remains of the honeycomb and the dead bees after the humans have served themselves. **Cecer** can also guide people to places where the enemy, snakes or lions are hiding. **Longairi** is also mentioned in relation with honey guidance. This bird seems, however, to be the male **cecer**.

**Gumunu**, the owls, notoriously bring bad messages. **Gumunu** are the most dreaded birds in Didinga, and they are closely associated with witchcraft. The **buyahit** uses the owls to send evil messages to a home, and an owl is treated like a

witch. If an owl sits on a roof or fence, or in a tree close to a homestead, the dwellers will do their utmost to scare it away. When it moves at night, it moves together with the witch. When an owl "cries", it means that somebody will soon die.

**Tholobotec/lomenio**, bats, are also important messengers, but they are not only associated with evil messages. The bats can give certain types of information both to the **ngarita** and the **buyahit**. Bats found in your house, or flying around your homestead at night, give a certain type of information that can be interpreted by the **ngarita**.

### 7.3.3 Ngarita: magico-medical specialists

**Ngarita** is a generic term depicting a whole range of magico-medical specialists. **Bati-cawanu**[55], for instance is a **ngari** (sl.) that is a specialist in fortune telling or divination. Both the "black" magic done by the **buyahit** and things that may encounter a person during a journey or raiding or hunting can be divined. In situations where rains delay, the **bati-cawanu** may divine that the **buyahit** has gone to the river at night and talked with **borohec** to stop the rains.

Some Didinga say that god gives power to **ngari**, others reject this, arguing that the **ngarita** draw their power mainly from the ancestors, **mining**. Even those claiming that **ngari** draws his or her power from god, agree with the latter regarding the relation between **ngari** and **mining**. **Ngari** does in many respects combine the roles of a diviner and a doctor. He or she can by various measures see or divine the reason for a particular problem, for instance, barrenness, famine, or a cattle disease, and they can prescribe the proper cure for it. The **ngari** can also exorcise evil spirits and prescribe remedies that will protect a person from witchcraft or the evil eye. At all major social occasions, e.g. important ceremonies, or the planning of a cattle raid or a big hunt, the **ngari** will be approached to divine the outcome, and to prescribe the correct measures to perform before the on-set of the project to secure a good result.

The various **ngarita** typically operate as specialists within certain fields. Some **ngarita** are "possession", **loporiyang**, specialists (see 7.3.3.2, below), others are

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[55]**Cawa** is originally a loan word from Toposa meaning *sandals*, and both in Toposa and in Didinga **cawa** can be used as a term describing fortune telling by *sandal throwing*. In Didinga, however, **cawa** has come to mean fortune telling or divination in general.

specialists on fortune-telling and divination, yet others are specialists on herbal medicines, or on protection against witchcraft and the "evil eye". Kronenberg makes a distinction between male **ngarita** who are customarily those who deal with seeing, and the female **ngarita** who are connected to "possession" (Kronenberg 1972: 157). Although I believe he is right regarding the latter, I feel that the most important distinctions are between (1) the **ngarita** that prescribe cures and protective measures against witchcraft and the evil eye, i.e. those who control the "evilness" within the society, and who can be of either sex, (2) those who mainly deal with fortune-telling or divination (often called **bati-cawanu**), who are mainly men, and (3) those who deal with "spirit possession" (**loporiyang**), who are mainly women.

The power of **ngarita** is called **holo** and it comes either from dreams or spiritual possessions stemming from ancestors, **eet ci lohu**[56] who died a long time a go. An **eet ci lohu** is found among the population of ancestors, **mining**, but relatively few **mining** are given the "honour" of being an **eet ci lohu**. As **eet ci lohu** is considered to be "positive" in contradiction to the ordinary **mining**, an **eet ci lohu** is not actually called a **miningit**. **Holo** is a kind of "possessive" energy or power that is transferred from **eet ci lohu** to a **ngari**.

Any **ngari** must have been ordained by another **ngari** to become a **ngari**, and can herself/himself ordain other persons to become **ngari**. The ordination of a **ngari** happens through **eet ci lohu**: through ordination a **ngari** transfers the power, the **holo**, from her **eet ci lohu** to the **ngari** *in spe*. At a later point in time, this latter **ngari** may, through the ordination ritual, transfer this power to yet another **ngari**, implying that several **ngarita** have the same **eet ci lohu** that empowers them. There are several **eeta cik lohu** giving power to various **ngarita**. Each **eet ci lohu** has a particular name. This is the name he or she had before he/she died. So it is known which **eet ci lohu** gives power to which **ngari**. Usually, the **eet ci lohu** has been there for several generations, and each **eet ci lohu** will be connected to a special field of operation, e.g. treatment of illnesses, divination and so on.

If an individual falls ill, this may possibly be a message from an **eet ci lohu**. The **ngari** will be called in order to confirm this. If the **ngari** can confirm that the illness is a message from **eet ci lohu**, the sick person will, after **loporiyang** (see 7.3.3.2, below) has been performed, become a **ngari**. Before the ordination takes

[56]**eet** = a person; **ci** = *from, of* or *to*; **lohu** = underground, i.e. a person from the underground).

place, the protégé will have to pay his or her mentor a fee, consisting, most importantly, of a particular type of spear, **nyelero**, tobacco and usually some meat. It is commonly accepted that a **ngari** is *married* to his or her **eet ci lohu**, hence if the **eet ci lohu** is a man, the **ngari** will be a woman, and vice versa. Those who do fortune telling by the application of sandals or pebbles (see 7.3.3.4, below) are not considered to be related to an **eet ci lohu**.

Within the Didinga community at large, the principal work of the **ngarita** is to counteract the evil effects which spirits and witches have upon both humans, livestock and crops. In this sense it is most correct to depict **ngarita** as witch doctors. For instance in the case of diseases occurring among the cattle, the ritual **tunyenit ci tinu** (**tunyenit** = cleansing, **ci** = of, **tinu** = cattle) must be performed, presided over by a **ngari**. In this ritual, a large number of cattle are brought together, and a bull is sacrificed. If this ritual is not performed, something serious might happen to the herds. All rituals in Didinga that are connected to witchcraft are officiated by the person or persons who are divining (foretelling) the witchcraft.

#### 7.3.3.1 Sicknesses and diseases

When a Didinga gets sick, he will first go to **ngari** to know what causes the disease. They will not think of spirits before this cause is diagnosed by a **ngari**.

Frequently, when a child gets ill, it is caused by an evil spirit. The evil spirit may be expelled by a process called **cawa**. A goat, ram or bull is killed. The content of the intestines are smeared on the sick child and on persons related to the child, whether they are sick or not. All the people related to the child will by this ritual be protected from evilness and sickness. The child is also expected to recover from the illness. The evilness is expelled from the people. If any epidemic occur, **cawa** is performed. The person who conducts the **chawa** is **bati-cawanu** (or **ngari**).

But all diseases among children are not caused by evil spirits. When it comes to ordinary children diseases, usually female **ngarita** treat them by herbs. Beside herbs, she apply magic to make the disease leave the children. There are particular herbalists in Didinga, but the specialists are generally **ngarita**. A **ngari** who is a specialists on herbs is called **ngarici henu** (**henu** = herbs/medicines).

The Didinga healers, **ngarita**, always mix the use of medicines with the application of magic. When e.g. the chest is paining a **ngari** will administer

certain herbal medicines to be taken orally. Then sometimes the **ngari** will cut the paining part of the chest half-a-centimetre deep and about one centimetre long and suck out a stone, a piece of bone, a piece of charcoal or another object from the wound. The object is thought to have been put there by a witch. After the removal of the object, the witch will be divined, and the patient will be given some medicines so as to reverse the witchcraft and recover strength. Most **ngarita** can suck out stones, bones, grains or pieces of charcoal without even cutting the paining part. The medicines given by **ngari** are called **egernen cik ngario** ("medicine of **ngari**").

Most of the common disease's specialists are women. Male diviners typically deal with issues affecting families or communities. Women healers specialise on herbs and treatment of common diseases like e.g. malaria. The older the diviner, the more respected she will be.

The Didinga use various charms to protect against witchcraft and the effects of the evil eye. It can be pieces of wood or parts of animals that are given by the diviners to be worn on the body.

#### 7.3.3.2 **Loporiyang**:[57] possession

**Loporiyang** is a type of spirits which enters a person and possess him or her completely, causing a serious illness, usually deep depressions and great fear and anxiety. The actual power or energy causing the possession is **holo** (see 7.3.3, above). The **loporiyang** spirits do not leave the their victims until a special dance, also called **loporiyang**, has been performed. Loporiyang is one of the most common spirits in Didinga (very much like **yok** in Acholi and Pari). When a person, most frequently a woman, is possessed by **loporiyang**, the person will start to shake vigorously. This can be observed most easily at dances or places where

[57] (Also called Adani). According to Kronenberg, **loporiyang** was introduced to Didinga from Acholi in the 1920s in connection with a famine that made the women behave abnormally, as they were possessed (1972:156). Regarding, at least, the origin of **loporiyang**, I do not believe that this can be the full explanation. **Loporiyang** is a loanword from Toposa where the term also designates both the spirit and the actual possession dance (see e.g. Kitonga 1982:27)

music is played. The persons possessed will not be able to control their motions. It looks like the music grasps and shakes them.[58]

**Loporiyang** can be driven out by some medicine known only to the **ngari**. If this does function effectively, a dance performance will be arranged by the **ngari**. At this performance the possessed will dance until she is completely exhausted. Even if the **ngari** is able to drive out **loporiyang**, who may be the spirit of a man or a woman that passed away some time back, it may later return to possess the person anew. Since **holo** will stay in the person as long as he or she lives, the relation between the spirit and the person is not broken even if the actual possession is. A person that has once been possessed by **loporiyang**, i.e. been "injected" with **holo**, and later cured from the actual ailment, will him- or herself become a **ngari**, and by this assist other people possessed. In Didinga, the term **loporiyang** is connected both to the actual spirit and to the possession dance.

Whenever a person is diagnosed as being ill with **holo**, **loporiyang** must be performed as soon as possible. And it must be a **ngari ci obi**, i.e. a "big" or famous **ngari** that arrange for the **loporiyang** to take place. The possessed person, usually a woman, will have to contribute with beer, a goat etc.. All the people attending the **loporiyang**, and in particular the possessed, must dance. If the **loporiyang** dance is successful, implying that the possessed will recover, she will be ordained by the **ngari ci obi** to become a **ngari** herself. Through this ritual, the **holo** has been successfully transferred to the new **ngari**.

### 7.3.3.3 **Honothinit**: dreams

Dreams are only significant when they appear to **ngarita** and **manyi-lotu**. For ordinary persons, dreams are generally not attached with great importance. There are, however, exceptions. If an ordinary villager has a dream about some serious misfortune, he may perform a ritual. If, for instance, a person dreams that his neighbour will die, he will inform the neighbour about the dream. As a precaution, the following ritual might be performed: The neighbour will sit down outside his house with his back towards it. The "dreamer" will take a piece from a

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[58] Possession dances seem to be rather common throughout the African continent, especially in times of social disruptions and disturbances. From the Gwembe in Zambia, Elizabeth Colson writes:"Possession dances appear to have been introduced into Gwembe in the first years of the twentieth century, at a time when its people were experiencing the disruption of their universe associated with being forced into the colonial system," (Colson 1984:11).

broken pot and move it over the neighbour's head and chest in order to scrape away the misfortune.

If a person dreams continuously, and at the same time slowly by slowly get sicker, it can be the result of **holo**. A **ngari** will be called to make a diagnosis. If the **ngari** reaches the conclusion that the person is possessed, a **loporiyang** will be arranged. If this gives the expected results, the sick person will be ordained to become a **ngari**. This happens especially when the dreamer dreams about **mining**.

Some **ngarita** are specialists on dreams, and can tell the future using their own or other persons' dreams. Through the dreams the **ngari** can tell what incidents will take place, and what rituals which must be performed as a precaution. Dreams can come from both god and **mining**, and may be considered as warnings which the **ngarita** can interpret.

Also the dreams of a **bati-lotu** can be very important, but his dreams are only related to his **loc** (land/place).

#### 7.3.3.4 Other specialists

Fortune tellers

Beside fortune-telling by **ngarita**, there also exist others forms of fortune telling, but with lesser influence. Driberg (1933: 7-9) describes divination by pebbles, **toto**, a practice that is still common in Didinga. The Didinga use the sacred stones (**toto**) to foretell the future. The Didinga stone specialist is called **bati-totonu** (the "owner/father of stones"). The action of fortune telling by stones is also called **toto**. The stones used by **bati-totonu** are said to have been given to them by **mining** while they were sleeping. When they woke up, the stones were just found in their hands. The **toto** consist of 48 whitish and roundish stones, between 0,5-1 cm in diameter. Before a particular project is to be undertaken, the **bati-totonu** throws the stones in a particular way, and groups them in heaps of four. The pattern in which they are grouped will forecast what will be the result of the project.

Kronenberg (1972: 151-152) describes divination by sandal throwing where a pair of sandals are thrown into the air several times. The ways in which the sandals fall will forecast the outcome of a particular effort. This is still practised in Didinga, but more as game than as a serious way of forecasting.

Also fortune telling by intestines, **kulutec ci tango**, (can both mean the intestines of the animal and the act of foretelling the future by use of the intestines), is common. The Didinga bowel specialist is called **bati-kuluteco**. Whenever an animal is slaughtered, especially when it is a bull or a he-goat, the stomach will be opened, and the specialist will "read" the intestines. The distribution of the food contents in the intestines communicate the truth about famine, droughts or diseases.

Both sandal throwing, stone throwing and reading of intestines are performed by many Didinga, but some are well-known and command much respect for their abilities. People will listen carefully to their predictions. It is not believed that these type of fortune tellers draw their abilities from **mining**, i.e. **holo** has no part in it.

Herbalists

It is not easy analytically to discern between **ngarita** and ordinary medicine men or woman using herbs (medicines) to cure various diseases. The major difference may be related to the association with god and the spiritual world. The herbalists know how to use parts of various plants to cure particular diseases, but their power is not considered as something received from god or **mining**, and their abilities to protect against witchcraft is of minor importance.

There is no general name or title for a person that can cure wounds or sicknesses by herbs, usually they are called by the herb or the medicine in which they specialise, or the sickness they can cure, e.g. **regeli**, tuberculosis (Solbakken1982:27).

### 7.3.4 Borohec: the "satanic"spirit

**Borohec** represents the "satanic" forces within the Didinga community. **Borohec** lives underground, but is generally connected to water, i.e. river, springs etc.. **Borohec** is omnipresent in the respect that he is to be found everywhere in Didinga. Some people think of him as covering the almost the entire underground area of Didinga with his head dwelling within the Lotukei mountain. **Borohec** is thus simultaneously connected to particular places and to Didinga as a whole.

**Borohec** brings death to people by flood, drowning or lightning. Drowning, for instance, is caused by the **borohec** swallowing an individual. When a person is

killed by lightning, he is considered struck by **borohec**. If a baby is born with some abnormality, it may, in many instances, be the mother that have been cursed by the river spirit. If the mother, while crossing the river, came to step on **borohec**, the legs of her child may become paralysed (Solbakken 1982: 28).

Typically, the **borohec**, although a spirit, appears in the shape of a big hairy snake with the head of human being. But **borohec** may also appear in the form of thunder storms and cyclones. The body of a person that has been killed by **borohec** will be red as if it had been burnt. People should not wear red shirts during the rainy season as this may cause death to the people wearing them.

**Borohec** is connected with everything evil and bad, the Didinga associate him closely with death. Sudden deaths, e.g. by snake bites, lions and lightening, are most often attributed to the work of a **borohec**. The term **borohec** is also used for thunder and lightening itself, and if, for example, a person, animal, house or tree is struck by lightening, this happening is **borohec**. Also a bad person in the village may be called **borohec**. **Borohec** is negatively associated with rains. Rains are provided by the blessing of god, but when there is no rain, a witch may have had talks with **borohec** to make him stop the rains. There is no direct relationship between god and **borohec**, but god can rebuke **borohec**. The **ngari** (or **bati-cawa**) can weaken the influence of the **borohec** by slaughtering either a goat with a grey coat or a hen with white feathers at the bank of the river where the **ngari** regularly performs his divination.

A witch, **buyahit**, is able to see **borohec** wherever he may be. When a witch wants to kill a person, he will bring something that belongs to that person to **borohec**. This can, for example, be some hairs from that person's head, or a piece of cloth which that person has used. This item, when properly treated by the **borohec**, can be used as a medium or agent to kill the actual owner. It is also a belief that **borohec** has a big collection of items that have belonged to particular persons, and that these items can be activated at his will causing death. When a witch visits **borohec** in the river, the witch will come out of the river completely dry.

Even though a **borohec** may cause a lot of problems, he has to be treated with respect, otherwise he may cause the rivers and wells to dry up. A **borohec** may marry a human girl and bring her to his home underground or in the water. It is only **ngari** that can tell if a certain event is caused by a **borohec** or not.

### 7.3.5 Buyenit: Witchcraft

Witchcraft, **buyenit**, is one of the most prominent features characterising the social life of the Didinga. An important explanation given for why the Didinga live so scattered, is that this settlement pattern is a measure to control witchcraft.[59] Witchcraft is a "short distance" power, implying that a witch can only hurt people in his or her immediate surroundings. As the eyes of a witch, **buyahit** (pl. **buyiak**) is the most important medium for "throwing" witchcraft at someone or something, the range of witchcraft is what is within eye sight. **Buyenit** is a force or a power that is embedded in some people. This force can be used to harm people both mentally and physically. It is, for instance, possible for a witch to throw pieces of bones and stones into somebody else's bodies which will cause sickness.

The witch is typically anti-social, and albeit the witch is not him- or herself considered to be a spirit, he or she may well co-operate with evil spirits to harm people, animals or crops. They may, for example, stop the rains; send birds to destroy the crops; send bees to attack the cattle; or send diseases to harm people. A **ngari** will always be able to point out a witch, but he or she will rarely do it directly. When asked about who is the actual witch that has caused a particular problem, the **ngari** usually point to some features that characterise that witch. Only rarely will a victim of witchcraft confront the suspected witch directly with an accusation as this could have a back-firing effect on himself. Only when caught red handed, committing particularly vicious witchcraft activities such as sodomy or incest, or throwing stones on another man's house at night, or dancing naked in front of another man's house at night will a direct witchcraft accusation be launched against a person.

**Egerro** is the substance that is put into a person to make him or her become a **buyahit**. **Egerro** is contained in the head of the **buyahit**. The **buyahit** can spit it into the beer or food of his victim. The **egerro** hence appears as saliva mixed with some blood. The victim will collapse, and when he or she recovers, the **egerro** will be within his or her mind. A new **buyahit** is born. To be possessed by **egerro** must not be confused with bewitchment. When a person is possessed by **egerro**, that person becomes a witch, i.e. that person changes character entirely and

[59]Kronenberg claims that the Didinga earlier lived in two big villages (a piece of information partly confirmed by Driberg, 1922:211, who says that the Didinga are divided into an eastern and a western group). When the colonial government prohibited the killing of witches, it completely changed the settlement pattern in Didinga as the people started to live in scattered homestead in order to minimize the effect of witchcraft (Kronenberg 1972:162).

becomes an evil anti-social individual. When a person is bewitched, that person is struck by the evilness of witchcraft but does not become evil himself. While a bewitched person can be treated by a **ngari** to recover, the "possessed" person will become an eternally evil person, an enemy of the society. It is, however, said that if a young child has been given **egerro**, the **ngari** can, if the child is treated instantly, repulse this evil power.

At big gatherings children are usually kept away, especially if some strangers participate. This is to protect them from witchcraft, as big gatherings, by necessity, will include some witches. Whereas the local witches are mostly known, witches from outside will be unknown, and as they are unknown, it is difficult to protect the children. Jealousy and envy will generally cause bewitchment, and a healthy child can easily at such uncontrollable occasions be destroyed as children are particularly vulnerable to witchcraft.

#### 7.3.5.1 **Ralinit**: Instant bewitchment

**Ralinit** is a particular form of bewitchment, usually performed by a stranger. **Ralinit** is instant bewitchment, i.e. an instant act of witchcraft enacted by the eyes, it is "a bullet from the eyes". Regular **buyenit** occurs in a much slower process. As **ralinit** is so instant, it may be much more fatal since the affected person may easily die before he is cured. **Ralinit** is hence considered to be more lethal than ordinary **buyenit**.

#### 7.3.5.2 "The evil eye"

The eyes are very important in the entire witchcraft complex as the eyes are the instruments for bewitching. Brown-reddish eyes will always create suspicion of witchcraft. The "evil eye" is hated and feared in Didinga. There is no actual difference between the evil eye and **buyenit**, the former is only one way of enacting witchcraft. They both do damage to the body and can be treated by the witch-doctor, **ngari**. As with **buyenit** in general, "evil eyeness" is very often connected to jealousy and envy. If one mother has several healthy, well-nourished children while another mother have no children at all, out of jealousy and envy the latter may put her "evil eye" on one of the first mother's children, and thereby cause sickness to that child. A precondition for this is, however, that the envious mother has **egerro**. As with witchcraft in general, children are particularly susceptible to the "evil eye". The strength of the "evil eye" may vary with age, the older the stronger.

The "evil eye" can also be used against crops and livestock. Rich farmers may therefore often be met with the "evil eye". The **ngari** can counteract "evil eyeness" by performing particular sacrifices, or by issuing charms for protection.

Within the Didinga society, witchcraft is an important social sanction to safeguard that people behave in a socially acceptable manner. Individuals that do not follow the social "traffic" rules, e.g. lonely wolves, i.e. people who stay only by themselves and do not partake in social affairs; older brothers that use the family herd only for their own benefit; bachelors; incestuous individuals; sodomites; adulterous individuals; notorious criminals etc., will often be met with accusations of using witchcraft, the same may apply to people with particular physical or mental abnormalities. Such people may run into many difficulties as others want to stay away from them, or even have them ostracised, in order to protect themselves.

As a general rule, the Didinga witches never use poison when performing their "satanic" activities.

### 7.3.6 The relation between buyahit and ngarita

Within the Didinga universe, a **ngari** can be conceived of as representing the opposite forces of a **buyahit**. While **buyahit** is an anti-social person threatening the peace and harmony of the society by the application of "black magic", i.e. throwing diseases on persons, crops or animals, **ngari** is a pro-social person applying "white magic" in order to prevent or cure the damages caused by **buyahit**. The better the **ngarita** function within the society, i.e. the more evilness they are able to control, the better will be the relation between god and the people, and vice versa - the stronger the influence of the **buyiak**, the worse the relationship between god and the people.

The struggle between **buyiak** and **ngarita** concerns every aspect of human livelihood. Regarding, for instance, child bearing, the **ngarita** are very important to assure that everything runs well during pregnancy, delivery, and early childhood. For the **buyiak**, children are particularly susceptible to their actions, and hence a lot of witchcraft may be applied to new-borns and small children. While the power of witchcraft may lead to sterility, the power of the **ngarita** may secure fertility. While a **buyahit** may cause sickness and a sudden death, a **ngari** may secure good health and longevity.

Analytically, it is reasonable to perceive the **buyahit** to stand in a similar relationship to **borohec** as the **ngari** stands toward **mining**. The **buyahit** draws his power from **borohec** as the **ngari** draws his power from **mining**. **Holo** is simultaneously both similar and opposite to **egerro**. While in **egerro** a person can be said to be "negatively" possessed by **buyahit**, in **holo** a person is "positively" possessed" by **mining**. Through **egerro** negative social forces are created and activated, through **holo** positive social forces are created and activated. As both the powers of the **buyahit** and **ngari** are considered to be *social*, i.e. belonging primarily to the temporal sphere, god, the ultimate power, somehow stands at a distance from this struggle between evil and good powers on the ground. If, however, the evil forces should get the upper hand in this social struggle, god may punish the **eeta** for adhering more to the evil than to the sacred powers.

### 7.3.7 Bati-lotu: father of land

The **bati-lotu** ("father of land") has some very particular spiritual capabilities. The **bati-lotu** is embedded with supernatural qualities regarding cultivation. He can tell exactly what time will be the most beneficial for land preparation, sowing, weeding and so on. The power of the **bati-lotu** is so strong that nobody will dare to start any type of agricultural activity before he has given the signal. In a village in Lorema in 1985, the whole production cycle was upheld for many months because the **bati-lotu** died right before the onset of the rains. The cultivation could not start until a new **bati-lotu** was installed. In the village area of Lotukei, the whole area was not cultivated for a whole year due to the instruction of the **bati-lotu**. Within his own district, the **bati-lotu** is the most high-ranking both in secular and spiritual matters.

### 7.3.8 Didinga sacrifices

#### 7.3.8.1 Remorsing sacrifices: **ngilam** and **ell mam**[60]

A curse brings **ngilam** on a person. To remove the curse, the person must remorse by performing **ell mam** and offer a sacrifice. For example: A married

[60]**Ngilam**, a curse brought upon a person. To curse: **kacini**, a curse: **cinenit**. **Ell mam**: **ell** literally means *serve, give* or *help*; **mam** = water.

woman that has not become pregnant after a reasonable length of time is considered **ngilam**. The curse has usually been brought upon her by some of her own or some of her husband's older relatives or it can be a **miningit** which she has not shown the right amount of respect. To break the curse, she will go to the **ngari** who will tell her who brought the curse upon her. Thereafter she must remorse by performing **ell mam** and offer a sacrifice. While **ell mam** is a sign of remorse, the sacrifice of the bull/goat is considered to be a fine that has to be paid to the persons offended in order to break the curse.

**Ell mam** can take place in several manners. If a barren woman or a person hampered with an illness has been to **ngari** and received a confirmation that she has been exposed to a curse, she will call her neighbours for **ell mam**. An animal will be slaughtered, and a small calabash with water will be sent around to the participants. Each participants will take a sip of water and then spit it back into the calabash. The participants will see that the cursed has truly remorsed by performing this act. By their common sipping and spitting of the same water within the same calabash, the other participants simultaneously give a blessing to the cursed person. This is **ell mam**, and through this action it is believed that the **ngilam** will be suspended. Afterwards the slaughtered animal is consumed and proper relationship between the cursed and the curser will be established.

It is also possible to perform **ell mam** by spitting water on a cursed person laying on the ground. After the spitting of water, the bowels of the sacrificed animal will be opened, and the content of the intestines, i.e. the grass that is not completely digested, will be smeared on the person in order to cleanse him. **Ell mam** can in this respect be looked upon as a combination of cleansing and blessing. The person sprayed with water will be blessed by the persons spraying the water.

A person that has been caught red handed performing some witchcraft activities may conduct **ell mam** as a sign of remorse.

#### 7.3.8.2 Death and burial sacrifices

The first thing to do after a person has passed away is to slaughter a goat, a female goat for a women, a male goat for a man. If the departed was an old woman who has given birth to many children, the goat to be slaughtered must also be an old goat that has given many off-springs. If the deceased was a young woman, a young goat is slaughtered. The burial regularly takes place only some few hours after death has occurred. This goat is called **eth ci bijetu** (**eth** = goat and **biji** =

blood). The content of the intestines is smeared on the people attending the funeral in order to cleanse them. The meat of the goat is eaten by the persons who have dug the grave and other participants. The relatives are not allowed to eat the meat of **eth ci bijetu**. The grave is circular or rather semi-circular about one meter in diameter. The body is buried with bent knees and arms, i.e. in lie of the foetus, facing to the east.

The proper funeral rituals take place sometime later, i.e. from some few days up to a month, i.e. when relatives and others have been properly called. At this occasion a bull, **nyepinyot** is sacrificed. The relatives are now allowed to eat the meat, but for them the meat must be cooked. The guests eat the meat roasted.

#### 7.3.8.3 Other sacrifices

Didinga do not, as e.g. the Toposa, offer bulls at the graves of their forefathers. Bulls are generally offered either at **nyakerehet**, at places where funerals take place, or by the big holy trees when planning a cattle raid, **atik eeta-hetta**. The Didinga do only slaughter bulls at important rites or celebrations where the more regular are: **nyepiyo**; **lohocula**; funerals; and initiations, **thapaninit**. But there are other important sacrifices as well.[61]

**Borinit** is a sacrifice where a goat or a sheep is slaughtered in order to appease god, for example when blood has been spilled during a fight, or when a stranger enters into a newly cultivated garden and in this respect may bring evilness onto the crops. **Borinit** is performed in order to bring the evilness out of a situation, event or a relationship. When a person returns from a long journey, he has to perform **borinit** in order to prevent himself from bringing some evilness back with him which could be implanted among his relatives and friends.

**Todonginit** is a most important sacrifice wherein which a bull is offered for a very old and "immobile" person, **bokot**, usually a grandmother or grandfather who are

[61]In sacrifices both rams, bulls and he-goats may be used, but while he-goats and bulls are interchangeable, this is not the case with rams. For some sacrifices or for some payments to **ngarita**, it does not matter much if a goat or a ram is offered, but in **thapaninit** and at **nyakerehet** only he-goats or bulls are to be used. At these occasions a big he-goat can even equalize a bull, but this is never the case for a ram. The Didinga regard the goats to be *clever* than sheep, i.e. the goats are hardier and more adaptable, and therefore a he-goat is hence considered to be more valuable than a ram. But the higher value attached to goats, is, I believe, also related to two other facts: goats, as cattle, are important suppliers of milk, and goats have been a part of the Didinga livelihood since time immemorial whereas sheep were more recently introduced.

of the age that they are soon expected to die. The old person will ask for a sacrifice from a young men from the same family. This is conceived to be a very happy occasion, but not religious in character. The **todonginit** sacrifice is performed to show respect toward the elders. For the person contributing the sacrifice, this occasion has, however, some ritual implications as he will be receive a blessing, **aturak amuta**, from the elder. As **aturak amuta** is the last blessing that old person will give, it is considered to be particularly strong. The blessing is given in the form of saliva which the elder either spits directly on the giver's face, hand, head, leg or any other place, or the elder may spit in his own hand and smear the saliva on some part of the donor's body, head or limbs. This blessing is supposed to bring prosperity and good luck for the future of the person contributing the sacrifice. The daughter of the old person will on a later occasion brew beer to the contributor in order to reciprocate.

## 7.4 SUMMARY: THE DIDINGA WAY OF LIFE

The various sociocultural factors described in presentation above can be said to be components of the "Didinga way of life". To go a bit into detail regarding this matter, I will apply the three concepts, **nyepite**, **nyatal**, and **ngirian**.[62]

**Nyepite** is the broadest concept among those three. Analytically, **nyepite ci Didinga** can be conceptualised as the "sociocultural programme" that governs the Didinga way of life: it implies the totality of Didinga customs and traditions. It encompasses the Didinga basic cultural codes and the organisations and institutions necessary to maintain and continue their way of life. **Nyepite ci Didinga** enlightens people about all important social phenomena, and it instructs people on how to behave in any social context. **Nyepite** covers every aspect of Didinga livelihood, and it is particularly salient when important rites related to birth, initiation, marriage and death are performed. **Nyepite** also includes all social taboos. The Didinga have, according to their own beliefs, inherited all their cultural patterns from their forefathers. While some patterns are conceived of as being guided by god, others are really of genuine human origin. **Nyepite ci Didinga** is of outmost concern to the people as the only adequate way to avoid any natural or social disaster is to live in accordance with **nyepite**. The Didinga accept and adhere to their customs (**nyepite**), but if anyone should abuse them, evil will surely befall upon both him and his family. It is the elders who punish the

[62]All these terms and their connotations are borrowed from the Toposa (see e.g. Kitonga 1985: 39-47).

offender. Regarding minor offences, the culprit will commonly have to pay fines in the form of *sacrifices*. The sacrifices consist regularly of either beer-flour or by killing an animal. The sacrifice is always prescribed by **ngarita** or the elders, and the proper sacrificing rituals are always supervised either by **ngarita** or the elders. Although it is offered to the ancestors or god, it is, for the greater part of it, consumed by the elders. If the offender follows the verdict of the elders, he is apologised and will be wished good luck. If the culprit does not accept the punishment ordained by the elders, they will put a curse, **ngilam**, on him. Such a curse may lead to his death. For more serious offences, e.g. witchcraft, incest or sodomy, the offender may, especially if he has committed the offence before, be killed. Making sacrifices and behaving well towards the elders are very much **nyepite**.

Typical customs belonging to **nyepite** are, for example, **lohocula** and **lohouli**. **Lohocula** is the ritual that is performed when a boy pregnates an unmarried girl. It implies that the boy (or rather his father) has to pay six cows and fifteen goats to the girl's parents, and one bull to be slaughtered for the **lohocula** ritual. Although this is basically regarded as a happy celebration, to break such a custom is considered a serious offence. This may happen if, for example, the boy does not have the necessary means to pay.

**Lohouli** is when a man kills a person by accident, e.g. during a hunt. He then has to compensate to the family of the deceased man with his own sister who will then replace the departed in the family. In the case the killer does not have a sister, he has to pay in the order of about 15 heads of cattle (or approximately the same as the bride price).

All sacrifices are part of **nyepite**, and besides these regular "apologetic" sacrifices connected to particular offences, the Didinga *must* offer sacrifices whenever **ngarita** or elders tell them to.

**Nyatal** (pl. **nyatalwa**) is a culturally described way of performing a particular activity, but it may also include objects or sites which are set aside for ritual use. **Nyatal** is something that is greatly feared or revered, for it is very sacred. If the father of a family dies, his close family must shave their heads, this is **nyatal**. **Nyatalwa** also refers to forbidden things. No one can eat a stalk of sorghum from a garden before the yield is ripe, this is **nyatal**. All **nyatal** activities have serious negative consequences if they are done by a wrong person or if the rules and

regulations connected to them are broken. A sacrifice is **nyatal** for it is prescribed or advised by the **ngari** who represents god. **Nyatal** is strictly and directly connected to the spiritual world.

Many **nyepite** activities are typical **nyatalwa**, e.g. sacrifices, and in a broad sense **nyatalwa** may well fit in the **nyepite** since the latter covers all aspects of Didinga traditions.

While **nyatal** means *sacred*, **ngirian** means strictly and completely *forbidden*. **Ngirian** can be said to be the Didinga equivalent of *taboo*. Also **ngirian** belongs to the realm of **nyepite**. If a man kills another man (by accident or purpose), the killer has to run and stay away from home for about one year, or until compensation is paid and peace restored. According to the **nyepite ci Didinga**, it is strictly forbidden, **ngirian**, to kill a man that has run away. This is even valid if a man kills another man's brother. In a mood of anger and revenge, it is excusable if the brother of the deceased kills the offender instantly at the spot of the crime. If the killer, however, runs to hide in a far away place, then nobody, according to **nyepite chi Didinga**, are allowed to follow him there to kill him.

But **ngirian** does not have to be that dramatic. If for example the **ngari** has instructed someone not to eat the meat of goat while being treated with herbs, you must adhere to this as to eat the meat is thence **ngirian**. If a protective charm is touched by somebody else than who it is meant for, this is **ngirian**, and evilness will befall upon him. A sacrifice must be offered to break the evilness.

The witches, **buyiak**, are the main enemies of **nyepite ci Didinga** as their principal aim is to destroy the Didinga community and culture. Witches notoriously abuse sacred rituals and sites, **nyatalwa**. They may, for example, excrete on sacred places, and they may eat parts of dead corpses. Witches can break the most serious taboos, **ngirian**, for example by having sexual intercourse with a sibling or an animal. As the witches constitute the most serious threat to **nyepite ci Didinga**, their activities must be controlled. The most important protectors of **nyepite** are the **ngarita**, the ancestors and the elders. The well-being of the Didinga community is utterly dependent on these persons fulfilling their obligations and commitments. Any abuse against any of these persons is an abuse against **nyepite ci Didinga**, and hence a threat to the people of Didinga as such.

I will now, lastly, mention two key features belonging to the Didinga sociocultural environment which, according to my opinion, more than any other patterns the **nyepite ci Didinga**. Those two are the "gerontocratic" and "communalistic" features. The reason why I chose them in stead of, for example, the conspicuous "male-istic", "bovine" or "kinship" features, are, firstly, that they are both utterly comprehensive, i.e. a great variety of other aspects can be sub-summed under these "headings", and secondly, they are, to me, the most explanatory when conceptualising the "inner logic" both at the level of the "operative system" and the level of the mode of adaptation. The gerontocratic and communalistic features are not, of course, independent of each other. Quite contrary, they exist together as two sides of a coin: it is the elders who ideologically and practically protect the communalistic features, and it is by riding on the back of the communalistic features that the elders carry their prominent position.

The gerontocratic features are pervading every part of the Didinga universe. They are conspicuous both when it comes to the social "infrastructure" and the religious/ideological "superstructure". The elders closeness to the ancestors, their ability to curse and bless, their role as instigators of punishment and rewards, their control over the age-set system and over sacrifices, and their control over cattle and land, all point in the same direction. The ideological content of **nyepite ci Didinga** are carried in the minds of the elders. The practical fulfilment of the Didinga livelihood is carried on their shoulders. **Nyepite ci Didinga** is not possible without the elders. Therefore, they must be listened to; therefore, they must be respected; therefore, their power is rarely challenged.

The communalistic qualities are as important as the gerontocratic features, but they are not that prominent. While the latter can be observed empirically in most social contexts, the former become evident when analyzing the land tenure system, the district and sub-district parliaments, but most importantly when comprehending the **nyepite** ideology. In **nyepite ci Didinga**, altruism, collective behaviour, obedience and respect are presented as the major virtues which any individual should strive for. It is stressed that the Didinga have a common heritage and a common destiny, and that social harmony is the best way of securing the livelihood for each and anyone. Didinga ideological values and social structures, hence, leave little space for individualistic qualities. Individuals with particular properties are respected, but within narrow limits. A war leader can be given particular permissions under an attack, but limited only to that. The chiefs introduced by the British have still a very limited authority, and would

have no authority at all if they operated against the elders within their chieftaincies. A man who regularly spears bulls at the age-set meetings is much respected. But if he spears bulls in excess, his extravagancy would embarrass the others and put them in debts. Individualism in Didinga is a threat to **nyepite**: individualism is witchcraft.

# III

## CONCLUSIVE PART:

## RATIONAL ADAPTATION

# CHAPTER 8

# RATIONAL PEASANTS AND TRADITIONAL AGRICULTURE

I consider economy as a subdiscipline of - yes, almost anything else. It is insane to turn us economists into 'wise men'. We just try to quantify that tiny part of existence which altogether can be quantified. And that is not much. And if we at all have some value as economists, then we continue to emphasise that sociology is much more encompassing - and important. *And even more important is then societal comprehension, anthropology, ethnology, culture in its widest sense*
(Gunnar Myrdal, my italics).[63]

## 8.1 INTRODUCTORY REMARKS

### 8.1.1 On rationality.

In the conclusive chapter of this presentation I will raise a discussion on rationality and traditional agriculture. As I conceive it, Didinga farmers are utterly rational producers, and their economic system is coherent and efficient. This does not imply, however, that the conception of rationality I conceive to exist among Didinga farmers is of the same character as the conception of rationality applied by Western economists, in particular the conception of rationality applied by economists belonging to the neo-classical school. I will in the first part of the chapter discuss this neo-classical conception of rationality. Further, I want to analyse how this school addresses the role of culture in economic rationality. I will then present a more "culturological" approach to rationality, and will, in this connection reflect on the controversy between the "formalist" and "substantive" schools in economic anthropology. Lastly, I want to describe the factors that create rationality within the Didinga economic system. I should add that when discussing rationality it is not my intention to enter into the philosophy of science debate between "rationalists" and "empiricists" dating back to Plato and Aristotle.

[63]Gunnar Myrdal to the Danish newspaper "Information" in 1973, repeated in the obituary in the same newspaper 19. May 1987 (my translation).

The conception of rationality which I am in quest of is a conception that enables us to grasp the logic underlying the activities of individuals producing and reproducing their physical and metaphysical (spiritual) livelihood in a particular environmental setting at a particular time. In this sense, rationality must be both contextually and particularistically conceptualised. This does not imply that my conception of rationality is entirely *relativistic*. It is a *universal* fact that individuals produce and reproduce their mode of livelihoods within particular environmental settings at particular times. The *universal* aspect of rationality can also be related to the fact that all human beings basically live in the same natural environment (on the same earth), and that they, fundamentally, possess the same physical capabilities and psychological faculties. All human beings are part of a common and shared network of human existence, implying that any individual is somehow linked to any other individual. The social or geographical distance between any two persons may be short or long, the connection may be direct or indirect. When indirect, the connection can run through one or many persons. Any particular rationality will thus be *relative* (adaptive) to the local setting and at the same time a part of a universal pattern of rationality. As any particular rationality is moulded by both natural and sociocultural factors, rationality must in addition be comprehensively and holistically conceptualised, i.e. rationality must be contextualised.

The main feature of this discourse is rationality as a human capacity to adapt (see John March 1986, 8.3, below). From these initial considerations it should be recognised that this conception of rationality is oriented towards the actors, i.e. it is not the *etic* rationality of the scientist which is at stake, but the *emic* rationality the author perceives to exist among the subjects of his research, interpreted from their social actions, i.e. behaviour, and their values and beliefs. It is not uncommon to confuse the two perspectives and commit analytical errors as we can never escape the methodological problem that when analyzing rationality, it will be the scientist, in his dual capacity as a supplier of premises of judgements and as an interpreter, who ascribes (or inscribes) rationality (or irrationality) upon the subjects of his study. This methodological problem is particular to the social scientists since we as "outside" observers of men are human beings ourselves and therefore able to enter "inside" the experience of the people we are studying.

### 8.1.2 On neo-classical economics

With a considerable part of my analytical attention linked to the economic system of the Didinga, it could, in many respects, have been natural for me to apply a

micro economic/neo-classical approach both to methodology and theory. I have not done this, and I will in the following paragraphs illustrate how my apprehension on both the subject matter of economy, the conception of rationality, and the importance I place on culture direct my approach in a different direction than the prevailing conventional economic approach, i.e. the neo-classical approach. The intention of the neo-classical versus cultural theory discourse is hence twofold, to illuminate what I conceive to be the short-comings of neo-classical economics applied on "traditional"[64] agriculture, and to present, as an alternative, a cultural approach to the comprehension of agricultural systems in "traditional" communities.

Agriculture has long before the economic classics such as Malthus, Smith and Ricardo been a central topic within economics (see e.g. R.W. Clower 1988). Neo-classical "agricultural" economics has existed as a specific theoretical discipline within economics since the Keynesian area. Economists belonging to this tradition have elaborated sophisticated theoretical refinements, advanced models and intriguing methodologies to handle agriculture as a field of study. So, when presenting my own views and thoughts, it is not my intention to underscore the influence and importance of the achievements of economics when it comes to agriculture as a field of study. What I want to do is to discuss some of my personal reflections on the agricultural economics tradition regarding peasant rationality and agricultural production in traditional societies, and simultaneously present alternative lines of thought. Even though I am using the rather imprecise label "agricultural economists", I am fully aware of the fact that behind this label is hidden a variety of economists that more correctly could have been called "development economists", "political economists" or "neo-classical market economists". As already stated, I will focus my attention on the neo-classical economic approach to agricultural economics.

## 8.2 RATIONAL ECONOMIC MAN

Rationality, the core feature signifying the "economic man", lies at the very basis of neo-classical economic theory. This does not by any means imply that it is easy to grasp any individual economist's conception of rationality. As will be

[64]When applying the term "traditional" both regarding agriculture and societies, I simply point to settings where agricultural production is basically organized along kinship lines, where production to an overwhelming degree is geared towards subsistence, and where the technical equipment for agricultural production is simple, mainly based on human manual labour.

discussed later, there seems to be some confusion among economists on how to tackle rationality both as an axiom, a theorem and a methodological problem. An initial constraint to a jointly shared conception of rationality among neo-classical economists stems probably from the fact that among this broad category of economists, we do not find a common definition of the subject matter of economics or the actual content of economy. While some economists delimit the field of economy to typical monetary or material economic behaviour and monetary economic institutions, others have a much broader apprehension to economics and economic behaviour. Alfred Marshall, even though executing his most important works more than half a century ago, is still influencing the milieu of "monetary" neo-classical economics to the degree that I will choose him as a representative for this approach. Marshall perceives economics as the study of "that part of individual and social action which is most closely connected with the attainment and use of *the material requisites of wellbeing*" (Marshall 1938: 1, my italics). Marshall's science of economics is, according to himself, comparable to other social sciences also studying human motivation and social actions, but diverges from them in that economics has a degree of accuracy lacking in other social sciences. This accuracy stems from the fact that economics may apply the methods and tests of the physical sciences due to a measurable instrument, a common denominator - money. Both pleasures and pains can approximately be measured in terms of money (Ibid.: 15), and as "money is general purchasing power, and is sought as a means to all ends, high as well as low, spiritual as well as material. Thus... 'money' or 'purchasing power' or 'command over material wealth' is the centre ('the subject matter', my comment) around which economic science clusters" (Ibid.: 22). "The *reason d'être* of economics as a separate science is that it deals chiefly with that part of man's action which is mostly under the control of measurable motives; and which therefore lends itself better than any other to systematic reasoning and analysis" (Ibid.: 38-39). Marshall's economics is hence only applicable to monetary economies, or to what he denotes 'the modern world' (Ibid.: 40).

Gary Becker represents another approach as he does not restrict the economic approach to material goods or wants, nor to money or the market sector. Becker simply defines economy as the allocation of scarce means to satisfy competing ends (Becker 1986: 108-109). In this respect, he very much follows in the foot steps of Marshall's contemporary, Lionel Robbins, who, already in the 1930s defined economics as "the science which studies human behaviour as a relation between ends and scarce means that have alternate uses" (Robbins 1935: 16). According to

Becker (and Robbins), any behaviour involving the allocation of scarce resources to competing ends is economic behaviour. Consequently, there are no limitations to the subject matter of economy. In his analysis of economic behaviour, Becker therefore includes even (non-monetary) psychic costs. In addition, still following Becker, it is not assumed that the decision units are necessarily conscious of their efforts to maximise, a viewpoint of importance to the proceeding discussion. Becker's position is that the economic approach is applicable to all human behaviour (Becker 1986: 110-5).

Comparing Becker's approach with the "Marshallian" approach, we may draw the conclusion that also their conception of rationality are bound to take divergent directions. Since the object of Marshall's economic science, the economy, has a monetary (or material) content, he is indicating a form of rationality based on a material or monetary foundation. This further implies that economic rationality is not eternal and universal, unbounded and non-historical, i.e. that economic rationality is valid at all times and in all places. Economic rationality is only found in monetary economies, and therefore his disinterest for non-monetary economies.[65] Following Becker (and Robbins), the object of study for the economic science, i.e. the economy itself, has no content - economic science is hence reduced to a formal logical method. As form without substance, economy has become a type of individual behavioural rationality.

Despite Marshall's rather negative attitude to the mathematical treatment of economics (see e.g. Marshall 1938: 781-782) which has now become the prevalent direction within neo-classical economics, his approach with a "common denominator" - money - as the subject matter of economics obviously represents the mainstream view. But it must be added that the formal behavioural approach has quite a number of followers, and that this view has had quite an important impact on the "formalist" approach found within economic anthropology (see e.g. LeClair and Schneider 1968 and Prattis 1987).

Apart from the problem of defining a common subject matter of economics, we may also experience that there is some obscurity regarding the conception of rationality among "monetary" neo-classical economists. Only rarely is rationality

[65]This in not entirely true as Marshall in Appendix C makes an hypothetical example of "worlds" where they do not have private property of wealth ("as it is generally understood"), but where they still have possibilities for accurate calculations. "In such a world there may be treatise on economic theory very similar to the present..." (1938: 782).

explicitly defined in their works. Customarily we do, however, experience that they apply a "positivistic" conception of rationality deduced from a limited scope of observed human activity, namely individual economic transactions taking place within a market economic setting. Rationality is hence economic rationality observable as market behaviour (Hollis and Nell 1975, chap.2).

Neo-classical economists, in general, treat economy as the determining and dominant locus of human behaviour. Consequently, human behaviour taking place within the locus of economy will overwhelmingly influence human behaviour in other fields of human activity. For quite a number of economists alternative, non-economic, explanatory factors to human behaviour employed in economic models are almost nonsense.[66] A. Klamer and D.N. McCloskey launch a serious attack against their colleagues when arguing: "Economists are deaf on the job to history or philosophy; most of them yawn at talk of geography or psychology; they do not take seriously the incantations of anthropology or sociology; although they want to speak to law and political science, they do not want to listen" (1988: 4).

It may seem that if economies are obscured by extra-economic factors, many economists loose interest, or they do, as Alfred Marshall, not at all consider non-modern, non-monetary "savage" life as it is ruled by impulse and custom, and hence lies outside the locus of economics (Marshall 1938: 723). Savage life is non-economic as it is not rational, i.e. it is not following the laws of economics.

### 8.2.1 Rationality as profit maximisation

With his book "Transforming Traditional Agriculture", T.W. Schultz (1983, first published in 1964) has had an enormous impact on the interpretation and comprehension of traditional[67] agriculture and peasant rationality. Belonging to the "monetary" school, he applies neo-classical economic theory on traditional agriculture with the purpose of discovering a similar model of rationality among traditional farmers as among modern farmers. For Schultz, economies in traditional societies are comprehended as underdeveloped versions of Western economies. Although he does not employ the rationality concept explicitly and

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[66] W. A. Lewis, for example, strongly advised M. Scarlett Epstein to leave all the "sociological nonsense" to the anthropologists and to concentrate on the serious business of collecting economic data (Scarlett Epstein, 1975:29).

[67] According to Schultz:"Farming based wholly upon the kinds of factors of production that have been used by farmers for generations can be called **traditional agriculture**" (1983:3-4, my italics).

directly, underlying his "efficient but poor hypothesis" (Ibid.: 38) we rather easily discover the rationality of the "economic man", as for example in the statement: "It is not necessary to appeal to cultural differences to explain *particular* work and thrift behaviour because economic factors provide a satisfactory explanation" (Schultz 1983: 28). Farmers' efficiency ascribe to their motivation for profit maximisation. But why then is, according to Schultz, traditional agriculture traditional? Traditional agriculture is traditional because of lack of incentives to work more due to a very low marginal productivity of labour, and lack of incentives to save more, which, in its turn, is due to a very low marginal productivity of capital (Ibid.: 28). But "once there are investment opportunities and efficient incentives, farmers will turn sand into gold" (Ibid.: 5). While Schultz' "behavouristic" approach (e.g. farmers' positive response to external incentives) and his focus on investments and investment logic, i.e. market behaviour, is typical of conventional neo-classical theory, his advocacy for shifting from a partial to an all-inclusive concept of capital and his critique of other economists because of their neglect of human capital as a critical factor in growth (Schultz 1983: 186) is rather unconventional. In the prolongation of this argument, I will suggest that the major weakness of Schultz' hypothesis typically stems from his own partial or "reductionistic" approach by which agriculture is treated only as a source of economic growth (Ibid.: 4) and not as a part of a more comprehensive and holistic system of human livelihood. What I mean to say is that for a traditional farmer, agriculture is not perceived as a "source of economic growth" but as an important and integrated part of his "way of living". Schultz' narrow apprehension of agriculture has, of course, consequences for his perception of farmers' rationality. This can quite clearly be seen when focusing on his "flow" concept regarding agricultural growth. Instead of a broad sociocultural flow concept depicting agricultural development as a complex process involving a variety of historical, ecological, economic, religious and politico-military factors, Schultz' flow concept is a concept of income streams that are given quantitative dimensions per unit of time. When made accessible, the peasant, as an "economic man" will, more or less automatically, utilise the income streams efficiently (Ibid.: 75), and agricultural growth will be the result.

#### 8.2.1.1 Criticism

It is beyond doubt that Schultz' conception of farmers' "allocative efficiency" has had a great influence on the comprehension of farmers in traditional societies, and that his emphasis on education and economic incentives is of utmost importance for the rural poor. For this reason, his work has been much appre-

ciated and applauded. But it has also met criticism both from economists like e.g. Gunnar Myrdal, Frank Ellis and Michael Lipton, and from social anthropologists like e.g. Polly Hill. Myrdal (1968) argues that the focus on education is too simple, and that in developing countries there is an urgent need for institutional reforms (Asian Drama: chapter 28). Frank Ellis argues that Schultz is only focusing on one aspect of efficiency, namely "allocative efficiency", the adjustment of output and inputs to their relative prices, leaving entirely out "technical efficiency", the maximum attainable level of output for a given level of production inputs, given the range of alternative technologies available to the farmer. Schultz's proposition that peasant farmers are efficient in a pure neo-classical profit maximising sense is, according to Ellis, neither proven nor particularly insightful as it obscures variation and its causes, and as such the proposition does a disservice to the economic analysis of peasants: "if the average peasant is efficient, then the problems of farm households which depart from the average are overlooked." But the rejection of the efficiency hypothesis in its pure form does not imply that the entire theory of the profit maximising peasant should be abandoned as "a great deal of indirect evidence (...) reveals a strong element of economic calculations on the part of the peasant farm household everywhere" (Ellis 1988: 63-74).

Michael Lipton argues that Schultz' policy conclusion that "no appreciable increase in agricultural production is to be had by reallocating the factors at the disposal of farmers who are bound by the traditional agriculture" follows from "individual utility-maximisation only under perfect competition" (Lipton 1968: 327). So Schultz is, according to Lipton, arguing for something close to *neo-classical perfect competition (NCPC)*. But, Lipton asks, "can NCPC be applied to underdeveloped, climatically uncertain, subsistence, largely illiterate farming communities?" (Ibid.: 328). By the use of the theory of marginal value-product equalisation (MVPE) (i.e. that a peasant in traditional agriculture as a NCPC-optimizer must allocate productive factors so as to equate the marginal value-product of money in each use), Lipton illustrates that the assertion that under-developed cultivators "are efficient but poor" is mistaken. MVPE is (a) impossible under true (climatical) uncertainty; (b) even if uncertainty were reducible to risk, MVPE is not optimal for the peasants since "risk is abnormally large owing to the high rainfall variance, and of an abnormally severe outcome, starvation"; (c) even under certainty, imperfect factor markets, the role of taste in determining which crops are grown, different degrees of aversion to labour, different access to otherwise scarce factors, and the unification of production and consumption

decisions, combine to render MVPE impossible; (d) even with certainty and perfect factor markets, MVPE will be impeded by the framework of custom and law; (e) the secular constancy of environment, needed for learning any optimising algorithm, has been disrupted by population growth and (much less) by development planning; (f) the adoption of MVPE by each would still not be optimal for all: MVPE will be socially inefficient even if privately optimal (Ibid.: 330-332).

#### 8.2.1.2 The "Survival Algorithm" alternative

Lipton's theoretical alternative to the profit-maximising peasant in traditional agriculture "is an optimising peasant (who) seeks *survival algorithm*, not maximising ones" (Lipton 1968: 331, my italics). The survival algorithm "suggests why, in the identical environment of a village, peasant may develop and inherit various, yet rigid, patterns of farming. It proposes an explanation of 'rational', security-centred peasant conduct remote from the self-confirming tests of collinear production functions, but close to the farmers' accounts of their own conduct" (Ibid.: 348). With his concept of survival algorithm, Lipton hence describes an "inverse" type of rationality than the "efficient but poor" (or NCPC). The rationality described by Lipton involves the notorious uncertainty facing the traditional farmers, a factor which, so to speak, makes economic calculations from a profit-maximising standpoint "irrational", i.e. under certain conditions is it irrational to make profit-maximising economic calculations.

Polly Hill very much underlines Lipton's point (c) when arguing that "severely impoverished individuals, who exist in all communities...are necessarily inefficient if only because they lack the resources to set themselves to work effectively in either farming or non-farming occupations" (Hill 1986: 26).

### 8.2.2 Rationality as maximising expected utility

In conventional neo-classical economic theory, the concept of rationality is typically reduced to a "principle of methodological individualism" where there, per definition, exist no collective desires or collective beliefs (Elster 1986: Introduction, Hollis & Nell: chap.2). Samuel L. Popkin does characterise this attitude when he asserts that "by rationality I mean that *individuals* evaluate the possible outcomes associated with their choices in accordance with their preferences and values. (...) Finally, they make the choice which they believe will *maximise their expected utility*" (Popkin 1979: 31, my italics). This conception of rationality assumes two "absolutistic" preconditions: (a) *individuality* (and only

individuality), and (b) rationality as (and only as) *calculated, computational rationality*. The latter precondition is related to the fact that maximising *expected utility* is related to *risk*, i.e. numerical probabilities that can be attached to the occurrence of events which influence the outcome of a decision-making process (Ellis 1988: 82-83). Rationality can only be evaluated in terms of the outcome pattern of individual choices assuming *a priori* what the goals of each and any individual will be. But how to meet a situation where individuals have *conflicting* goals, a situation that is bound to occur in any social group? And what about a situation where individual goals can only be achieved through relationships and activities within groups, a most common situation in any society of human beings. Mary Douglas and Baron Isherwood attack the idea of the rational individual from a social and cultural perspective, arguing that the whole idea is an impossible abstraction since "it is clearly absurd to aggregate millions of individuals buying and using goods without reckoning with the transformations they affect by sharing consumption together" (Douglas and Isherwood 1979: 5). In a later work, Mary Douglas and Aaron Wildavsky reject the individual rational choice theory in general, and the notion of risk in particular. They argue that the exercise of rational choice must include an editing process where focuses, values and problems are selected, weighted and evaluated. But this editing process cannot be undertaken as a specialised risk exercise where risk is taken out of context. The notion of risk, employed as an individual notion, essentially decontextualised and desocialised, is, according to the authors, an extraordinarily constructed idea (Douglas and Wildavsky 1983: 73). According to their cultural theory, risk must be perceived as a social process to be comprehended "systemically" in relation to the social environment, the selection principles, and the perceiving subject (Ibid.: 6-7). When human beings perceive risk, they act less as individuals and more as social beings within whom social pressures have been internalised. The decision-making process is to a large extent delegated to social institutions which inform the individuals which rules to follow and which to ignore. Faced with endless possibilities, uncertain knowledge, and lacking consent; institutions function as problem-simplifying devices (Ibid.: 7,80).

Returning to Schultz and Popkin, we see that the main difference between the two is accountable to the perception of maximisation: where Schultz' farmers maximise profit, Poplin's farmers maximise utility. This change from profit to utility implies that the goal structure of each and any individual is accentuated: persons are considered to make decisions consistent with their personal objectives, they maximise their personal welfare or happiness (see e.g. Ellis 1988:

chapter 5). The personal objectives may, or may not, equalise profit. The intention behind the change from profit to utility is to enhance the explanatory power of neo-classical theory in various economic settings so as, for instance, to incorporate poor farmers in traditional communities with imperfect markets conducting their cultivation under uncertain climatic conditions. With the transformation from profit to utility, economy is no longer a particular field of study, instead it has become a modality of rationality (see Sahlins 1969: 16).

So, since Popkin does not delimit the validity of his approach to certain types of economies, or to specific historical periods, we must pose some questions: how are we going to relate this computational rationality to non-literate subsistence farmers facing extreme climatic (incalculable) uncertainty (which is quite often the case in tropical arid and semi-arid areas, re: Lipton, above)? And what about the condition of individuality in situations where extra-individual relationships (family, kinship, age-groups, religious and spiritual associations) at least to some degree reduce decision-making based on (and only on) individual beliefs and desires? And what about the social context and the history behind beliefs and desires? From where have the individuals received their preferences and values? What is the social context within which the encoding (enculturation) of preferences and values takes place? Which preferences and values are arising and which are disappearing, and why? From what sources have the human beings received the necessary information to calculate the expected utility, and how do the actual calculations take place? What, in the natural and social surroundings of an individual, affects his choices, and to what degree? The economist's answer to several of these questions are obvious: they are outside the realm of economics. But still we know that the answers to these question will have decisive influence on our economic choices. We can here argue with Jon Elster who says that acting rationally means more than acting in ways that are conducive to welfare: it also implies that the beliefs and desires behind the action have a causal history with which we can identify ourselves (Elster 1986: 15).

There are two major theoretical objections to Popkin's conceptualisation of rationality. The first regards the notion of "expected utility". Even if we accept the computational aspect of it, the notion still has limited analytical power mainly because it is self-evident. If a person was not to maximise expected utility, what could he then possibly maximise? Unexpected utility? or expected disutility? or unexpected disutility? If the notion of expected utility is not properly defined at each instance, as it is not done by Popkin, it conceals more than it reveals. The

second objection concerns the entire theory of rationality related to individuals making choices to maximise utility. I follow Lipton when he states: "that a peasant maximises utility - i.e. does what he wants to do, under given constraints - is a tedious tautology" (Lipton 1968: 329). Amaratya Sen expresses his dissatisfaction both with the conception of man in economic models as a self-seeking egoist and with the "rational behaviour" approach. The reason for the conception of man as a self-seeking egoist is that: "It is possible to define a person's interests in such a way that no matter what he does he can be seen to be furthering his own interests in every isolated act of choice" (Sen 1979: 91). Sen adds that the "rational behaviour" approach leads to a remarkable mute theory: "Behaviour it appears, is to be 'explained in terms of preferences, which are in turn defined only by behaviour'. Not surprisingly, excursions into circularities have been frequent" (Sen 1979: 93-94).

#### 8.2.2.1 "Rationality" vs. "moral economics"

Popkin uses his conception of rational peasant to launch a heavy attack on authors like James C. Scott, Eric Wolf, Joel Migdal, Karl Polanyi, and others because they, as "moral economists", focus on the relations between economic and social institutions (Popkin 1979: 2). As my theoretical approach is obviously affiliated with that of the moral economists, I feel obliged to scrutinise Popkin's argumentation in order to "defend" the moral economic standpoint.

By looking at the village from a moral perspective, the moral economists, in Popkin's opinion, fail to see that peasants are applying investment logic. Instead of the moral economists' focus on the risk averse peasants, Popkin concentrates on risky as well as secure *investments* (Ibid.: 19). Instead of focusing on "needs which are defined by his culture" as a peasant's starting point, we should focus on individual decision making (Ibid.: 17). Popkin's regard for investment logic and disregard for social and cultural factors in explaining peasant behaviour implies that individuals act in a non-contextual setting, or at least in a sociocultural vacuum. The consequence of his efforts to avoid cultural explanations and undress the moral economists is that he falls into the dogmatic ditch from whence he just states what it *is* to be rational. Rationality has hence become more of an article of faith than a scientific explanation.

Somehow, I believe, Popkin's attack on moral economists is based on a misinterpretation. Popkin argues that among the moral economists "it is assumed that such ("moral") communities are more human and protective than

are open villages with private property...", and further that "non market systems, based on a paternalistic ethos, are assumed to be more benevolent, humane, and reliable than market systems" (Ibid.: 6). The moral economists emphasis on the cultural foundation of economic behaviour does not the least indicate a kind of romantic society. Moral is, in any society, a major component of all social behaviour, and must not be confused with harmony. As argued by James C. Scott: "It is all too easy, and a serious mistake, to romanticise these social arrangements that distinguish much of peasant society. They are not radically egalitarian. Rather, they imply only that all are entitled to a *living* out of the resources within the village, and that living is attained often at the cost of a loss of status and autonomy" (Scott 1976: 3). It is fear of food shortages in communities living close to the margin that has given rise to the "subsistence ethic" underlying the morality of peasant societies (Ibid.: 2). Moral is obviously not only a typical feature of non-market economic systems. Moral is, and must be, an integrated feature of any economic system, even the highly industrialised market economic system. Without a moral that participants in an economic system could adhere to, the system would surely disintegrate. Obviously, Popkin points to an important creature within neo-classical economics, the genuinely "economic man". M. Scarlett Epstein argues that although the "economic man" has become an unfashionable topic, the model based on the idea is still fundamental to economics; "remove the assumptions and much of the superstructure of analysis will collapse" (Scarlett Epstein 1975: 32). Scarlett Epstein's solution to the partiality of economic studies is to propose a marriage between economics and anthropology with the purpose of breeding an offspring which would be a "new model of the 'socio-economic man' to replace the outmoded 'rational economic man'" (Ibid.: 45). An idea worthy of pursuit.

### 8.2.3 Culture in economic theory

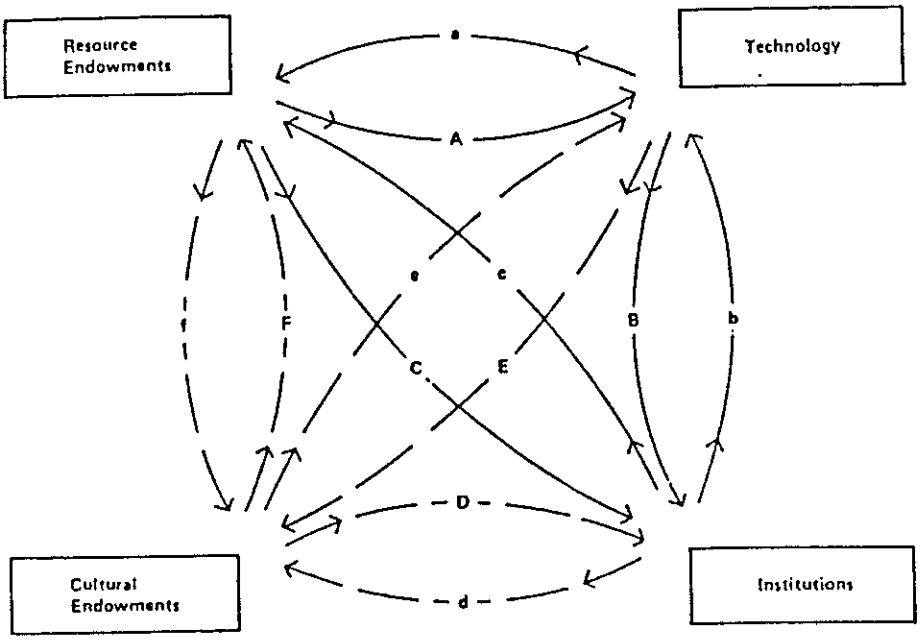
I conceive rationality to be a kind of ideational scheme bringing order and coherence to the sociocultural sphere of human livelihood. Rationality is hence encultured rationality giving sense to individuals in particular social "worlds". Individuals act rationally, but rationality, as such, is not to an individual behavioural matter. My main objection toward neo-classical economics is the cultureless economic man operating in a social vacuum. It is, however, worth mentioning that within the neo-classical tradition there has been an awareness among some of its practitioners on culture or cultural endowments as a necessary variable for the explanation of rational behaviour. Kaushik Basu argues that even if it is widely maintained in economics that rational behaviour (preferential

behaviour) on the part of individuals can sustain the efficient functioning of an economy, in reality much of human behaviour is shaped by moral, customs and social norms. And further, that individual adherence to certain norms may be a necessary element in many economic models (Basu 1984: 5). Basu strengthens this argument by adding that "once we allow for norms or customary behaviour, we are able to appreciate many features of society without having to construct artificial 'economic' arguments" (Ibid.: 7). Regrettably, in the later chapters of his book, moral, norms and customary behaviour typically become non-existing topics. Except, to a certain degree, for the last, concluding chapter where it is said that social institutions and custom can affect the functioning of an economy by setting up barriers to mobility, and custom may impede innovation (Ibid.: 179).

Y. Hayami and V.W. Ruttan (1985) have presented a broad explanatory model for induced innovation (see fig. 8.1, below) pertaining to agricultural development which, they claim, goes beyond the conventional equilibrium model.

**Fig. 8.1:** Hayami and Ruttan's model of induced innovation.

FIGURE 4-3. Interrelationships between changes in resource endowments, cultural endowments, technology, and institutions.




From Hayami and Ruttan 1985, fig. 4-3, p. 111.

The model includes four classes of endowments, resource endowments, technology, institutions and cultural endowments. Each class is interrelated with

the other classes, and each class changes in accordance with changes in the other classes. One advantage of this "pattern model" is that it helps to identify areas of ignorance ("residual factors"), for example the relationship between cultural endowments and either technical or institutional change. In conventional economic theory both resources and institutions are treated as exogenous variables to economic change. The main motivation behind both Hayami and Ruttan's general theoretical approach and this particular model, is to treat technical change and institutional innovations as endogenous variables in economic change, i.e. institutional change is treated as an endogenous economic response to changes in resource endowments and technical change. Although they have not found a proper role for culture neither in economic change or in institutional innovations, they still "insist on the potential significance of cultural endowments..." (Hayami and Ruttan 1985: 111-114).

The utility of this model in economic analysis could have been immensely enhanced if, initially, some theoretical considerations had been clarified. Firstly, the authors should have specified for what analytical level the model is applicable (individual, household, nation, or other). Secondly, the different parts of the model should have been properly defined. The same also goes for the interconnections of the different parts. How, for instance, do cultural endowments influence technology, or institutions, or the utilisation of the resources? What is, actually, the relationship between cultural endowments and institutions? Does kinship, family and religion belong to the institutional or cultural "box", or to both? Do tenurial arrangements belong to culture, institutions, technology or resources? And what is meant by cultural endowments? The only clue that Hayami and Ruttan give regarding the last question is that culture is conventionally designated as "tastes" (Ibid.: 111). In the later chapters of their book, the whole model seems to vanish in the haze, and we are left with a conventional economic description of the development models of Japanese, American and West European agriculture which the authors believe to be of "particular interest for the less developed countries as an illustration of how technological and institutional development have been employed to achieve economic diversification in agriculture" (Ibid.: 437).

In a later paper, Vernon Ruttan resumes the cultural perspective as he has "little difficulty in accepting the view that cultural endowments, including religion and ideology, exert at least some influence on the supply of institutional innovations. Cultural endowments make some forms of institutional change less costly to

establish and impose severe costs on others" (Ruttan 1987: 250). So basically for Ruttan, cultural endowments may have positive or negative effects on the economic activities because cultural endowments can make innovations more or less costly to implement. In the case of Japan, cultural endowments (traditional pattern of co-operation) have "acted to shift the supply of institutional innovations to the right" (Ibid.: 250). Cultural endowments are clearly seen as secondary, subsidiary or subordinate phenomenon to the more superior economic explanations. Ruttan does not make any prescription on how cultural endowments could be included in economic analysis, he does not even define what should be included among the cultural endowments (except for religion and ideology), and when discussing culture, Ruttan briefly and superficially mentions a definition used by Tylor and Boas (Ibid.: 256), collected from Kroeber and Parsons (1958). Ruttan is of the opinion that even if a lot of ethnographic studies are available, there are in particular two major obstacles to drawing on anthropology for an understanding of the relations between cultural endowments and technical and institutional change. Firstly, ethnographic studies have avoided embodying their interpretation either in a historical context or in a contemporary political and economic context. Secondly, the intellectual fragmentation (the many different "schools") within the discipline of anthropology. Somehow, it seems that the second argument chokes the first, for, typically, among the many schools in anthropology one may certainly discover schools with broader historical, political and economic interests (it should suffice to mention the various materialistic/marxist schools). As Ruttan judges the utility of social science from a clearly economic perspective stating that "the value of social science knowledge is that it offers the possibility of lowering the cost of institutional change" (Ibid.: 263), it is astonishing - having for example Harris' "sacred cow" in mind (Harris 1978: 211-233) - that he draws the conclusion that materialist anthropology has so little to offer in helping to understand the impact of cultural endowments on technical or institutional change, or on the growth of resource endowments. Ruttan's efforts to include cultural determinants in development theory ends up in a general consideration that if interpretive (i.e. "Geertzian") anthropology successfully continues to pursue an agenda that will in time enable us to more adequately identify the sources and impact of cultural change, it will become feasible for anthropologists and economists to collaborate in incorporating the role of cultural endowments into economic development analysis and into institutional design and reform (Ruttan 1987: 265).

To conclude this discussion I believe that in spite of some sporadic and rather half-hearted efforts by a limited number of neo-classical economists to include cultural factors as a part of the analysis of peasant rationality, it will be correct to conclude that, generally, culture is not, and has not been, a part of the neo-classical rationality paradigm. In reality, neo-classical economic rationality is a function of a psychological conception of individual human behaviour. Consequently, the neo-classical conception of rationality can only transmit an abbreviated version of peasant rational behaviour.

## 8.3 CULTUROLOGICAL RATIONALITY

Is there a high-grade alternative to calculated rationality and thus an alternative "interpretation" of farmers' behaviour in traditional (as well as modern) societies, useful for my purposes, readily available? I believe there is, and further I believe that John March (1986) has been able to present the alternative in an almost adequate manner. March discerns between *calculated* ("neo-classical") and *systemic rationality* where, in accordance to the latter, sensible action is taken by actors without comprehension of its full justification. In contradiction to calculated rationality systemic rationality is not intentional, i.e. behaviour is not understood as following from a calculation of consequences in terms of prior objectives (March 1986: 150). Following March we may differentiate between three models of systemic rationality: (1) *adaptive*, (2) *selective*, and (3) *posterior rationality* (Ibid.: 149). Before going a bit more into detail on adaptive and selective rationality, I will briefly mention that *posterior rationality*, which emphasises the discovery of intentions as an interpretation of action rather than as a prior position, to a large extent coincides with Geertz' ideas within "thick description" in interpretive science. "Conceptualisation is directed toward the task of generating interpretations of matters already in hand, not toward projecting outcomes of experimental manipulations or deducing future states of a determined system" (Geertz 1973: 26).

*Adaptive rationality*, ("traditional rationality") as presented by March, emphasises learning from experience by individuals or collectives. The adaptive models have the property that if the world and preferences are stable and the experience prolonged enough, behaviour will approach the behaviour that would be chosen on the basis of perfect knowledge, i.e. tradition and prolonged experience in a stable environment replace perfect knowledge. Learning from experience normally has properties that permit sensible adaptation to drifts in

environmental or taste attributes. By storing information on past experiences, adaptive rationality permits the efficient management of considerable experiential (empirical) information (March 1986: 149).

To enhance the analytical power of our conception, we may combine the adaptive model with the selected model of rationality in which "rules of behaviour achieve intelligence not by virtue of conscious calculation of their rationality by current role players but by virtue of the survival and growth of social institutions in which such rules are followed and such roles are performed. Selected rationality focus on the extent to which choice is dominated by standard operating procedures and the social regulations of social roles" (Ibid.: 149). At this stage, we have, I feel, missed the bull's eye by only a fraction of an inch. A narrow miss mainly caused by the fact that a theory of culture has not been engaged in the target designation. So, to reach the aim of achieving a workable conception of rationality we need to employ cultural explanations since men, as individuals are "cultural artefacts" (Geertz 1973: 51). It is only through culture we can understand other people, or as Geertz puts it: "Understanding a people's culture exposes their normalness without reducing their particularity. (....). It renders them accessible" (Ibid.: 14). While we in John March's models find few openings for individuality, Geertz explicitly emphasises the individualising role of culture stating that becoming human is the same as becoming individual, and that we can only become individual under the guidance of cultural patterns (Ibid.: 52).

To summarise this paragraph, the conception of rationality which I perceive to exist among traditional farmers includes two componential and integrated parts: systemic rationality which gives the educational and social regulatory framework for social decision-making and actions, and a theory of culture explaining how culture shapes separate individuals. We could add that Douglas and Wildavsky have presented the idea of "bounded rationality" where social pressures (or values), incorporated in the minds of the individuals, may be systematically included in the decision-making analysis. The social environment (e.g. social institutions), internalised in the chooser, imposes constraints upon his choices and sets boundaries on the range of feasible alternatives (Douglas and Wildavski 1983: 77). Quite interestingly, this conception of rationality implies that the environment exists partly within and partly outside the individual.

Prattis (1987), very much engaged in the controversy between anthropologists and economists regarding the conception of economic rationality, has employed

*situational logic* as a concept to demarcate a socio-cultural approach to rationality. Prattis' situational logic very much covers the same analytical reality as does the combination of March's adaptive rationality (learning from experience by individuals or collectives) and selective rationality (the social regulations of social roles). Situational logic focuses on the *actor-situation matrix* where the actor's position within any socio-cultural structure is examined in terms of his access to and control over information and resources. Since the situational logic for each actor will vary, decision-making can follow a number of alternative paths which will be rational for the actor. Economic profit maximising/ utility maximising strategies may be one particular rational strategy. The problem of rationality lies in specifying the conditions whereby one strategy is chosen. The actor's view of the situation and its implication for action are given in the cross cutting of his life history with his location in social structure (which will determine the accessibility to information and resources). So, situational logic is simply the framework for choice and action that is given by the actor's position within a social structure in terms of his access to, and control over resources and information, i.e. individual rationality is related to the particular location of an individual in a social structure and his prior experiences.

## 8.4 ECONOMY AS A CULTURALLY-MEDIATED FIELD OF HUMAN ACTIVITY

### 8.4.1 Formalists versus substantivists

That my conception of rationality diverges from the neo-classical conception is, as can be seen from the line of arguments above, not only connected to the concept of rationality as such, but also to divergent apprehensions regarding the "subject matter", i.e. economy and economic activities. Economy is, as I perceive it, an analytical concept demarcating a set of concrete activities and institutions that serve to organise the production, circulation (exchange) and consumption of goods and services in a community. The economy is thus the locus of economic activity. But what does this statement imply?

Within the field of economic anthropology, there has for decades been a controversy between two theoretical directions, the "formalist" school (including R. Firth, R. Burling, E.E. LeClair jr, and F. Barth) with its close affinity to neo-classical economic theory, and the "substantivist" school (including K. Polanyi,

M.D. Sahlins and R. Dalton) with some attachment to a more materialistic approach to economic theory. While the formalists consider economy to be a field encompassing a specific aspect of all human activity, i.e. "economising", the substantivists treats economy as a field of specific activities, i.e. the process of provisioning society. A common weakness with both schools is that neither of them are able to delimit a specific economic field. The formalist define the scope of their study as encompassing all decision-making behaviour generated by the relationship between ends and scarce means with alternative uses. There is hence neither a particular "material" field nor even a particular field of behaviour that is genuinely economic. Among the substantivists, economy is treated as internal to, embedded in, society. They assert that economy concerns the process of materially provisioning the society, but they do not define the components of the process (see e.g. Scott Cook 1973: 27-28).

### 8.4.2 Interlinking economy with society and nature

Both the substantivist and the formalist schools exhibit two major weaknesses, neither single out a specific economic system within the society, and neither are explicit on the relations between economy and ecology. To enable us to see the "articulation" between economy and its social and natural environments, we need a set of adequate analytical tools. Since I believe that Scott Cook has done a nice tool-collecting job, I will follow his analytical progression, and start by presenting his view on economy: "*The economy is a culturally-mediated field of a human population's activity in which its members interact with their physical and social environment in the calculated attempt to acquire, directly or indirectly, a living*" (Cook 1973: 29, author's italics). To avoid any confusion regarding "calculated attempt", he expresses that it implies that economic activity entails a rational weighing of alternative courses of action or a rational readjustment of given means to obtain certain minimal ends. *Rational* (my italics) does not imply that actors are making decisions in accordance with any universally operative maximisation principles, but simply that they are pursuing ends coherent among themselves ("systemic rationality"), and are employing means appropriate to the ends pursued. Cook argues that the definition above is designed to emphasise that the economic field is a process consisting of component processes, i.e. activities which individual members in a given society undertake and which are empirically identifiable. "The individual members...perform roles in a social structure and behave in the economy through 1) the appropriation of materials from the natural environment, 2) the transformation of these appropriated materials, by the use of tools and labour power, into utilizable products, and 3) the

transfer and use of these products. The plans, choices, and calculations which are considered or made with direct regard to these acts...are also within the economic field of study" (Ibid.: 30-31). Further, and very much in line with Marx (see e.g. Marx 1973: Introduction in "Grundrisse"), Cook argues that what emerges from this processual analysis is a sectoral model of economy comprising three separate yet interdependent sub-sectors, production (including appropriation and transformation), transfer (exchange), and utilisation (consumption). Distribution is, in this sense, an overall process integrating these sectors as a circular flow system and articulates this system with the larger sociocultural system (Cook 1973: 31). Among these sectors (or processes) production is the master category in the sense that it is through production the economy is integrated into both the social and natural environments. How? "On the one hand, production integrates the ecological and economic fields through its intimate relationship with technology: it is the direct processual link between the economic field and the natural environment. On the other hand, production, through its intimate link with work organisation and ideology, is a principal nexus of articulation between the ecological/economic field and the sociocultural system. And, of course, men's relationship to the production process -...-determines their relationship to each other in society, as well as their relative share in the total product of their society" (Ibid.: 39). Technology is hence the core element within the production process. At the social level technology determines population density, settlement patterns, material wealth and socio-political integration (see e.g. Steward 1955: 40-42). At the economic/ecosystem level, the articulation between nature and society is mediated (communicated) through technology (see also Ingold 1986: 6-7).

Employing this analytical approach, we experience that economy describes a rather precise sociocultural subsystem. This subsystem exists side by side, and is partially overlapping other sociocultural subsystems within which other types of activities, analytically depicted as, for instance, political, religious, or juridical, are performed. Bennet and Tumin distinguish between six types of "cultural" activities that all groups share in common: *biological, procreational, socialization, economic, juridical* and *religious*. As the authors perceive these types of cultural activities to represent the "functional prerequisites" of continuous social life in any human group, they speak of them as "cultural imperatives". Their hypothesis states that these six classes of activities represent not only what various groups the world over actually do, but also what they have to do in order to survive and continue as human groups. Further, their hypothesis contends that the ability to achieve any of these ends in an adequate manner depends on the

adequate performance of all other five ends. The authors explicitly recognise that the function of these "prerequisites" must be comprehended within the limits of nature and culture (Bennet and Tumin 1964: 9-21). These "cultural imperatives" may obviously be accused of as belonging to a "functionalistic" tradition within the social sciences where the utilitarian functions of cultural institutions and activities have been given more weight than the ideational or cognitive aspects. We find similar type of ideas presented by Parsons and Smelser. They conceptualise society as a social system that has attained a high degree of self-sufficiency in terms of meeting the requirements of four "functional prerequisites" each represented by a social subsystem; adaptation (corresponding to the economic subsystem), goal gratification or attainment (corresponding to "polity", the political subsystem), latent pattern maintenance and tension management (corresponding approximately to the legal subsystem) and integration of the value system (corresponding to what we may denote the cultural subsystem) (Parsons and Smelser 1964: 16-19). It is quite interesting in what manners these two authors explain the precedence of the cultural subsystem before the other subsystems: "The role of the cultural value pattern is analogous to those modern machines which approximate 'thinking' processes. The institutionalized value patterns are analogous to the *basic* "programme" or set of instructions which are "stored" in the machine's 'memory.' In response to more specific 'information' fed in, the machine performs a series of operations to arrive at particular results" (Parsons and Smelser 1964: 69). Culture is here seen as the operating system of a computer, processing the information fed into the machine from the other subsystems.

It is fundamental both to Bennet and Tumin and Parsons and Smelser that economic activity is not treated as *the* human activity, but as a "partial" type of activity depending on co-variation with other "cultural" activities. Parsons and Smelser argue that although economy may be analysed as a social system with its own contingencies, it is wholly and fully a part of the total social system, and dependent on the three other subsystems for its functioning: "the society and economy, articulate in the following way: the economy is that part sub-system of a society which is differentiated with primary reference to the *adaptive* function of the society as a whole... It is what we mean by the assertion that an economy is a *functional* sub-system of a society" (Parsons and Smelser 1984: 20).

When we, for analytical purposes, describe the systemic coherence between various classes of activities, we talk about subsystems, and regularly label them as,

for instance, the political system, the religious system, the juridical system and the kinship system. This we do in order to distinguish the particularities of the activities taking place within the subsystems. Quite frequently, we also apply the concept "institutions" when we find some kind of regularities in behaviour patterns, and more or less clearly defined rules as how individuals are to behave when undertaking the particular types of activity. When conducting research we may, in practice, find it difficult to define what activities and what institutions belong to which subsystem. Sometimes we have to conclude that a given activity "belong" to several subsystems. This may in particular be the case in traditional societies. Godelier (1978-79) uses the concept "structural causality" regarding a similar analytical situation. This concept indicates that in traditional communities the different structural levels (economy, politics, religion and kinship) are so closely integrated that it is difficult to distinguish between economic, political, religious and kinship relations. The distinction between levels and institutions becomes entirely analytical. Following this line of thought, we must by necessity recognise that the economic system is, and can never be anything else than a subsystem existing in a situation of "structural causality" together with other subsystems in a total social context.

## 8.5 THE SOCIABLE PEASANT

In the discourse between a neo-classical, formalistic approach and a culturological, substantivistic approach to peasant economic rationality, it is, of course, not possible to state that one position is correct and the other is wrong. Two conditions will determine what position each and any researcher will take: what you want to "prove", and what will be your personal beliefs. I have in the presentation above outlined what I conceive to be the short-comings of a neo-classical approach and what I conceive to be the strength of a cultural approach. I will now sum up this discussion and, in addition, use a more tangible example to underline my arguments.

Neo-classical economics focuses on economising, and economising is a category of behaviour. This category of behaviour is extremely broad as all "rational" behaviour imply economising. The only form of behaviour that is not economic is "irrational", i.e. non-economising behaviour. It is, therefore, possible to argue that all rational behaviour is economic behaviour, or at least that economy is an aspect of all rational behaviour. What is then the origin of this rational, economic behaviour? From what sources stems the maximising behaviour?

From where comes the "rules of the game"? or are there no rules? As neo-classical economics presupposes free and autonomous individuals following their own individual goals, allocating their resources according to their own self-interest to gain maximum rewards, human behaviour is obviously not socially constructed. The most plausible option left for us to consider is that human behaviour is natural. The economist must, it seems, derive his assumptions regarding behaviour from assumptions concerning man's original nature. In the same way as man's inclination for maximisation is part of human nature, the individual is first and foremost a natural and not a sociocultural creature. This is exactly the way F.W. Walker perceives it when he claims that: "Anthropologists are focused on the community rather than the individual (...). The economist...derives the forms of economic behavior from assumptions concerning man's original nature. He begins by considering how an isolated individual would dispose his resources and then assumes that the individual members of a social group behave in the same way" (Walker 1942-43: 135). C. Ayres, an institutional economist, takes a radically different standpoint as he argues vigorously for the adoption of the cultural position in economics, stating that "Culture, the organized corpus of behaviour of which economic activity is but a part, is a phenomenon *sui generis*. It is not an epiphenomenon, a result of something else, explicable in other and non-cultural terms. It is the stuff of social behaviour, the universe of discourse of the social sciences, the aspect which the data of observation assume at that level of generalization" (Ayres 1962: 95-96). Ayres attacks both such "hedonistic" references to man's original nature, claiming that "Pleasure (...) is not a natural phenomenon like the 'five senses' of the physical organism. For every man it is determined by the social medium in which he lives," and the individualist perspective, where economists -when studying the activities in which men engage in getting a living - apply a procedure where they define "the problem on the individual level and then raising it to the cultural level by a sort of algebraic multiplications, the way a variable is raised to the *nth* power" (Ayres 1962: 96-97).

In neo-classical economics, whereas the individual is active, autonomous and innovative, the sociocultural system is passive and external. Or, as Sahlins puts it: "The individual is the actor and the society scene, a theatre of cultural elements disposable to the individual protagonist as the ends and means of his economical performance" (Sahlins 1969: 17).

In culturological economics, economy is a subdivision of the sociocultural order. It is a category of culture, namely that category of culture that is primarily concerned with the material life-process of a society. Economy belongs to society in the sense that it is encompassing the material and immaterial means a society employs to produce, distribute and consume the goods and services for its sustenance. A society's economy includes the technology and the processes it applies in its adaptation to the environmental conditions. Sahlins perceives economy as a mediator of culture in relation to nature. This perception makes it possible for him to see some similarities between a formalist (neo-classical) and a substantivist (culturological) approach as both types include absolute finality and determinate rationality. According to the first approach absolute finality and determinate rationality is related to the calculus of personal maximisation. According to the latter, this calculus is substituted with ecological selection, i.e. a society can not expend more energy and material in the process of exploiting nature than it extracts, nor waste in distribution more than it extracts. The identity between the formal rationality as economising and the substantive rationality as adaptation is nevertheless misleading: whereas *economising is a strategy of the maximum, adaptation is the achievement of a minimum* - the minimum required of a cultural system to meet the selective pressures that would decompose it; and whereas economising admits only one solution to any problem of resource allocation: 'the one best way', adaptation admits <u>any</u> way that works. Various degrees of resource exploitation falling short of the optimum are functional for the cultural praxis: "The adaptation to nature is not necessarily economical; neither is economy merely the adaptation to nature" (Sahlins 1969: 28-29).

From a culturological perspective the relation between individual and society is a relation of interiority "the individual is not thought independently of the society but as a member, inscribed in the society, and 'enculturated' in its practices" (Sahlins 1969: 19). By this, it is not meant that individuals do not have individuality. Individuals are purposeful, intentional and desiring, but they are so in a cultural context. Culture is a necessary condition for human livelihood. Culture, as claimed by Robert A. Paul, "has no power to do anything; only persons have that power. But people are powerless without culture" (Paul 1990: 449). Individual behaviour can only be comprehended in its social context. The rationality of the culturological approach is related first of all to culture as a conceptual scheme or as an "operating system" for human behaviour. Analyzing actual individual behaviour, acceptance of standards set by the society as well as

obedience towards the belief system is as important to understand the logic behind behaviour as is individual choice. Individuals, consciously or unconsciously, do what is considered to be the moral and customary thing to do. This is the logic underlying the empirical presentation of the Didinga case above.

## 8.6 A CASE STUDY FROM DIDINGA

To concretise the discourse above, I will focus the attention on a hypothetical case study from Didinga which will include, in a rather systematic manner, some of the most central analytical elements from the paragraphs above. Initially I will pose a rhetoric question that hopefully will be answered as we go by: If Didinga farmers operating within a particular mode of adaptation do not maximise profit or expected utility, what do they, if anything, maximise? Michael Lipton's concept "survival algorithm" gives us some insight to this question, but to maintain that farmers maximise survival is indicating a continuous struggle for life situation which is hardly how an average farmer within an average year performing average production activities perceives her or his situation. In addition the term "algorithm" indicates a model of arithmetic calculation which, I believe, is rarely found in traditional communities. When interviewing "ordinary" farmers in Didinga about the goal structure for the production process, the answers did not indicate a computational mind behind the various operations. As the farmers often put it, the aim of their "digging" was to fill the grainbins with a produce large enough to cover both the subsistence needs of the household and a surplus that could be marketed in order to pay taxes and to purchase some clothing or other items on the markets. For those few that had children attending school, some money was put aside for this purpose. Extremely few had any clear idea, or did explicitly articulate any wish about "investing" in agricultural production, that is investing in improved planting materials, better/improved equipment (for instance traction animals and ploughs). When planning the digging for the coming season, there were mainly four mechanisms that were decisive: the traditional knowledge and skills dating back to "time immemorial"; the experience from the last season; the perceived needs of the household/the perceived productive possibilities of the household (proximate consumer/worker ratio); and what the neighbours were planning. It became evident to me that agricultural production is very much a social action performed in a setting of common (public) ideas and values. Not one farm household made decisions completely on their own, or even largely on their own. The reasons for this are manifold, but some of the most typical can be mentioned: Firstly, within the

Didinga society there exist various sociocultural institutions, e.g. "father of land", "district parliaments", "neighbourhood associations", "councils of elders" (see chapter 7, above) and so on where the various steps within the production process are properly discussed and more or less decided over. Secondly, farmers belong to more or less formalised digging groups undertaking communal labour on each others fields. This sets clear limitations on individual decision-making regarding production as communal labour is culturally based on reciprocity, equality and symmetry. Thirdly, quite commonly each village, or hamlet, cultivates a huge common field where the various households have fields adjacent to each other. This implies that at the same time as each household evaluates how others are performing their activities, their own activities will be evaluated by those other households. Fourthly, there exist rather strong cultural mechanisms for social control, e.g. witchcraft, cursing, ancestral punishment, etc.. Entrepreneurs running their activities too far apart from what is regarded as being "customary" may be met by social sanctions. Fifth, since all land (even pasture) is perceived to belong to the large kinship groups (the clans), individual freedom of action will be restricted. The performance of intolerable cultivation practices by an individual may, in principle, result in direct physical expulsion or in social ostracism. An individual that acts far apart from social accepted standards may be blamed both for epidemics and droughts.

Does this lead to the conclusion that individuals are imprisoned by cultural constraints to the extent that no options for individual choices in reality exist? Not at all, but obviously the set of social and cultural constraints mentioned above funnel individual choice behaviour to the degree that it will keep in some kind conformity with a socio-cultural framework which is rarely all that detail specific. For any individual, the cultural forms will function as a guidance for his or her social actions, and it is through individual social action that cultural forms are articulated.

To illustrate how a rather complex decision-making situation involving a tremendous amount of options results in an "average" or "normal" enterprise pattern, I will use an imaginary Didinga farm household as an example.

**Table 8.1**: Possible options of choice for an imaginary Didinga farm family.

Variable no.:

| 1(a) | 1(b) | 2 | 3 | 4 | 5 | 6 | 7 | 8 | |
|---|---|---|---|---|---|---|---|---|---|
| crops | crop variety | fallow pattern | rotatation pattern | inter-cropping pattern | timing: planting | timing: weeding | labour organi-sation | field type | possible options |
| 7 | 17 | 3 | 3 | 5 | 3 | 6 | 2 | 4 | 97540 |

This table presents a very simplified image of the productive undertakings of a Didinga farm family as I have only considered some of the most common aspects of agricultural production and excluded others (e.g. land preparation and harvesting operations). The most important defaults of this presentation are, however, that the whole livestock sector has been left out. The same applies also for the off-farm sector and the domestic activities. I have, alas, found this necessary to facilitate the analytical purpose of this exercise.

To explain the findings presented in the table, let me go a bit more into detail on the different variables. Regarding variables 1(a) and 1(b) "crops" and "crop varieties", I have only listed the major subsistence crops such as maize (3 varieties), sorghum (3 varieties),[68] millet (3 varieties), leguminous crops (4 varieties), cassava (2 varieties), sweet potatoes (1 variety) and gourds (1 variety). In addition to these crops we will in reality find that a substantial proportion of Didinga households cultivate tobacco, sesame, hibiscus, carrots, cabbages, irish potatoes, tomatoes, onions etc. Regarding variable 2, "fallow patterns", only 3 various patterns (ratios of years production: fallow) are listed while the actual number of possible ratios are almost indefinite taking the fields in the various ecological zones into consideration. The variation within variable 3, "rotation patterns" (i.e. different sequences of crops both within a season and between season), and variable 4, "intercropping patterns" (different combinations of crops within the same field within the same cultivation season), are also extremely simplified. "Timing" of both "planting" and "weeding" (variables 5 and 6) are in reality continuous variables but are here divided into respectively 3 and 6 classes (early, medium and late for both variables multiplied with 2 weedings for variable 6). The "organisation of labour" (variable 7) for the various tasks to be

[68]It must be recalled that, according to Driberg (1927: 399), the Didinga can distinguish between at least 50 species of millet (i.e. sorghums and millets) by name and by favoured locality.

undertaken within the production cycle is a complicated matter involving several categories of personnel including even two separate forms of communal labour. In this analysis I have chosen to divide this variable into only two classes, individual or combined labour. An average Didinga farm family has a plurality of fields, some close to the homestead, some rather far away. The reasons for this are manifold but can mainly be related to two factors, food security and food preferences. Basically, we find that each farm family has fields in four different ecological zones: up in the Didinga Mountains, at the foot hills of the mountains, in the open savannah, and in the shallow valleys along the seasonal streams. Hence, on variable 8 I have included one field in each of the four zones. Even with this simplified version of the Didinga production system, we find that the farm family must choose between almost one hundred thousand options to end up with a system of production that will sustain their viability.[69] But still, observing a number of farm families in Didinga, we find a pattern of agricultural production with great similarities regarding the general production structure. Individual variation between farm families within the same locality, and between farm families in different localities are fundamentally related to size and composition of individual families, to micro-environmental factors, and to availability of certain types of land.

What factors explain this general, almost homogenous structure of agricultural production found in Didinga? What is the "rationality" underlying the farmers' action in the production process? Let us first assume that a conventional neo-classical conception of rationality may be applied, and see what the results would be. Referring to Ellis (1988: chapter 2), there are in neo-classical theory of farm production three kinds of relationships between farm inputs and farm outputs recognised as encompassing the "rationality" behind the economic decision-making capacity of the farmer: (1) *the production function*, where the varying

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[69]In a study of East African pastoralists Neville Dyson-Hudson depicts a model which in scale is even much more encompassing: "A herder operating in a realistic but simplified model of an East African savanna universe would - in reaching a decision at a given space/time co-ordinate - be manipulating at least nine parameters, as follows: grazing; browse; water; human safety; herd safety; sociality; control; transition feasibility from this site; transition feasibility beyond the next site. This list is quite conservative, although not an inadequate, scanning of a pastoral situation. But in the simplest binary model (yes/no) at $1x2^9$, a decision matrix would have 1014 cells; a simple three point scale of advantageous/indifferent/deleterious would have almost 60,000 cells (59,049); a not uncommon weighing of optimal/ feasible/marginal/risky generates over a quarter of a million cells (262,144); and a balanced five-point rating sensitive to the pressures of the unpredictability of savanna environments - say ++/+/+-/-/-- as corresponding perhaps to a judgement scale of optimal/ feasible/ marginal/risky/hazardous - would in principle leave the herder to grapple with nearly two millions options (1,953,125)" (Dyson-Hudson, 1980:183).

levels of output corresponds to different levels of variable input. The quantitative expression of the efficiency of the production function is MPP (the marginal physical product, i.e. the quantity of additional output which is obtained for each successive additional unit of input). To make economic sense, all production functions must satisfy two conditions: (a) the MPP should be positive, and (b) it should be declining (according to the "Law of Diminishing Marginal Returns"). The efficiency is measured by the relationship between the *price* of a variable input and the *price* of the output. It is not the absolute levels of input and output that is important but the ratio between them. (2) *The factor-factor relationship* (the "method" or "technique" of production: the varying combinations of two or more inputs required to produce a *specified output* (my italics). The optimum combination of inputs in economic terms is determined by the ratio of their prices where the optimisation problem is to minimise costs. The optimum, least cost, combination of inputs occurs when the ratios of MPPs for each input to units cost are the same for all inputs, i.e. one dollar used as input cost should give the same economic result for any input. (3) *The product-product relationship* (or "enterprise choice"): the varying outputs which could be obtained from a given set of farm resources. Maximum efficiency is here described by the PPF (the production possibility frontier) representing the maximum product combinations for a given level of input. The economic optimum choice of enterprises is determined by the ratio of output prices, and it occurs when the marginal value product (MVP = the "price" of MPP) per unit of a variable resource is equal in all enterprises ("the principle of equimarginal returns"). As Ellis remarks, there are some major flaws of this model: the consumption side of the farm household is ignored; only a single goal, short term profit maximisation, is explored; and only a single decision-maker, the individual farmer, is permitted. Adding to this argumentation, Levi and Havinden (1982, chapter 4) assert that the fundamental factor making conventional theory unrealistic is the assumed dichotomy between *firms* and *consumers*, a distinction that rarely exists in practice in African rural economy. Personally, I feel that if it should be suggested that the Didinga farmers were to operate according to the theoretical assumptions of neo-classical economics; i.e. that they are performing comparisons in pairs both of inputs and outputs and of their combinations with the 100.000 options in mind, this must by necessity imply an extra-ordinary performance of calculation abilities among the local farmers. And further, how are we actually to, using the table above, incalculate such essential characteristics as the fallow, rotation and inter-cropping patterns? As outputs or inputs, or as something else? My main objection is, nevertheless, that the conception of rationality underlying neo-

classical economics presupposes a "one-dimensional" man performing an extremely simple form of agricultural production including only a limited number of options. This is a situation we will rarely experience in reality, especially on the African scene.

Treating crops and crop varieties, cropping patterns, fields, patterns of labour organisation, livestock and so on, as economic means (which they obviously are), the Didinga "opportunity situation" is not characterised by relative scarcity, but by relative abundance. To comprehend how Didinga farm families (or e.g. East African herders) solve their productive puzzle, i.e. how they are able to collapse the large amount of possible options into workable, even rather homogenous, production systems sustaining the viability of the individual farm families, needs a great effort. To me, it seems that the most obvious way to go is to study their economy in relation to the ecosystem and the underlying sociocultural system. To achieve this end, John March's two models of "systemic" rationality (see 8.3, above), "adaptive" (learning from experience, i.e. tradition and prolonged experience in a stable environment replace perfect knowledge which again permit sensible adaptation to changes both in the social and natural environment) and "selective" (choice is dominated by standard operating procedures and the social regulations of social roles) (March 1986: 149) may be conducive. To give some indications of what this implies when it comes to actual analysis of the Didinga, let me quote Atle Sandnes who did fieldwork in Didinga in the last part of the 1970s: "One feature which has emerged is a very high extent of <u>conformity</u> between units of each community with regard to the agricultural calendar they follow, i.e. what crops are grown, and also what crops are <u>not</u> grown in the course of a particular year. Clearly, each unit decides for each year what to plant, when and where (within the limits specified by ecological conditions and the unit's access to land). But just as clearly, that decision is made in the context of an informal process of information exchange and discussion within the neighbourhood and community. This, it seems, amounts to a process of collective decision-making" (Sandnes 1979: 222-3, author's underlines).

## 8.7 SUMMARY: "SCHEDULED" RATIONALITY AND THE ECONOMY-ECOLOGY ARTICULATION

There exist, of course, both similarities and discrepancies in rationality between a modern, industrial ("capitalist") farmer operating within a market economic framework, and a traditional Didinga farmer operating within a subsistence

economic framework. The similarities relate, for example, to how both individuals operate in an *economy-ecological context* with technology as a communication system between the two parts. Further, the similarities relate to the fact that both are members of communities wherein which their individual decisions will partly influence, and partly be influenced by a larger decision-making system. A concept which exactly stresses the articulation between economy and ecology and emphasises the importance of technology as a mediator between the two, is "scheduling" (Flannery 1968: 75). Scheduling is related to decision-making within social groups where these groups receive information from both the social and natural environments. Scheduling implies weighing of relative advantages of two or more routes of action considering inputs from various sources. Theoretically, among some human groups, e.g. hunters and gatherers, the scheduling seems to be structured more significantly around local natural environmental factors as the articulation between their economy and the local ecological environment is both direct and instant, i.e. the scheduling can be said to be a more direct result of the local environmental factors. Consequently, the technology is simple and its application directed towards the immediate utilisation of natural resources for human consumption. Technology forms a direct relationship between man and nature. Among other groups, e.g. "traditional" Asian and Latin American peasants, the scheduling may be structured more significantly around typical sociocultural factors, i.e. patron-client relationship, the influence of ritual practices, a clearer social organisation of production etc.. So while the process of scheduling is common to all groups, creating, in a sense, a common foundation for comparing rationality between groups, the various inputs and their relative strengths create discrepancies in rationality.

Applying the concept of scheduling to explain the variation in rationality between a hypothetical/idealised Didinga farmer and a hypothetical/idealised capitalist farmer may give us some important clues as to some of the basic ideas distinguishing neo-classical economic theory from culturological economic theory. Starting off with the modern, industrial farmer, it will be correct to claim that even if he must schedule according to both local social and natural factors, scheduling is more significantly attached to exogenous, "a-social" and "denaturalised" factors. Both the input and the output of the economy-ecology articulation are determined by *prices*, a typical non-localised, impersonal and fundamentally abstract factor, established far beyond the farmer's personal control. His technical implements are manufactured by people he does not know

or have any direct contact with, and is purchased at a *price* determined by *invisible* market forces. As his technical instruments are not something the farmer collect from nature as raw-material and forms into tools suiting the particular ecological conditions of his locality, they entails the same property as the system itself, i.e. they are grossly de-localised and denaturalised. Instead of technology being something he puts between himself and the environment, he is caught in a "technological trap", i.e. he will be finished as a farmer if he does not apply the technology which is rational to the quest from the market. By applying various types of chemical and technical capital, i.e. factors belonging to economy in the economy-ecology articulation system, he can compensate for sub-optimal natural conditions, i.e. factors belonging to ecology in the economy-ecology system. This implies in reality that in the articulation between economy and ecology, the balance between the two can be tilted to the extent that the role of ecology is obscured or over-shadowed by the ever-increasing role of economy in the scheduling process. The vital importance of nature may, in this respect, be dismissed, resulting in ecologically non-sustainable practices. May be the most typical feature signifying the capitalist farmer is that his decision-making, which at first glance looks very private and individual, in reality is bounded up in economic and technological structures far beyond his personal control. In many ways he has the option, i.e. the "choice", of either adjust to the signals from the market, or "die". He has been alienated from the articulation between the economy and the ecology. In its ultimate consequence, it is possible to argue that prices have become the most lucid beacons that guides his behaviour as a farmer, i.e. prices constitute the most important part of the environment for his rational behaviour. It is exactly on this farmer's behaviour, guided mainly by this very particular type of information input, that the mainstream neo-classical economic model is founded.

Continuing now with the Didinga farmer, we immediately experience the difficulties in applying the neo-classical perspective as it is rather clear that the information inputs he employs in his scheduling are not drawn from the market, but from customary sources such as the local natural environmental factors, and from particular sociocultural sources related to kinship, age-organisation and the spiritual world. His technology (both its material and immaterial components) is typified by the localised character of the economy-ecology articulation, and is therefore endogenous and "home-made", signifying the direct relationship between the social and natural environment. The "scratch-the-surface" technical implements are used to manipulate nature without altering its basic features. The

Didinga perceives a oneness between himself, the society, nature and the spiritual world, and technology is meant to maintain this oneness. Breaking the oneness will, most certainly, imply that he will punished either by the society, by god or by the ancestors. The Didinga farmer appears,in this respect, very much in line with the general features of "African economic psychology" as described by the Senegalese researcher Madam Dia: "African economic psychology is generally characterised by powerful connections between objects, humans, and the super-natural...(where)...the quest for equilibrium with other human beings and with the supernatural is generally the dominant guiding principle... Typically, a higher value is placed on interpersonal relationship and the timely execution of certain social and religious or mystic activities than on individual achievements. The circumstances, and sometimes the ritual surrounding the economic transactions, are often more important than the principles governing these transactions. The value of economic acts is measured in terms of their capacity to reinforce the bonds of the group" (Dia 1991: 11).

Although comparable, and bearing several resemblances to schedules of farmers belonging to other social groups living under rather similar natural and social circumstances, the schedule of a Didinga farmer exhibits, because of the local foundation and idiosyncratic features of the information inputs, a rationality that is typical only to the Didinga society itself. The main exercise in comprehending the Didinga scheduling, and hence the rationality signifying the articulation between economy and ecology in that particular society, is to map, analyse and systematise all the important factors contributing to the general Didinga schedule. This has been the ambition of this presentation.

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