

Trade and Wadis System(s) in Muslim Sudan

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Dedication

This book is dedicated to my father: Soghayroun Elzein Soghayroun,
with a tremendous debt of gratitude.

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Preface

The Sudan belt that stretches from the east to west across Africa south of the Sahara includes sections of several political units, mainly the Sudan, Chad, Mali and Nigeria. These, in turn, include the regions formerly occupied by famous African Kingdoms, such as the Fung, Darfur, Wadai, Kanem, Bornu, Sokoto, Timbuktu, and Songhay. Despite these divisions and the rivalries that caused them, there seems to have long been a remarkably free flow of people and ideas along the Sudan belt, which still continues today (Barbour 1954:174).

This book deals with one unit of this stretch, namely the present Republic of Sudan, the largest country in Africa in terms of area, at almost 2.6 million square kilometres. This big region has a varied climate that is expressed in different ecological zones, vegetation and adaptations. The Sahara in the far north gives way to poor savanna, rich savanna and equatorial forests. The high mountains and the eastern desert are three different ecological zones, offering different ranges for exploitation. The terrain is generally flat plain, broken by several mountain ranges which make prominent landmarks; in the west the Jebel Marra, which rises to 3,042 m, the highest area in western Sudan and Jebel Meidob. Another upstanding area is the Nuba Mountains in Kordofan, which rises 600 m above the plain. In the south the highest mountain is Mount Immatong near the border with Uganda. These mountains are invariably associated with rock types geologically different from the surrounding country side.

This part of the Middle Nile is characterised by the presence of cataracts, the great bend, islands, big *Wadis* (seasonal and/or dry water courses) and the *Sudd*.

The Blue, White Niles and *Wadi* Howar (which was so extensive that it might well be known as Yellow River), the Atbra, *Wadi* al-

Muqqadam and *Wadi* al Melik offer water, food and settlement to travellers, and facilitate trade and human movement. Recent field work has shown that, even today, in the Wadi Howar, water and pasture are available seasonally and a well fortified site controlling access to the Nile suggests that it was known and used in the past. Darfur can be approached either from the west through the savanna or *Sabel* from Alwa (medieval Christian kingdom) or by the Wadi Howar, from Mukurra (medieval Christian Kingdom). The hills and mountains in Darfur, culminating in Jebel Marra 3088m are the water-shed between the Nile and Chad basins. These features will be discussed in detail in the first part of Chapter 1.

The Sudan, with its vast area, varied geographical zones and peoples presents a unique pattern of the archaeology of Islam in Africa. The people of Sudan accepted Islam during the 7th century CE through influences from both the north and the east and responded to the changes which have taken place in the Dar al-Islam. From the north, these influences, through Egypt, have been largely from Sufi sources and from the east, through the Red Sea coast from Sunni sources. This has affected the spiritual life of both the immigrant Muslims and the indigenous population who converted to Islam profoundly. The territory of the Sudan, as we know it, was never part of an Islamic Caliphate except during the period 1550-1821 CE, when the Sanjak (province) of Ibrim (the strip of the Nile Valley north of the 3rd Cataract to the 1st Cataract) and part of the Sanjak of Habesh (Suakin) were parts of the Ottoman Turkish Empire. South of the Sanjak of Ibrim was the Fung Kingdom, which preserved its independence until 1821 CE. Thus the architecture and other features we have come to associate with Islamic countries are not found in the Sudan. The rise of the al-Umari Emirates in the eastern desert, the Tunjur and then the Keira Sultanates in the west and the Fung King in the central part was the culmination of this slow process of Arab/Muslim migration.

The history and people of the Sudan on the eve of Muslim penetration will be dealt with in the second part of Chapter 1.

Throughout its existence, the Nile has been receiving water from now dry water courses or intermittent streams (Sing. *Wadi*, pl. *Widyan* or Sing. *Khor*, pl. *Khairan*). The *Khairan* are long, narrow depressions formed by erosion and serving as natural drainage for the rare events of rainfall from the desert to the Nile valley. The long ones have small tributaries which channel rainfall into large main *khairan*. Some are dry today but have evidence of moistened ground, like *Wadi* Howar, while others are still carry water during rainy seasons, like Wadi Muggadam, and Wadi Abu Dom. The water force in the latter can sometimes be very destructive. Others may carry water in heavy raining seasons like Khor Abu Habil, while in season with less rain the water disappears into the sand dunes before reaching the Nile. In the north, there are a few small watering holes, such as Bir Natrun, where the water table reaches the surface to form wells that provide water for nomads, caravans and administrative patrols. Chapter 2 discusses this *Wadi* phenomenon and techniques used by man to harvest water.

The savanna and the Sahel are largely open country across which it was easy to move. A characteristic feature of Sudanese society today is the widespread settlements of northerners throughout the towns and villages of the central and southern savannas. From before the Turkiyya the Danagla were among the most numerous and prosperous immigrants to Kordofan, closely followed by the Ja'aliyyin and outnumbered them in many areas during the Turkiyya (Bejerkelo 1989: 137). These pockets of northerners transmitted their culture, language, and religion to the host population. Wars raids famines (under the Fung, Turkiyya and the Mahdists), land scarcity, the positive picture of life and opportunities in the Diaspora, especially regarding trade, are among the reasons that motivated people to migrate. The success in the Diaspora was usually achieved via trade and, to some degree, by religious activities (ibid 139-140). The biography of Hamza Pasha

Imam provides an example of this movement (Hill 1967). Hamza Imam el-Khabir was a merchant of Darfur, his ancestors were Danagla merchants who settled in Kobbe. He and his brother, Muhamad Pasha, were already substantial traders before the Egyptian invasion of Darfur 1874, trading with Egypt by caravan along the 40-day road between Kobbe and Asyut. The Egyptian occupation of Darfur helped this trade and they helped the Egyptians. The trade items and traders of Muslim Sudan will be the topic of Chapter 3.

The earliest contacts between the Sudan and the outside world were through trade routes (Amin 1970: 23). Many rock inscriptions by caravan leaders have been discovered as far south as Semna. In each historical epoch changes took place involving the nature of the route, the means of transportation used, items of trade conveyed and trade centres where the caravan routes converged. This trade, trade items and the traders will also be discussed in Chapter 3. A review of trade items before Muslim penetration will also be discussed as there were certain items which continued to be highly regarded for long time. This chapter will also address the human factor of trade; the participants and contributors and how the relationship between them was organised.

It is not the intention of the author to narrate historical facts that explain the question of the book, but rather to combine geographical features (*wadis*) which cross uninhabitable lands but afford safe routes for traders in support of humans' everlasting search for better lives and secured food supplies. The trade routes which either follow edges of *Widyan* or cross many of them and the items that can be acquired through these routes are among the issues that will be discussed in Chapter 4. River trade was to some extent limited by the cataracts, during high-flood times and also in navigable areas of the Nile. The famous trading centers will be discussed in relation to the caravan routes.

The conclusions will analyse the outcome of this trade. Comparative studies have shown the existence of the same organisation of trade centres, towns or forts along caravan routes in different parts of the

world. Was ecological circumscription present? It is very obvious that no modern boundary in a modern sense existed as far as trade was concerned. Trade can be local, regional or international; and in each case trade was organised by local communities and by local or central figures in the state. Human migration can be driven by environmental factors also play a role e.g. wars, and the search for a better life. It is expected that further studies would explain the importance of boundaries in the interpretation of human societies. Time should not be divided (i.e. periodisation), as the caravan routes are and were the same through ages, commodities traded were almost the same for extended periods. It became obvious that human identities are affected by natural boundaries. We find among the traders, the Darfuri, al Dongolawi, al Khandaqawi and al Jabri, as people identifier, which can refer to a region or an ethnic group or a town.

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1

The Land, its People and History

The Physiographic Features of the Country

Arabic “Sudan” has a very wide meaning: the land of the blacks, which extended from the East African coast to the West African coast, and called the land of the Sudan, *Bilad al-Sudan*. In the 19th century to the name came to be restricted to upper and middle Nile valley after the conquest of the region by Egypt. A new province was created from Aswan southwards and called the Sudan. The name was later changed to Anglo-Egyptian Sudan and today the Republic of Sudan. It lies between latitude 21° 55’N and 3° 53’N and longitude 21° 54’E and 38° 30’E. The country is a vast area of about 1,000,000 sq. miles. Its territory borders nine countries; Egypt and Libya to the north, Eritrea and Ethiopia to the east and southeast, Kenya, Congo and Uganda to the south, and Chad and Central Africa to the west and southwest. The only natural boundaries are the Abyssinian massif in the east and the Nile-Chad watershed in the west (Map. 1.1).

The Sudan as part of Northeast Africa, shares with other countries its most characteristic feature, the flat peneplaned surface that dominates the area. This plain rises gradually from about 300 m above sea level in southern Egypt to about 800 m in the far south and west of the Sudan (Vail 1978: 3).

Map 1.1: The Sudan and Neighboring Countries



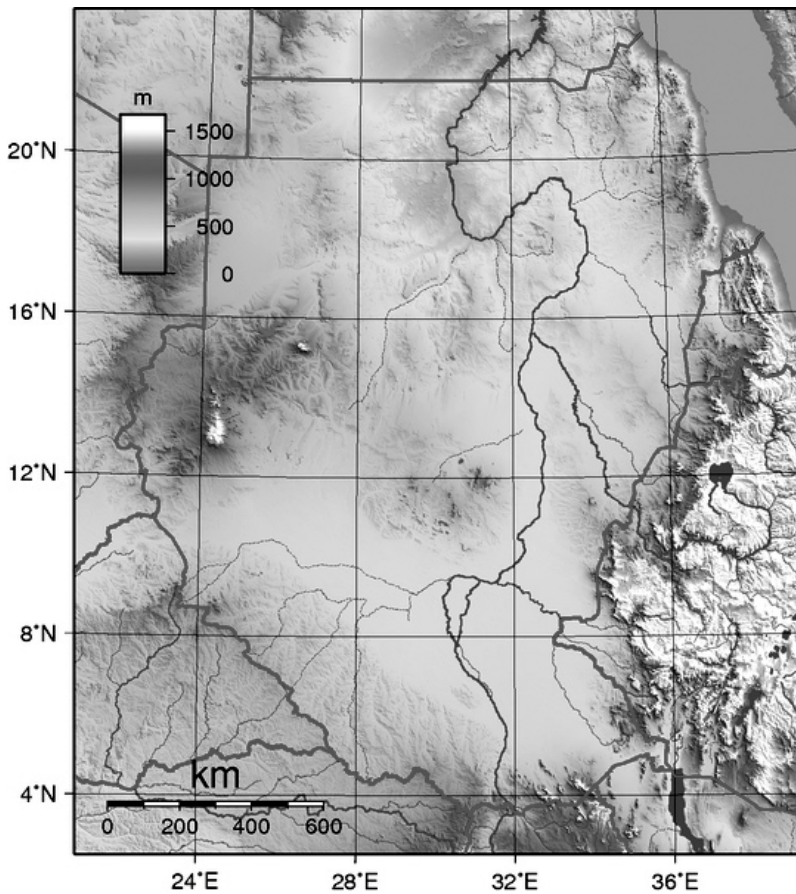
Along the Red Sea coast, a relatively narrow strip of hills no more than 200 km wide rises up to peaks over 2,000 m high. A narrow coastal plain up to 30 km wide borders the sea; it is underlain by young marine and lagoonal deposits which abut abruptly against the basement granites and metamorphosed sequences which make up the hills. The drainage divide between the Nile Valley and the Red Sea lines usually less than 50 km from the coast.

In the southeast the interior plains give way to the high plateau of Ethiopia. The main rivers flowing off these high lands, the Blue Nile, Atbara, Setit and Gash, have cut deep gorges, exposing the basement metamorphic complex and cover of Mesozoic sediment.

Southern Sudan and northern Uganda share high ground rising to over 3,000 m in Immatong Mountain near the border. These are formed by basement complex rocks which underlie the central plateau of Karamija, and west Nile in Uganda, through which flows the White Nile.

Western Darfur is another area of high grounds, formed by the volcanic masses of Jebel Marra and Jebel Meidob. Jebel Marra rises to 3,042 m, the highest point in western Sudan. Streams flowing from here drain southwest towards Bahr al Arab and the White Nile, or westwards by ways of Wadi Tiwal, Azum and Kadja to join the Chari and its tributaries flowing into Lake Chad. In previous times Wadi Howar and Wadi Magrur flowed northeastwards around the Jebel Abyod plateau to join the Nile at Wadi al Gaáb near Dongola. The drainage system is now completely blocked by sand dunes but the extensive drainage features both here and elsewhere in Northern Sudan testify to more humid conditions that existed in the 3rd millennium BCE. Throughout the central plains of the Sudan, isolated jebels rise above the peneplaned surface to prominent landmarks. These Jebels are invariably associated with rock types geologically different from the surrounding country. They are usually either granite masses or, as in the Ingassana hills in the Blue Nile province, the hilly ground is underlain by serpentine stone. Another upstanding area is the Nuba Mountain of southern Kordofan province. Here isolated granite hills and gneissic ridges rise about 600 m above the plain, the highest point is Jebel Dayir at 1,412 m elevation (Map 1.2).

Map 1.2: The Topography of the Sudan



The Sudan lies between the Tropic of the Cancer and the Equator, and thus falls entirely within the tropical zones. There is nonetheless a progressive change of climate from north to south, from the desert to semi-desert and to arid savanna, semi-arid grasslands to acacia bush (Soghayroun2004: 3). Since the climate ranges from extreme aridity of the northern part to the long rainy seasons in the south, the vegetation varies from barren desert to closed tall forests. The vegetation can be divided into seven principal types which, in general, form a consecutive

series from the north to the south. There is no abrupt line of division between each type, but outliers of one type push out into adjacent types as localised climatic, soil and topographical conditions make it possible (Andrew 1984: 33). In the desert the vegetation is extremely scanty and is generally found in depressions or in almost permanently dry water courses. To the south we find a acacia desert scrub region, followed by acacia short grass scrub region, acacia tall-forest region, broad-leafed woodland and forest region and finally the forests and swamps and grasslands (Plates 1.1, 1.2) (Appendix 1).

Plate 1.1: Acacia Trees



Plate 1.2: Dom Palm Trees

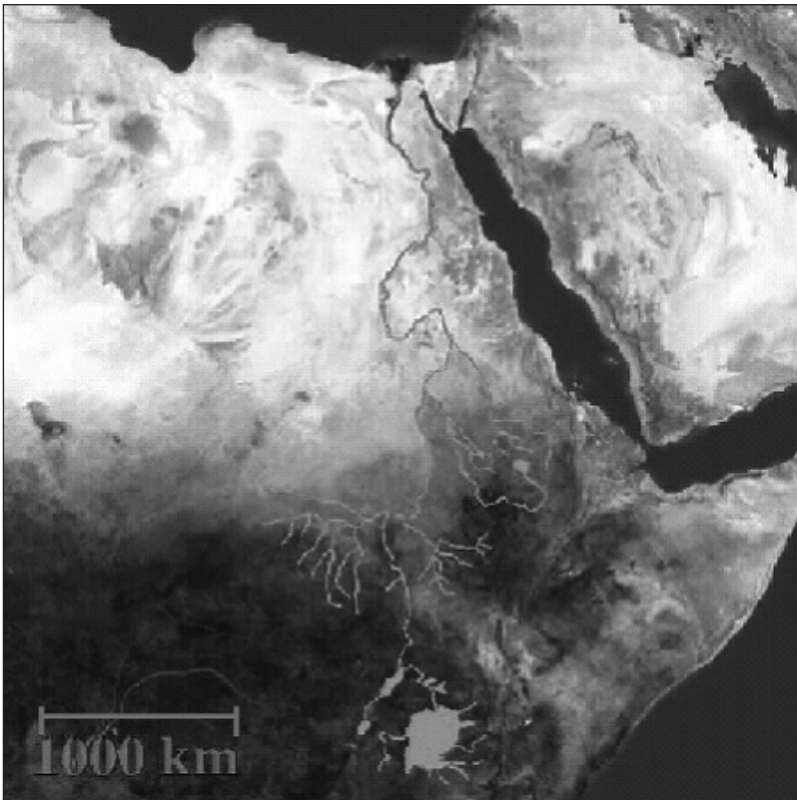


The amount of rainfall increases towards the south up to six months (June to November) and decreases towards the north, where it continues for about three months (July to September), and nine months in the south. The *Habooob* is sand storm in the dry regions, which can block out the sun completely. In the northern and western semi-desert areas, people rely on the scant rainfall for basic agriculture; many are nomadic, travelling with their herds of sheep and camels. Near the River Nile there are well-irrigated farms growing cash crops. The wildlife is variable and includes savanna animals like elephants, giraffes, lions, leopards, and ostriches etc and desert animals like oryx, addax and gazelle. Rich mineral resources are available in Sudan, including petroleum, natural gas, gold, silver, chromite, asbestos, manganese, gypsum, mica, zinc, iron, lead, uranium, copper, kaolin, cobalt, granite, nickel and tin.

The Nile River basin, which covers about one tenth of the area of the continent, served as the stage for the evolution and decay of advanced civilizations of the ancient world. On the banks of the River dwelled people who were among the first to cultivate land and use the plow. The basin is

bordered to the north by the Mediterranean; on the east by the Red Sea Hills and the Ethiopian plateau; to the south by the less well-defined watershed between the Nile, Chad and Congo basins, extending northwest to include the Marrah Mountains of the Sudan and the Al Jilf al Kabir Plateau of Egypt and the Libyan Desert. Besides making cultivation possible the River Nile is also a vital waterway for transport, especially when motor transport is not feasible. The Nile is formed by three principal streams, the Blue Nile (*Al Nil al Azraq*) and the Atbara, which flow from the high-lands of Ethiopia, and the White Nile (*Al Nil Al Abyad*). The fact that the Nile flows from the south northwards and floods at the warmest time of the year was an unsolved mystery to the ancient Egyptians and Greeks (Map. 1.3).

Map 1.3: The Nile Basin



The Nile and its tributaries dominate the drainage of the Sudan. The White Nile, coming from Lake Victoria enters the Sudan over rapids, but then passes through flat savanna country. For most of its course it flows north, except for one section of about 200 km between Lakes No and Malakal, where it turns sharply eastwards. It flows for several hundred kilometers through the swamps of the Sudd, emerging at last into bush savanna between Malakal and Kosti, then through grass savannah until its junction with the Blue Nile at Khartoum. Along its course it collects the waters of the Upper Nile, Bahr al Ghazal, Bahr al Zaraf and Sobat, to produce a regular water supply all year round. The Blue Nile and the Atbara River collect higher water from the Abyssinian Mountains and cause the annual Nile flood, which brings silt and forms the cultivable land on the Nile banks. It rises in June, rises to a peak in August and begins to decline in September. North of Khartoum and between the 4th and 5th Cataracts, the Nile executes a remarkable loop around the Bayuda Desert and flows southwest towards ad-Debba (Vail 1978. 4). The course of the Nile is entirely controlled by the underlying basement fold structure. When it enters Nimule it turns sharply left as its course controlled by the great Aswan shear zone. Then it crosses quaternary sands and silts until the Blue Nile joins it. From Khartoum it crosses the only outcrops of basement gneisses seen in hundreds of kilometres and, near Atbara, it cuts through crystalline basement gneiss. The Nile also cuts through a series of rapids (cataracts), the most important the 6th, the 3rd and the 2nd cataracts, though the waters of Lake Nasser now cover the latter.

The middle Nile Valley is characterised by the presence of six main cataracts, the great bend, the islands, the Sudd and the big Wadis. The cataracts are distinctive features of the River between Aswan and Khartoum and it has led to this stretch often being referred to as the Cataract Nile, while the downstream portion is occasionally referred to as the Egyptian Nile.

The cataracts of the Nile are shallow stretches between Aswan and Khartoum, where the water's surface is broken by numerous small boulders and stones on the riverbed. Measured upstream (from north to south), the 1st Cataract is near Aswan in modern Egypt and its length is approximately 6.5 miles, the other Cataracts are in Sudan (Plate.1.3). Some of them consist of three or four separate groups of rapids.

Plate 1.3: The Six Cataract



These cataracts were the main obstacles for boats sailing on the Nile in antiquity. Some of the cataracts, normally impassable by boat, become navigable during the flood season. Perhaps the first cataract acted at (A) group time as a deterrent to riverain trade; for it was towards the

close of the old kingdom the pharaoh Mernere ordered a channel to be cleared through it. They are described extensively by European writers, notably Winston Churchill in *The River War* (1899). Amelia Edwards in her book, *A Thousand Miles Up the Nile* (1892), describes the now submerged 2nd Cataract as over 16 miles (25.7 km) in length. In ancient times and until recently the 1st Cataract was the border between Egypt and Sudan (Plate. 1.4).

Plate 1.4: The 2nd Cataract Before it was Drowned by the High Dam



The five cataracts are not the only ones in the Sudanese Nile. On the Blue Nile there is al-Roseris Cataract, where a dam was constructed in the 1960s. It starts about 685 km southeast of Khartoum, and it extends 64 km southward. The White Nile enters the Sudan from Nimule, and from there to Juba - a distance of some 193 km, it is called the Al Jebel River. This section of the river descends through narrow gorges and over a series of rapids (about 161 km), the largest of which the Fula Rapid, and receives additional water from short tributaries on both banks. This rapid is known as the 8th Cataract and is about 1,770 km from Khartoum; it is not commercially navigable.

The *Sudd* is a vast swamp formed by the White Nile. It is the world's largest swamp, and provides a problematic expanse of lakes, lagoons, and aquatic plants, whose area in high-flood waters exceeds 30,000 square kilometers. Sudd is Arabic word which means barrier. It is such an obstacle to navigation that a passage was not discovered until the mid-nineteenth century. Its expansion into large area makes the rate of evaporation is very high, it loses more than half the water that enters from the White Nile.

At the great bend the Nile changes direction from south-north to east-west, and turns to flow westward for a good portion of its course before again turning to flow northwards to the sea. This deflection is due to tectonic uplift of the Nubian Swell over hundreds of thousands of years. This uplift is also responsible for the cataracts. Thus it is suggested that recent uplift of the Nubian swell diverted the Nile to form the great bend. As this makes the journey longer, routes were opened across the desert, some following the dry *wadi* tracks.

One of the distinctive features of the Nile is the high number of islands in both rivers and the Nile proper. On the White Nile the largest is the famous Gazira Abba of the Mahdi (33x4 miles) On the Nile proper the largest is Mograt Island which is about 33x5 miles. The large Islands are inhabited, as are some of the small ones. Some are used for cultivation, others used in antiquity for refuge during times of threat. (Soghayroun 2009: 81-82).

The Desert and the Sahel: The desert, or the Sahara (Arabic), of the Sudan is part of the Great Desert; the world's largest hot desert about 9,000,000 km² in size. Desertification is a serious problem in Sudan; there is also concern over soil erosion. Agricultural expansion, both public and private, has proceeded without conservation measures being taken. The consequences have manifested themselves in the form of deforestation, soil desiccation, and the lowering of soil fertility and the water table. All in all, some 500 000. km² is directly affected by desertification; what was a semi-desert region, between 14N and 16 N

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and occupying 350 000 .km² is now desert. The extension of the desert is not an encroachment from north to south. Rather, it is the expansion of human activities northwards. Destructive human activities include deforestation, overgrazing or cultivation into the fringes of the Sahara. Thus millet cultivation in the Sudan has been pushed about 200 km too far north (Leif 1981: 2-3) (Plates.1.5, 1.6).

Plate 1.5: Desert Encroachment, Old Dongola



Plate 1.6: Desertification in Process North of the 6th Cataract Region



Sahel is an Arabic word for coast, so if the desert resembles an ocean, it is reasonable to speak of its edges as coasts and their caravan towns as harbours. Its limits are not easily definable, "*it is the band where nomadic and settled, the white and the black meet, mingle without either having clear predominance*" (Oliver. 1977: 238). The Sahel is "*the zone between the Sahara desert and the savanna lands to the south*" (Grove 1978: 407). It is characterised by the strong seasonality of the climate with a short rainy season and a long intensely dry season. Conditions in the zone vary markedly from north to south regarding rainfall, and also over short and long periods of time when the rainfall varies. It is a harsh environment but it has some advantages for human occupation. The cores of several ancient states lay in the Sahel. The most prosperous areas are in Senegal, in the extreme west, and in the central Sudan, in the east. The Sahel zone from north to south starts with sand, wells and scattered oases. It is a zone of grassland, scrub and thorn brush changing northwards into the Sahara and southwards into savanna. This is followed by light grazing lands, then cultivable land with denser plant life. Crops include millet nearest the Sahel and sorghum and yam further south. Within this belt there are few natural barriers to the mobility of people and ideas between east and west.

The Sahel has provide the setting for the urban centers of several of the state systems of the past; ancient Ghana, Mali and Songhai, Kebbi, Bornu and Kanem, DarFur and the Funj states which existed for varying periods over the last thousand years, when the climate may, at times, have been somewhat less arid, but was probably not very different from that of the present day. The Sahel has had certain advantages for humans. It was a zone of relatively easy movement east-west and between the desert and savanna, for people on horseback or for people herding cattle. There are wells and rivers; the woodland is open and free of tsetseflies. Routes ran from the Senegal to the Nile, from Kano to Sennar, to Suakin and across the Red Sea to Jeddah. Traders carrying gold, slaves and ivory from the south met caravans carrying salt and Mediterranean goods from the north in Timbuktu, Gao and Katsina.

The People

The same diversity seen in the climate and vegetation of the Sudan is represented in its peoples. They can be divided according to three criteria:

Racial and linguistic

In the Nile Valley between the 1st and the 6th Cataract, at the eve of the Arab conquest, lived the Nubian people. Their main land was limited to the area from Dongola to Aswan. This type is preserved today in the Kenuz, mahas, sukkot, and Danagla. They speak today different dialects of the Nubian language.

South of the 6th Cataract, and as far as Sennar, was the heartland of the Christian kingdom of Alwa and then the stronghold of the Islamic Fung Kingdom. During Alwa Kingdom the language spoken or the physical characteristics are not yet known, but it was probably, like the Nubian, of mixed Hamitic–negro origin. From records it has become known that the area south of Kosti and Sennar have been occupied by the Nilotes groups (Shulluk, Nuer and Dinka), who are all pastoralists and cattle herders. The second group is the Nilo-Hamites which include the Bari, and various Latuko-Didenga - and Turkana-speaking peoples. They are chiefly herdsmen but also agriculturalists. The last group is the southern–western group (Azande), and tribes of iron-stone plateau, Bongo-Mittu and kindred groups (Seligman 1932: 47).

In eastern Sudan Beja-speaking Hamitic people live in the desert between the Nile, Atbara and the Red Sea hills. The main tribes are the Bishareen, Amarar, Hadendowa and Beni ‘Amir. They are classified broadly into three distinguishable groups. The first one includes the Bishareen and Amrar, who mixed with Kawahala and other Arabs; and the Hadendowa, who mixed with Kimmeilab, Shukriya and Jaáleen. The second group consists chiefly of the Tigre-speaking Bani ‘Amir, original from Hamitic stock, who mixed with the Semitic group. The rest of the tribes, which includes the Halenga, Humran and other small

tribes, are Beja, partly by blood and wholly by language and customs (Paul 1954: 18).

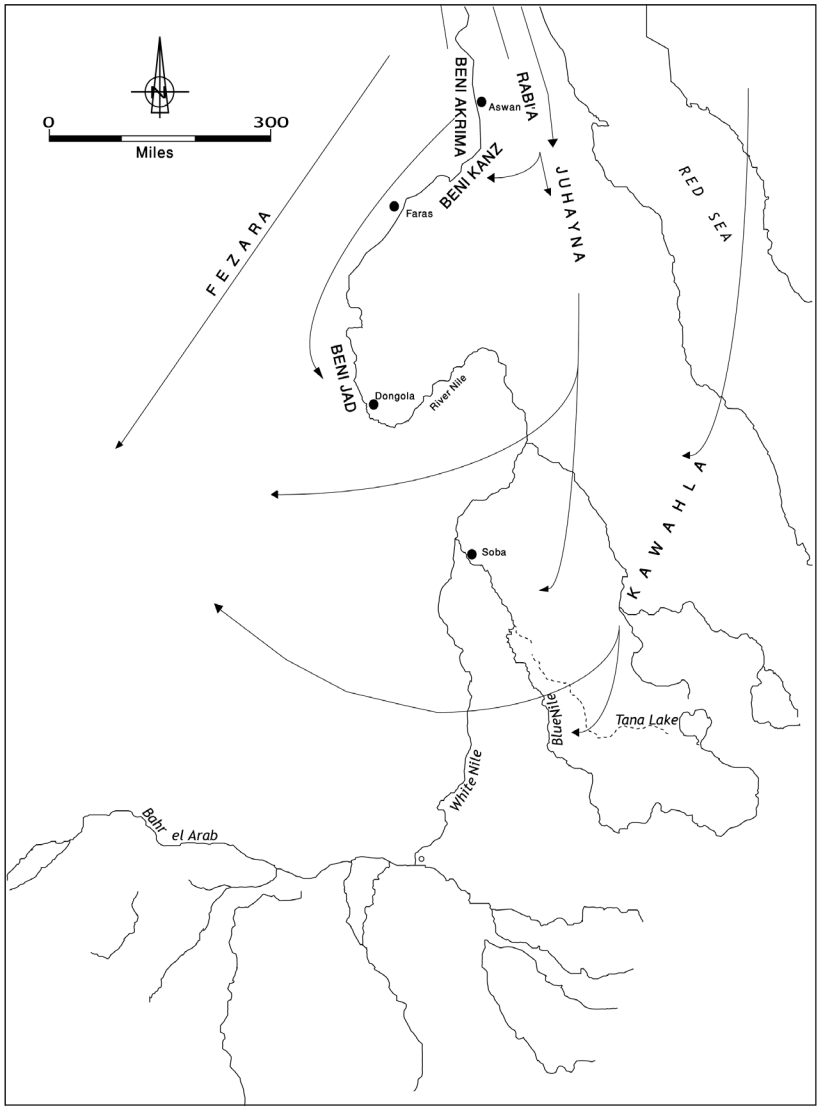
In western Sudan, little research has been conducted about the people who lived there before Islam. But it seems that the present-day Nuba Mountain people were descendants of the previous Nuba – speaking group. Other groups inhabit the isolated hills to the north, and they speak related languages. The southern hills and ranges of Kordofan had become a refuge for many tribes from the south, who differ in physical appearance, language and culture (Trimingham 1983: 34).

In DarFur the main tribes are the Daju, the Tibbu, the Masalit and the Fur. The Daju originally inhabited central Darfur; now they are scattered in Kordofan, Darfur and Northern Chad (Paul 1955: 9). They were thought to be Berbers (Arkell. 1951: 60), from far west Kanem, or from the Nuba Mountains (MacMichael 1912: 53). The Tunjur were thought to come from Dongola (Barth 1857: 429), or from east and north (Nachtigal 1971: 327). After conquering the Daju the Tunjur spread their power to Wadai. The Tibbu are regarded as northern Negeroid – Hamitic of the eastern Sahara, and include the Zaghawa, who still live on the hills of northern Darfur, and the Bedyat of the Ennedi High-land. The Masalit were and are one of the sedentary indigenous races who occupy the area between Wadai and Darfur and, like the Zaghawa, are spread between Sudan and Chad (Musa 1986:9).

Arab Immigrants

These are a series of groups who live west and east of the Nile who speak only Arabic. They include most of the camel nomads of Kordofan, the Kababish, the Dar Hamid, and Hamar. East of the Nile live the Shukriya, Bataheen and Rufaá. Today these groups practice both sedentary and nomadic lives. The desert has a unifying effect upon races that were originally distinct and their peculiarities have disappeared as a result of the their uniform environment they live in (Asher 1986: 24) (Map. 1.4)

Map 1.4: Arab Immigrant Tribes in the Sudan Adopted from Adams (1984)



The Arabised Peoples

Following the Arab conquest of Egypt, nomadic camel-keeping pastoralists from Arabia were encouraged to migrate to North Africa. Some groups moved by land, others by sea into the semi-desert pastures east of the Nile and other areas, and probably rather later, into the semi-desert west of it (Soghayroun 2004: 8). In the area between Aswan and ad-Debba are three main tribal groups who speak Arabic and Nubian. The Kenoz, who occupy the immediate vicinity of Aswan, were the first to be Arabised and converted to Islam. Most of them claim Rabi's ancestry but some have adopted the claim of descent from al-'Abbas, the uncle of the Prophet, which is common to the Jaáliyin. The second group is the Mahasi speakers, who occupy the area from Maharraqa in the north to Kerma in the south, who claim Khazraj ancestry. The third group is the Danagla, who occupy the area from south of the 3rd Cataract to ad-Debba. They claim descent from al 'Abbas. South of ad-Debba were the Jaáliyin (Jaáliyin, Shaygiya, Rubatab, Manasir, the Merfap).

In Kordofan live the Dawalib, Jawabra, Bedairiya, Jawama and Shuwihat, who left the Nile in the 16th century and settled in Kordofan. The Jawamá settled in the neighbourhood of al Rahad. In the early 18th century a group of Zaghawa migrated to the hills north of Kagmar and settled there.

In eastern Sudan there are today four main tribal groups who speak Beja as well as Arabic: Bishareen, the Amrar, the Hedendowa and the Bani 'Amir. Other minor groups are the Halenga and 'Ababda.

The History

The earliest evidence of human presence in the Sudan goes back to 300,000 years ago, covering the Paleolithic and extending through the Mesolithic eras at 8,000 BCE and the Neolithic 5000-3000 BCE. Between 3700-3000 BCE a more complex society developed between the 1st and the 2nd Cataracts. It is the culture known as A Group. A group

is famous for its eggshell pottery. Around 3000 BCE Egypt's attention was directed to its southern borders in a search for raw materials and products of Sub-Saharan Africa. This resulted in the establishment of settlements near Buhen (2nd Cataract region), contemporary with the flourishing of Kerma civilisation at 2500-1500 BCE around the 3rd Cataract region. During the Egyptian Middle Kingdom the territories were pushed further south of the 2nd Cataract, where a series of forts was established to control trade. During the New Kingdom the Egyptian presence stretched deep into the country - it represented the first organised colonization of the country (c. 1500-1100 BCE). By the 10th century BCE a local family established itself around Jebel Barkal and Meroe. Around the 8th century these settlers had the power to conquer Egypt and they ruled the region up to the borders of Palestine, known as the 25th dynasty. The dynasty lost its control over Egypt within fewer than 100 years but it continued as ruling as a power for another 1,000 years. The dynasty's remains show different influences from Pharoanic Egypt, Persia, the Hellenistic, Roman and indigenous local African traditions. By the 4th century CE the empire had experienced its demise and disintegrated into three kingdoms, which received the first Christian missionaries.

The Christian kingdoms flourished for seven centuries. Signs of decline became evident from the 12th century CE, with the interference of Ayyubids and then Mamluks of Egypt. They left elaborate wall paintings, unique in Sub-Saharan Africa, and churches. The final overthrow of Christianity came with the rise of the Islamic Funj Kingdom of Sennar, which ruled most of the country up to the 3rd Cataract region; the latter was under Ottoman power. The remains include domed tombs (*qubbas*), mosques, and forts. The state ended with the arrival of the armies of Mohammed Ali Pasha of Egypt, whose rule was, in turn, ended by the nationalist movement of Al-Mahdi, who captured Khartoum in 1885. The latter action led to the intercession of Egypt and England, who defeated the Mahdists in 1898, establishing

the condominium rule which ended at independence in 1956 (Welsby 2004: 14-16).

The Islamisation of the Sudan

Islamisation began gradually in 641 CE through contact with Muslims in Egypt, who signed a treaty with the kingdom of Makurria. This treaty, known as the *Baqt*, was primarily commercial but allowed slow infiltration of nomadic tribes from Arabia into Sudan. Evidence of Islamisation includes a mosque which is mentioned in the *Baqt* Treaty; later referred to by Al-Aswani in the late 10th century CE, where he is said to have performed the Qurban Bayram prayer at old Dongola. Fatimid documents from Qasr Ibrim indicate that the existence of Muslim settlements in Lower Nubia as early as the 9th century CE, and tombstones from lower Nubia and the eastern desert show the gradual spread of Islam. Imported Islamic objects, especially pottery, textiles, particularly Fatimid silk, and glass, were among the traded commodities which have been found in excavations conducted at Kulubnarti, Qasr Ibrim, Soba East, Badi', 'Aidhab and Derheib (Elzein 2004: 239). Al-Aswani also referred to the Muslims merchants' quarter in Soba which reflect the duality that prevailed during the Christian and Islamic kingdoms.

After the collapse of the Christian kingdom of Makuria in 1321 CE and before the rise of the Fung Kingdom in 1504 CE which replaced the Alwa kingdom, the Sudan received *Úlama* (scholars) from Arabia who established *Khalwas* (Koranic schools) and mosques (Dayf Allah 1992:10). Some churches and parts of palaces were converted into mosques, such as those found at Old Dongola and elsewhere in the Middle Nile. In 1323 a Muslim member of the ruling class became king of Makurria, which led to the removal of a political barrier and increased Arab migration into the Middle Nile Valley and the eastern desert. The early 16th century witnessed the collapse of Alwa and the decline of the port of 'Aidhab. Both events are evidence of the growing number

of Muslim residents resulting from an increase in trade by Muslim merchants from the second half of the 10th century CE onward.

In most of Northern Sudan the people became bilingual, particularly the Beja, Nubians and Fur, who today still use indigenous languages in a domestic context and Arabic as their international and religious language. There is archaeological evidence of this in the west, where the Tunjur kingdom was in its heyday during the 13th-14th centuries CE. Palaces and mosques have been reported in capitals of the Tunjur sultans. Imported objects have been found at many sites such as Qasr Ibrim, where Ayyubid and Mamluk metal-work was discovered. Thai ceramics of the 14th-16th centuries CE, and white porcelain and celadon of the 14th century have been recovered at 'Aidhab (Kawatoko 1993: 206), while Fustat and Fayyumi pottery from Egypt have been found at Kulubnarti, Soba East and in the eastern desert.

The beginning of the 16th century CE witnessed the rise of the first powerful Islamic state in the Middle Nile Valley, the Funj, that marked the supremacy of Islam in the present Republic of Sudan. At the end of the century the Ottomans, who conquered Egypt in 1517 CE, extended their territories along the Nile Valley to Hannek, 10 km south of the 3rd Cataract region after a battle with the Funj army. During the same period and in the early 17th century, Darfur witnessed the rise of an Islamic state under the Keira dynasty. At this time trade flourished with Egypt via Darb al-Arba'ín and across the savannah of central Sudan to West Africa, following the pilgrimage route to Mecca (Insoll 1996: 456). A new era of reform and of Koranic teaching began in central, western and eastern Sudan, except at the port of Suakin on the Red Sea, which had been annexed by the Ottomans in 1523, and on the narrow strip of the Nile from Hannek to the Egyptian border.

The form of Islam that prevailed in the 17th century CE reflected the duality that was widespread at that time throughout the Dar al-Islam. Islam in the Funj kingdom bore two faces: the orthodox and the ecstatic. Each brought with it a distinctive set of institutions; the

orthodox emphasised the mosque while the Sufi emphasised the Khalwa, in which the teacher was a holy man who possessed *baraka* (blessing). Several towns, including el-Derr, Old Dongola, el-khandaq, wad Neimeiri, Gerri, Arabji, Sennar and Suakin, and to the west Uri, Kobbe, Kabkabiya and el-Fashir, were occupied in this period. *Qubba* (tomb of saint) are found in numerous cemeteries and fortresses, such as at Sai, and smaller forts along the Nile in the region of the 3rd, 4th and 5th Cataracts. Artefactual evidence includes textiles, ceramics, skin water-bags, basketry, glass vessels, household equipment such as *sagiu* parts and tethering pegs, there is also documentary evidence from Ibrim.

Before the end of the 19th century CE there were no Christian or Islamic missionaries south of latitude 10°N. Prior to that, Muslim traders penetrated south the Sudd and some settled there with no intention of propagating Islam. Archaeological work conducted in that region has revealed the existence of stone and Iron Age cultures, and ethno-archaeological and ethno-historical studies have been carried out on the local pottery traditions. Archaeological work conducted on Debbas near Renk and at Malakal revealed the presence of Funj potsherds and smoking pipes. The Shulluk people in this area are known to use ceremonial tools and to have a tradition of regicide: ethnographic details which through analogy might help clarify Funj cultural characteristics (Soghayroun 2004: 241)

Conclusions

It has become clear that the Nile Valley was never the main route of Islamic and Arab migration. The Nile Valley has a chain of six cataracts and long bends, specially the Abu Hamad bend. Arab nomads entered the Sudan via the Suez land bridge and the eastern desert and across the Red Sea. They moved southwards across the desert and from Egypt through the desert to central and western Sudan.

Except in the Sanjaks of Ibrim and Habesh, where the Sunni Ottoman, the form of Islam that became accepted in the Funj and DarFur states, reflected the duality that prevailed throughout the Dar al-Islam. At that time the Sufi or mystical orders were most influential and Islam in the Middle Nile Valley reflected the two faces, the orthodox and the ecstatic. Today Sufism and Islam are synonyms to Sudanese, as a term and as a historical process. The mystical strain, of Islam which is so apparent in Muslim Sudanese Islam, dominated from the beginning of the Funj Kingdom. Consequently, popular Islam can be seen as harmonious blending of old cultures; many non-Islamic traits were occluded in to the new religion, which itself had an innate flexibility to accommodate local beliefs. The population of the Funj accepted Islam without totally uprooting their old Nubian or non-Islamic beliefs, but they tried to give them Islamic meaning. In the 18th-19th centuries Sufi orders also became popular in the old *Sanjak* of Ibrim, and many of the village shrines are of local holy men. It is unfortunate that most shrines were destroyed by the rising waters of the Aswan and Nasser Lakes without their details being recorded

Today the inhabitants of Sudan north of the *Sudd* show a blending of the different people present before the coming of Arabs that took place at different times and different places. This process has affected the nomads of the eastern and western deserts as much as the sedentary farmers of the Nile Valley. The area north of the Sobat River became Muslim, except for a few pockets in Nuba Mountains. Before the coming of Islam and Arabs the inhabitants of the Nile Valley had some 3000 years of urban and literate civilisation. This influenced the development during the movement of Arabic-speaking nomads westwards, resulting in Islamic state formation and the Funj and the Fur Kingdoms.

2

The Wadis and Hinterland System(s)

In the modern Republic of Sudan, there are multiple sources of water, of which the Nile and its tributaries are the most important. *Wadis* or *Widyan* (seasonal running water courses), rock reservoirs, surface and subsoil waters, sand dunes and sand pans are other sources. The Nile and its tributaries have already been referred to in Chapter one. This chapter discusses *wadis* systems (the main theme) and all the methods used to harvest water from them, and from other sources.

A few *widyan* or *Khairan* descend from the Red Sea Hills and provide water for the only grasses found in the area. Others descend from the Ethiopian plateau and end at the Red Sea, like Khor Baraka. It fills the whole Toker area, where people cultivate crops after the running water recedes. The Gash descends from Ethiopia and joins the Atbara River (Shuqair 1967: 23). The western desert is less hostile to life though it has most of the characteristics of the eastern desert. The nature of the sand there allows for some rain water to penetrate, either from the scanty rains or from the *Widyan* of northern Kordofan. There are a few Qu'ub (sing. Qa'ab, oasis) where sedentary life is present with the cultivation of sorghum and millet (Omer 1985: 12-13).

Some of these Wadis are dry today but with evidence of moistened ground, like Wadi Howar, while others flow during rainy seasons, like Wadi Muqaddam. Others only flow in heavy raining seasons, like khor Abu Habil, which originates from the Nuba Mountains in western Sudan and joins the White Nile at Gazira Abba. In low-rain seasons its water dries up in sand dunes before it reaches the Nile. In the north there are a few small watering holes, such as Bir Natrun, where the

water table reaches the surface to form wells that provide water for nomads, caravans and administrative patrols (Soghayroun 2009: 113). Here are examples of some *Wadis* from the north to south:

- Wadi al Allagi: Desert water course which led to Nubia's richest gold field. The most productive Egyptian mines were those along this Wadi and its tributaries between lower Nubia and the Red Sea. According to Burckhardt (1987: 184), it is a fine wadi extending from east to west, having its extremities on one side near the Red Sea and on the other near the Nile
- Wadi Gargood: One of the many Wadis of the Mahas region, which prevail in most of the 3rd Cataract region. It originates in the north-west of Gargood area and pours into the Nile in a southeasterly direction after traveling for 18 km. It receives water from other sub-branches mainly in the north.
- Wadi Al-Qa'b: A sandy depression running through the channel of a broader rocky valley. It is about 201 km in length and an average of 5 miles in breadth. It extends from Hannek to a point 40 km due west of Dongola. Wells are numerous, many of them lined and containing good water; in many places water is also found at the depth of 2.7 to 6 m feet below the surface. (Handbook of Anglo-Egyptian Sudan 1922:13-14). According to Ensore (1881: 27), it forms a large oasis with many wells, providing a place of congregation for many thousands in the dry season. It consists of a forest of dom palm, acacia and a few date trees and contains several springs to which the Arab send their camels in the summer to pasture on the trees (Hoskins 1835: 179).
- Wadi al-Khowi: It is an ancient paleochannel of the Nile on the eastern border of Selaim and Kerma Basins (occupied during the Neolithic).
- Wadi Howar (Hawa): Located at the southern fringes of the Libyan Desert, *Wadi* Howar is the largest dry river system in the presently

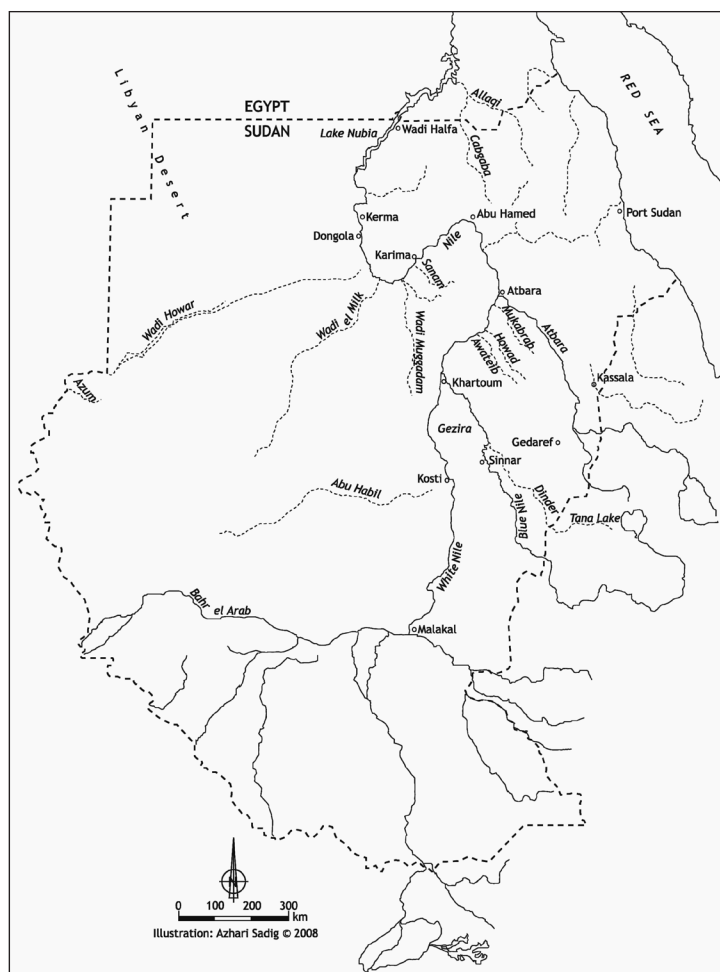
hyper-arid and uninhabitable Sahara, stretching over 1,100 km from its source area in eastern Chad to the Nile. Geo-scientific investigations have shown that, during the early Holocene, this Wadi was the Nile's largest and most important tributary from the Sahara. Holmes (1933: 159) suggests that drainage from Lake Chad may have reached the Upper Nile at Dongola via *Wadi* Howar. Later, it became a chain of freshwater lakes and marshes supported by local rainfall.

- Wadi al-Melik: The bed of an extinct river that now forms a shallow depression about 10-30 m wide, stretching for 563 km from ad-Debba in the southwest to Umm Badir in the northwestern district of Kordofan. It holds water in pools for a short time after the rains and is generally moist enough to allow grazing. Water along this *wadi* is also available at wells of Mahtul and Soteir, 48 and 96 km respectively from ad-Debba.
- Wadi al Muqaddam: Extends from Korti south to beyond Omdurman, a distance of about 321 km. This now-dry water course shows every indication of having, in a remote geological epoch, formed the main branch of the Nile itself. There are some good wells and cultivated lands at Gabra, 96 km north of Omdurman. It still flows during rainy seasons, allowing good, fertile land for agriculture.
- Wadi Abu Dom: This wadi is still active; it delivers huge amounts of water to the River Nile a few kilometers before the Muqaddam junction. It originates in the Bayuda Desert.
- Wadi al Hawad: A short distance south of the pyramids of Bejrawiya near Shendi, is the broad, dry bed of the Wadi al Hawad, an ephemeral stream which carries much of the seasonal runoff from the great Butana steppe (Adams 1977: 298).

The wadis are not limited to the Nile Valley; there are many other wadis some distance from the Nile in Kordofan and Darfur, like Magrur and

Azum. The latter collects the drainage from the northwestern side of the Meidob Hills and runs for 96 km in a northeasterly direction, finally ending in the Baheir Tageru (the little sea of Tageru). The Wadi Magrur may be of some strategic importance in that the smoother going of its bed provides a type of corridor from north to south, to al Haraz, and Az-Zum (Map. 2.1)

Map 2.1: The Main Wadis of the Sudan



Paradigms

Wadi Howar

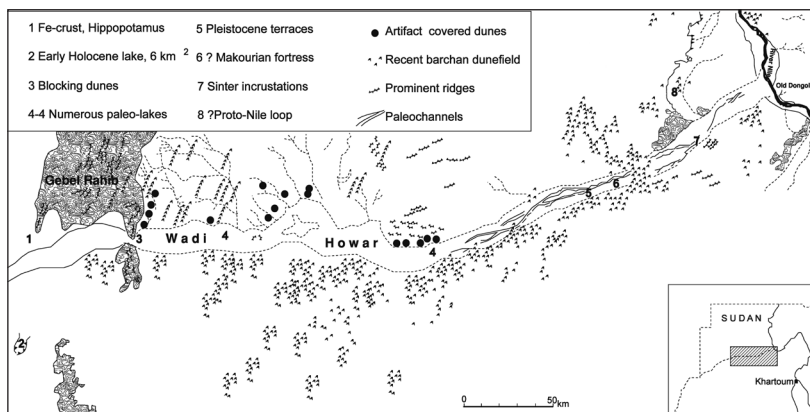
Known also as wadi Howa, it is the most interesting natural feature of the southern Libyan Desert. The word Hawa is Arabic for wind, and the natural assumption is that Wadi Hawa means Valley of the Winds, a suitable name. According to Arkell, that the word Hawar may be derived from two Zaghawa words Urei and Ow, meaning respectively wadi and sheepskin (farwa in Arabic). The implication is that the wadi unrolls itself across the desert as one would unroll and lay out a sheepskin (Arkell in Shaw et al. 1936: 198). Wadi Howar, which originates in the mountainous region between Gebel Marra and En-nedi in Chad, traverses the southern fringe of the Sahara. From Lake Undur as far as Bahai, latitude. 15° 29' longitude, it is known as the Wadi Tini; near Bahai it is joined from the west by the Wadi Greigui, and the two form the Wadi Howar.

Wadi Howar is a notable landmark, and the natural boundary between the ordinary Kordofan Desert and the true desolate desert of Dongola, and it marks the southern boundary of Arba'in Desert. Its course is marked and visible from at least 16 km away by the line of trees growing in its bed. It is reputed to run from N.W. Darfur towards Dongola town, passing immediately south of Bir Natrun (Maydon 1923: 38-39). The *wadi* consists of a thick belt of trees a mile or two wide growing down the centre of a mud floor with an average width of about 6.4 km.

All old topographic maps of the area show the end of the *wadi* bed south of Gebel Rahib. Here the *wadi* is already redundant and its course is marked only by linear tree vegetation, sustained by a groundwater table some 6 to 10 m below the surface. Speculations on a possible eastward connection to the Nile during the Tertiary and interpretations of satellite imagery were verified by ground checks. Evidence was found that the lower Wadi Howar drained this 400 km wide area

(present rainfall, 25 mm/year) and entered the Nile between the 3rd and 4th Cataracts opposite Old Dongola. Geo-scientific investigations have shown that during the early Holocene, this *wadi* was the Nile's most important tributary from the Sahara. Later, it became a chain of freshwater lakes and marshes supported by local rainfall, until it ultimately became extinct about 2,000 years ago. Thus, Wadi Howar used to be the largest tributary to the Nile from the Sahara between the Mediterranean Sea and the Atbara River, with a length of more than 2,700 km (Map. 2.2). At Rahib the former riverbed is blocked by a 15 m high and 5 km wide dune barrier. This is the area where the *wadi* was thought to end in the past. This can be compared to *kebor* Abu Habil, which is shorter than Howar, but in low rainy seasons loses its water in the sand before it reaches the White Nile.

Map 2.2: Middle and Lower Wadi Howar (Adopted from Kroplin 1987)



Recent research has shown that from about 9,500 to 4,500 years ago, lower Wadi Howar flowed through an environment characterised by numerous groundwater outlets and freshwater lakes. Savanna fauna and cattle - herders occupied this region, which today receives, at most, 25 mm of rainfall per year. At that period the southern edge of the eastern Sahara was some 500 km further north than it is today and

groundwater resources were recharged for the last time (Kröpelin and Pachur 1987: 198).

Wadi Howar is the largest dry-river system in the presently hyper-arid and uninhabitable Eastern Sahara. The *wadi*, when compared to others in the vicinity, is of very great width and of importance as a grazing ground for camels. There is no definite central bed in the *Wadi* Howar but a series of small channels carry the rain-water from west to east during the wet months of the year.

Wadi Howar passes about 650 km south of the Gilf Kebir plateau and is about 200 km north of Jebel Marra. Major streams flowing from the southern Gilf highlands in the middle to late Tertiary time may have reached *Wadi* Howar and thence discharged into the upper Nile. Some of these buried stream valleys in the Arba'in Desert could be ancient to the upper Nile tributaries (McCauley et al. 1983: 1,012)

If acacias alone grew in the eastern part of the *wadi* there would be no need to assume the presence of considerable moisture. Acacias survive in many remote places in the Libyan Desert, and between the Nile and the Red Sea, and seem to thrive on only occasional showers: they are at their best, perhaps, when they grow in wide, shallow depressions. But the lavish growth of a much wider range of shrubs and bushes testifies to the amount of rainfall in *Wadi* Howar (Sandford 1935: 421).

During the rains there are considerable pools of water in the upper part of *Wadi* Howar and its tributaries, these pools are worth the definition of lakes; of these Lake Undur is the largest. Along its course, pools or *rahads* lie in slight depressions for a while after rain.

One of the chief attractions of the Howar lies in the abundance of animal life; Ooryx, addax, ril, gazelle, giraffe, ostrich, hyena, jackal, fox, monkey, the shy ant bear, porcupine, and countless bustard. Under one of the trees Bagnold (1933: 114) found a nest of 94 ostrich eggs arranged in a circle about 3.6 m across, and a central clutch of some 20 eggs, upon which the bird was sitting.

The vegetation includes *tundub* (*Capparis decidua*) which is the predominant tree, *seyal* (*Acacia spirocarpa*), *heglig* (*Balanites aegyptiaca*),

sareh (*Maerna crassifolia*), *merakh* (*Leptadenia Spartium*) and *mokebeit* (*Boscia octandra*) (Plates. 2.1, 2.2).

Plate 2.1: Southern Margin of Wadi Howar (Sandford 1935)



Plate 2.2: Dry Wadi Howar bed about 64 km North of Kutum (Sandford 1935)



Ancient sites are found along the *wadi*; stone grave cairns including contracted burials without goods was reported by Shaw in the early 20th century. He also referred to ancient sites with sherds, ashes, and burnt bones and many polished diorite axes; ostrich-shell beads, querns

and grinders. Further east near Jabel Rahib are more cairns (Shaw et al. 1936: 203). Bagnold (1933: 117) also refer to many archaeological sites scattered along the low sand-slope which constitutes the northern bank of Wadi Howar.

Any caravan passing south of Bir Natrun would after three or four days, cross the Wadi Howar (Shaw 1929: 70). Shaw refer to its vegetation and the archaeological remains; the stone implements and pottery which are indicative of a permanent or semi- permanent population in earlier times.

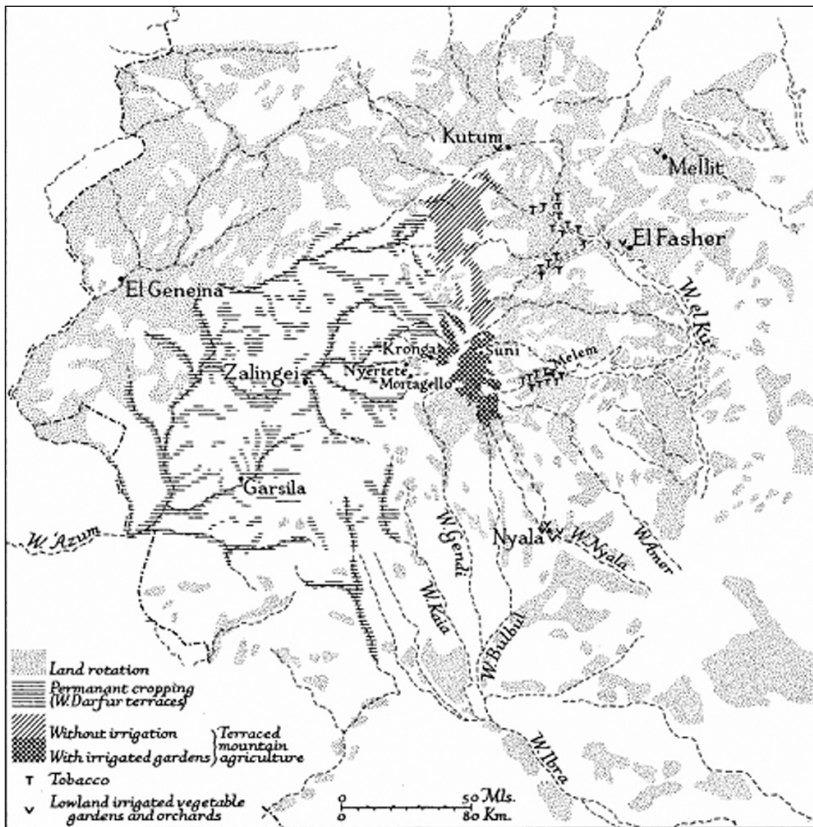
During several field campaigns in the Wadi Howar and the adjacent areas between 1995 and 2006 about 2,400 archaeological sites were discovered, providing evidence of human settlement between the 6th and 2nd millennia BCE. Among the excavated material, pottery proved to be the most important source of information. Different pottery phases can be distinguished, reflecting the settlement history of the region. Well-preserved faunal remains allow reconstruction of the subsistence pattern of each phase. Mapping and detailed stratigraphical analysis of the geological deposits provide information on the current environmental and climatic conditions framing the prehistoric settlements. A once ecologically favoured area of settlement and a communication route between the inner regions of Africa and the Nile Valley, Wadi Howar has abundant prehistoric sites providing evidence of important population movements and interregional cultural contacts. Later fieldwork, from 2006 onwards, has revealed the existence of a fort dated to the Kushite period at the lower *wadi* Howar (Jesse 2009: 62).

The Wadi Azum

This is an example of a *Wadi* which collects its waters from Sudan and flow, into Chad. Unlike Howar, it is flanked by villages and people who depend on mixed subsistence, agriculture and keeping domestic animals in addition to trading along its banks. The last activity will be discussed in Chapter 3.

On the sides of Jebel Marra volcanic mass, whose summit reaches over 3,000 m, there is a radial pattern of drainage, but the streams of the western side soon collect into two principal watercourses, the Wadis Barei, and Azum, which meet before the Sudan border is reached, and flow into Chad (Barbour 1954: 176) (Map. 2.3).

Map 2.3: Drainage Area of Wadi Azum, after Barbour 1954



The area in question lies in the province of Darfur, not far from the border with Chad. Despite the low rainfall and the scarcity of permanent water supplies, the cultivators make good use of the fertile basaltic soils of the mountain-sides and the silt terraces beside the *wadis*

in their belt, and the cattle-owners find provisions for their animals in an area whose soils are generally too thin and stony for the growing of crops. The area where these groups come in contact with one another is in the central zone, where a permanent water supply is available, the Wadi Azum, the larger of the streams mentioned above. The portion of the Azum where conditions were studied in particular detail is that which lies downstream of the district headquarters of Zalingei, in a stretch of 88 km as the river flows, as far as Murnei, where the confluence of the Azum with the Barei occurs. In this portion the Azum is a sandy river 100 or 275 m wide; in the winter it is dry, except when it crosses a rocky bar, where a pool or two may be found, but during and just after the rains a continuous stream is usual. The main stream is flanked by alluvial terraces of sand and silt, giving a total width of about half a mile: these form the principal areas of cultivation, and their proximity to the water table ensures that they are more reliable than normal rain cultivation would be.

Further from the wadi, on the upper terraces and on the sandy deltaic fans that have been laid down by the local streams, there are conspicuous groves of *haraẓ* (*acacia albida*) trees, which in these favourable conditions grow to a height of 9 m or more, with tall, straight trunks and a spreading canopy above; these groves constitute a second area of cultivation, since the *haraẓ* loses its leaves in early summer, and thus does not prevent the growth of crops beneath it. Other benefits of the groves lie in the protection from erosion by heavy rains that it affords to the loose soils beneath it, and in the seed pods which fall in April and May and supplement the fodder of goats and cattle: in consequence it is little wonder that it is a protected tree, whose cutting is generally forbidden. (Barbour 1954: 177).

The settled inhabitants of the villages that flank the Azum and the other similar *wadis* of Western Darfur are known as the “lowland” Fur, to distinguish them from the “hill” Fur, who live on the flanks of Jebel Marra; racially they are indistinguishable. The Fur live in villages strung

out along the watercourses, and make a living from the cultivation of rain crops during the summer. In the part of the Azum below Zalingei a stretch of 88 km supports 35 villages, with a total population of some 11,000 persons. In addition to their crops the Fur are able to keep a wide range of domestic animals, and so may be said to carry out a simple form of mixed farming.

The Baggara have a very different way of life. They are cattle-owners who migrate into the district from the east and south from December onwards. These proud nomads, with fresh memories of military proficiency during the Mahdiya, practice very little cultivation during the summer and depend almost entirely upon their cattle to maintain them. Most of the Baggara winter along the Bahr el Arab, to the southeast, where they come into contact with settled Dinka tribes. A few groups of Bani Helba come into Western Darfur regularly each year. Their chief needs are water and grazing for their animals; they obtain grain and vegetables for themselves by bartering milk and butter with the villagers or by selling an animal to the butchers.

The camel-owners from the north have similar needs, and differ chiefly in their willingness to seek employment as carriers of grain and goods for government or merchants. This is perhaps explained by the absence of demand for camel's milk or meat, from whose sale they could have paid for their day-to-day needs. The same difficulties of theft and lack of control occur, especially since only a few members of each family make the winter migration, hereby weakening the authority of their tribal chiefs. Attempts at tax evasion are frequent and individual migrants may come from far afield. Also from the north come a few Zaghawa tribesmen, cultivators whose water supplies do not last the winter. Poorer than the Fur and less proud than the Arabs, they settle on the fringes of the villages, and earn what they can by helping pick cotton or thresh and grind grain. They are less willing to depart at the start of the rains than the nomads, especially when several successive lean harvests have aggravated the poverty of their lands compared

with those of the Fur. Then there are a few settled traders from eastern Sudan, and numerous mendicant sellers who regularly attend the village markets.

A diminishing group is the hill Fur, which comes down from Jebel Marra with coarse salt that they have evaporated from streams in the hills. They walk as far as El Geneina on the Sudan-Chad border to sell it but the Port Sudan product is recognised to be cheaper and better. This decline in local salt production is of special interest as a first instance of the victory of technical knowledge and modern large-scale production over the traditional crafts and self-sufficiency of the Fur. No archaeological work has been carried out in the area.

Other Sources of Water

Rock-reservoirs and waterholes

In the Sudan, as in most of inter-tropical non-arid Africa, granite weathers commonly to a depth of 12 m, or more. The residual quartz debris and clay operate as an excellent sponge for direct rainfall and local surface drainage, and water collects in valuable reservoirs. A substantial range of water sources may be included in this group. The dominant character is collection more or less *in situ*, the surplus water (if any) being in a state of flow. The reservoir may be more or less charged with rock debris, sand and gravel. Among the most important sources in the western provinces are saturated pockets of decomposed granite. Since these pockets are sometimes hidden below accumulations of sand, geological skill is needed to locate the patches. Another source is what is called *Galt, or Gelta* (cisterns). They are more noticeable, sometimes overflowing, and occur on the flanks and towards the base of hills projecting above the general level. Examples are the Mandal and Nyima Jebels of the Nuba Mountains, here the surplus water overflows down the mountain-sides for a few months after the rains and saturates the sand (*goz*) of the plains that surround them. The villages are situated

here. As the year advances the water supply has to be followed further and further up the hillsides (Sandford 1935: 415).

Another system of waterholes which is governed principally by the interbedding of porous and more solid flows is found at the lava plateau, such as Jebel Meidob and the Berti Hills. Such craters, caused by volcanic explosion, demonstrate remarkably the decline of rainfall from south to north. In Jebel Marra, west of El Fasher, craters are supplied with rainwater and by springs so that they are permanently filled. Far to the south and west they are filled almost to the rim and the borders may be densely covered with forest. Most of the water-containing craters seem to draw their supplies partly from direct rainfall, partly from the water table and partly from deep-seated volcanic sources. Many of the crater lakes are sulphurous or saline (Sandford 1935: 416-417). At Jebel Meidob the water is obtained in the usual fashion by digging deep holes in the sandy bed of a wadi, just where it emerges from the rocky ridges of the hill, at a depth of about 12 feet (Maydon. 1923: 35).

Surface, Flowing, and Subsoil Water

The *fula* is a pond, or a lake dammed up in the course of a river that flows or no more than a few weeks or days in a year, retaining the final part of the annual surface flow. The fula at El Fasher is a most important source of supply for a long period after the summer rains. The *tumud* (*saraf*) is a hole dug in the floor of a watercourse after the surface flow has disappeared. It valves that large body of water which permeates through the alluvial sand and gravel. The rocky floor of the *wadi* may be buried to considerable depth, but it may be supposed to provide a lower limit for the percolating water. As the year advances the *tumud* is dug deeper and deeper until it becomes impracticable as a source. Moreover, the hole usually fills with sand and gravel when the *wadi* is next in spate and the process of excavation has to be repeated annually. The third type of source is the *rahad*, a natural pool or lake (*turda*) among sand dunes, in natural hollows, or in depressions or broad lines of infrequent drainage. The source of supply may be direct rainfall, filling the hollow, or runoff from neighbouring slopes; frequently,

after surface runoff has ceased, springs arising in saturated rocks and superficial accumulations continue to supply *the rahad*. Thus the surplus water of stabilised dunes may flow into it. Many of the *rahads* in northern Sudan are ponds held in red clay and black mud, which also form an impermeable layer under neighbouring stabilised dunes.

Wells

The wells (Abar, sing. Bir) are numerous and many of them are the production of *Widyan* where travelers can find water after two meters digging (Plate. 2.4). According to Shuqair these wells are the *Khairan* when they dry up. He mentions many wells on the route between Aswan-Berber, and the *Murrat* well on the Abu Hamad-Korsko, the wells on Suakin-Berber, wells between Korti and Mettama, the Bayuda wells between Ambagol and the 6th Cataract, Jabra between ad-Debba and Omdurman, wells on the route between al-Obayid and ad-Debba, between al-Fashir and Dongola, and the wells at Natrun and Selima oasis opposite Ákasha (Shuqair 1967: 24).

Plate 2.4: A Trench Dug to Erect Wireless Tower at Wadi al ga'ab Shows Water at 3 Meters Deep



The *tumud* develops into a permanent well in an interesting way, which may be stone-lined by local enterprise or by official action to prevent caving in of the sides. Thus, between El Fasher and Malha, after passing normal *tumuds* in the *wadi* beds, e.g. in the *Wadi* Beida near Mellit, one reaches the wells of Sayyah and Madu, situated in broad but clearly defined *wadis* with rocky or sandy banks. The depth of sand and gravel in the *wadis* is not actually known, but it certainly exceeds 7 m. Some of these *wadis* may not have annual surface flow at or near the sites of the wells, but there is usually surface runoff from the higher parts of their courses and occasionally from neighbouring rock slopes. The water so transmitted to the *wadi* sinks through the alluvial filling and flows through it at some depth. The rocky floor is probably covered throughout the year by water-saturated sand and gravel, and after the rains the level of saturation rises. The wells are sunk 20 feet or more into the saturated material. They have been stone lined, and to prevent erosion of the soft sides by ropes when water is drawn, a platform is built out over the well mouth. At the least the sides are reinforced at the top by baulks of timber. Hollowed tree trunks are used as troughs for watering animals, as are mud structures in the Butana region.

The wells are a characteristic feature of most of the trade routes in the country. They are found along main routes, for instance between Aswan and Berber, Abu Hamad- Korsko, Suakin –Berber, Korti-Metamma, Ambgoul 6th Cataract, ad-Debba-Omdurman, al-obayid-ad-Debba, Al-Fashir-Dongola, and Bir Natrun (Niter) (Soghayroun 2009: 114) (Plate 2.5).

Wells are a common feature along the Nile seasonal running courses. The most celebrated and perhaps one of oldest has been partly excavated at el Kurru. It consists of a large rectangular pit, 6 X 4 m in size, and was cleared by archaeologists to the depth of 5 m, at which depth the water table was reached and work was abandoned. A rock-cut stair descended along one side of the well and turned along the adjacent side (Welsby. 1996: 128).

Plate 2.5: A Well in the Butana Region



Other well occur along the branches of the main Nile channels. During floods these channels are filled with water. These branches dry out during summer, between April and mid September. As the banks of these branches are inhabited, the inhabitants dig wells in the beds of these channels to hold water when the flow ceases. These wells serve the source of fresh water for inhabitants and livestock during the low Nile season. The best example is the right-hand branch of the Nile in the 3rd Cataract region which forms the island of Arduwan. Interestingly enough the current author is a member of an archaeological mission working in the region discovered such wells in a dried-up Wadi, which had running water until middle of the 19th century, as mentioned by Waddington and Hanburry . This is considered to be a very important find because the folklore of the region talks about Bir Jiha in dry *kbors* around the Nile.

Water in Sand dunes and Sand Pans

In the western desert and to the north of wadi Howar patches of large acacia trees in an undulating, partly stabilised sand are found. The *wadi* is unlikely to have been the source of supply. However a red mud-pan, as in a *rabad*, with blown sand below and stabilized dunes around it could be the source of water. Probably all such vegetation is kept supplied by the small amount of annual rain (less than 125 mm) and the mud-pan may serve to protect from evaporation water that falls in the hollow or percolates under it from the surrounding dunes (Sandford 1935: 422)

The drawing of water from beneath the level of saturation of the solid rock does not occupy a prominent place (water table). The involved structure, hardness, indifferent porosity, and local variation of the fundamental complex, and the thickness of superficial deposits upon it, have limited the use of deep wells.

The Hinterland Systems

Channelling wadis

Where the rainfall is low, the runoff from a considerable area needs to be channelled into a restricted zone so that the water moistens the soil sufficiently to allow crops to grow to maturity. In the island of Meroe such a situation exists because of the Wadis' systems, which drain large catchment areas. Where they merge on the plain the wide *Wadi* floors are suitable for agriculture and sizable areas can be farmed for several months of the year, as was the case with Wadi Awatib in the recent past (Welsby 1996: 156).

Traditional Dams/walls

The dams built share many of the disadvantages of the *Hafirs*, the resulting reservoirs suffering greatly from silting, evaporation and seepage. They were uncommon features of the pre-desert areas of the Roman Empire,

but were presumably suited to specific situations, for example where the volume of water flowing along given *Wadi* greatly exceeded that which could be managed by the wadi wall system. The only Kushite dam known at Shaq el Ahmar was presumably associated with a system of water channels, although these have not been noted on the ground. It lies in a narrow valley at Shaq el Ahmar a little to the northeast of Meroe. It was originally 16-18 m long and was constructed with two battered faces of coursed rubble masonry, with a rubble core forming a structure around 8 m thick at the base, 5.4 m at the top 4.5 m above (Welsby 1996:158, 129).

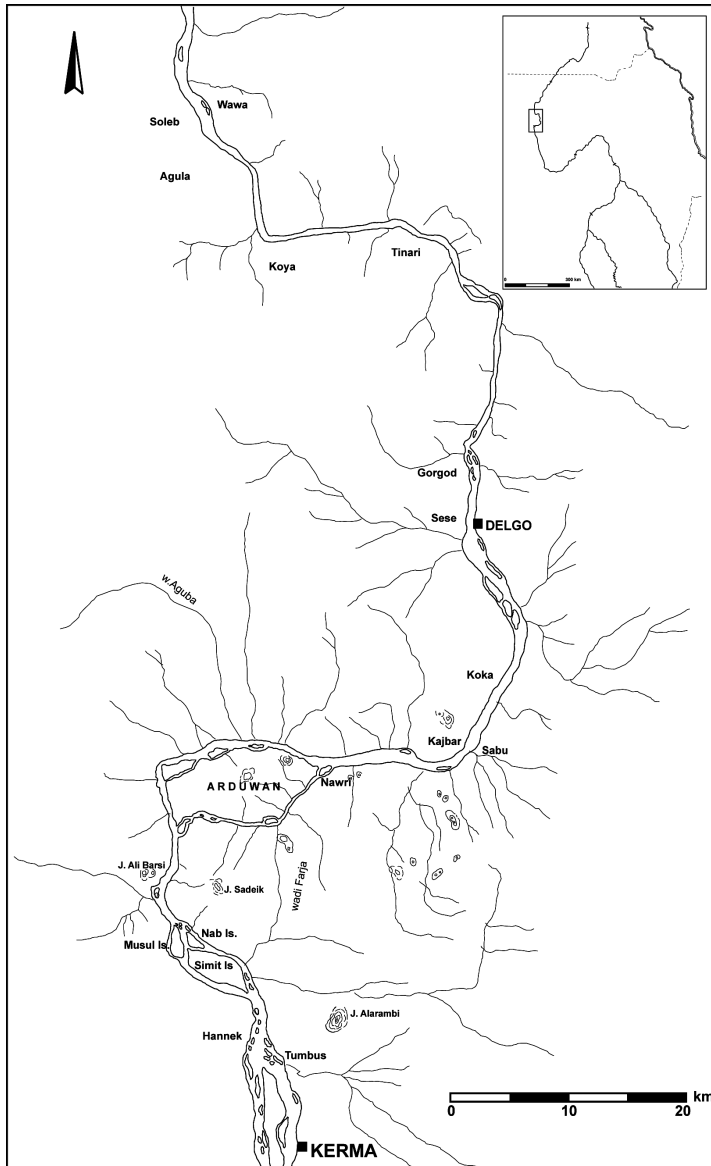
Similar pre-desert environments on the northern edge of the Sahara that are contemporary with Kushites settlement and structures in the Keraba, are the very extensive artificial water catchment systems employed by the Romans in Tripolitania and in the Negev. In the former the rainwater was collected in plaster-lined cisterns for the use of people and animals. It had the same function as that of the Kushites'. The advantage of cisterns above the *Hafir* was that the former was a covered and largely sealed container and thus little water would be lost to evaporation and seepage. To provide the necessary water for agriculture a system of traverse walls was built across the *wadi* floor, designed to slow down the speed of water, both to reduce its erosive force and to allow it time to soak into the ground. No similar installations have been observed within the kingdom of Kush. However a little upstream of the Hafir, at Basa, one cross-Wadi wall has been noted and further research may reveal that this part of a coherent system of water management. A system of this type provisionally dated to the Kerma period has been recognised in the wadi Farja near the 3rd Cataract region (Edwards and Osman report 1). One of the most prominent features of Wadi Farja in the 3rd Cataract region was the presence of a large number of stone-wall structures with a function yet to be determined. It is possible that they are related to past human activities and could hence provide a good indicator of the palaeo-economy of the area (ibid: 171).

In 1969, Hobler and Hester found such walls in the Libyan desert (Kukur and Dungul area) and correlated the walls to C Group people.

They claim that these walls were animal traps built across wadis and between Jebels for capturing ostriches and possibly gazelles. The walls enclosed several kilometers 1969. Similar walls have been found by Reimier (2004) in the southern great desert of Egypt dated to 6500-4900 BC. He also identified them as game drives or traps. In Sudan Wolf and Nowotnick found such structures comprising stone walls in the 4th Cataract region but with no artifacts that could be used for relative dating (Tahir. 2007:172).

Walls are not restricted to Wadi Farja but have been found in other areas, such as Ali Barsi, Habarab, Fad, Fogo Kobodi, Masaïda, Fareige (Tahir, 2007:174). Some are on top of banks or on raised areas, or in the bed of channels or on edges and sloping downwards into the beds of the *wadi* (ibid: 178). Some of them could have been used as animal traps or fences, or for water storage and irrigation, territories and roads. Many linear stone features (walls) are quite ephemeral, often only a few courses of stone high, but others are more substantial structures with some examples 300-400 m long; possibly forming parts of more extensive complexes of walls extending over 1-1.5 km. They are found in often very different landscape contexts within the region and varying considerably in scale, it seems unlikely all these “walls” can be treated as a single class of monument. Various “walls” may have had very different functions and may well date to very different periods. A number of the larger wall structures are the subject of this discussion (Edwards 2006: 49). Long, linear stone features were first encountered in 1991 (Edwards and Osman 1992: 54-59) along the Wadi Fraja, an ancient watercourse which traverses the prominent bend in the Nile on the 3rd Cataract. This *wadi* once drained a substantial area within the bend of the Nile in the 3rd Cataract region, running from near Simit East at its southern end, to rejoin the Nile near the southeastern corner of Arduan Island. However, beyond noting the presence of the walls, no further work was undertaken at that time as work remained focussed on riverside areas.

Map 2.4: Wadis of the 3rd Cataract Region After Edwards and Osman 1992



Further reconnaissance in that area suggested that such features might be of late prehistoric dates. The possibility was also considered that the walls may have been used for water harvesting, supporting seasonal agriculture in the *wadi* (Edwards and Osman 2000: 61). Subsequently, further extensive complexes of walls were identified in parts of Sadeik-Habarab, along what may be an ancient Nile channel which runs ca. 1 km east of the present river, while more several more ephemeral walls were found in the very rocky area along the southern side of Arduan Island. However, with the aid of aerial photography and high-resolution satellite imagery it has become apparent that such various “wall” structures are much more widely distributed in the region than initially realised. Several further examples have been identified on the left (west) bank of the River from aerial photographs and several of these in the areas of Tajab and Jawgul were examined on the ground during 2005. All are found in the rockier parts of the cataract zone, where there are now extensive areas of exposed granite and sandstone. To date, no such features have been found in the northern part of the survey area downstream of the Kajbar Cataract (the northern end of the 3rd Cataract), where there is little loose surface stone. It is of interest that some potentially similar structures have recently been identified at a number of locations in the 4th Cataract, another rugged and rocky landscape that possesses similar geology to this area.

The *Hafirs* are man-made depressions intended to catch and hold runoff wadis water; for example Wadi es Sufra in the *Butana*. There are points at which a mobile population was compelled to congregate for a part of the year. This settlement is thought to be one of the ways by which ancient and modern governments control the nomads’ movements and collect taxes. During the Meroitic period (350 BCE–350CE) the authority’s presence was demonstrated by construction of temples and statuary by the *hafir*. The same policy was used by the Romans to control the oases, by blocking all but a few access routes into their provinces (Welsby 1996: 37).

Hafirs are a common feature of the *Keraba* and *Butana*, the areas east and southeast of Meroe, and of the Sahel area of the Sudan, and are still being constructed and used extensively today. The Meroites hafirs can reach 240-250 m in diameter and can be more than 6 m deep. Across the Keraba and Butana several of the *hafirs* are associated with temples or sculptures (lions and frogs) or both i.e. gods by whose gift the water was made available. Evidence of permanent habitation is rarely present. To provide water for nomadic and semi nomadic pastoralists of the region. It is unlikely that the *hafirs* were used as part of an irrigation system, as the volume of water even the largest could hold would not have been sufficient to irrigate substantial areas of agricultural land (Welsby 1996: 157).

Conclusions

It is clear that, despite the aridity that is shown on the surface, the Sahara and the Sahel areas had and still provide passage for movement of people and sustaining permanent and temporary settlements. These passages were made possible by the existence of wadis, wells and the other sources of water mentioned above.

There were innumerable mines in the Wadi al-Allaqi and Wadi Gabgaba, which was brought to the Nile at Kubban in lower Nubia. These wadis, which there were more than 100, were scattered over the eastern desert at a distance up to 240 km from the banks of the Nile. The anchor point of the lower Nubia gold industry was the fortress of Kubban at the mouth of Wadi Allaqi. Men and supplies brought by Nile then land. There were also gold mines at Wadi Gabgaba (Adams 1977: 233, 304).

3

Trade and Traders in Muslim Sudan

Trade is not only economic activity., nor can it be conducted in isolation; it is dependent on socio-cultural and ecological factors. Thus a study of trade in any society should not be limited to the economic activity alone, or the movements of goods and money but “*should aim at uncovering the socio-economic and socio-cultural complexities in order to investigate how trade had acted not only as a system of exchange but also as agency of change and contact and of integration*” (Manger. 1984: 2). Traders are not isolated from the communities in which they operate; they maintain links with different groups in order to facilitate their trade. The nature of the relationship may vary but some general influences can be attributed to traders and their activities. One major role is their commercialisation of local economies. The second influence is the socio-cultural one; the lifestyle of traders is a factor that influences the people with whom they maintain contact, as well as those in their own homelands (Manger 1984: 3) (see example of al-khandaq in Soghayroun 2009). Thus trade must be studied on various levels; including the trade organisation, the natural geographic context, means of transport and security, man-made environments like markets, monopolies and mediums of exchange.

In the context of this book, a trader can be a wholesale merchant, a long-distance caravan merchant, a *khabir* (Literally an expert, used to mean caravan guide), specialised in relatively few commodities, or can finance and organise trade through agents and partners. Such a merchant will hire camel nomads to carry his commodities, hire boats or use his own, as in the case of Abd Allah Bey Hamza. Sometimes such a merchant can lend and transfer money; in short he is an entrepreneur.

Types of Trade

According to Spaulding (1984: 27) and Kapteijns (1984: 71-72) pre-colonial trade is characterised by being organised within three different spheres. The examples used by Spaulding are the Sultante of Sennar and for the latter Dar Masalit, at the western end of the Keira Sultanate of DarFur:

Local exchange

This type of trade didn't ordinarily employ any form of money, nor did it take place at any specific building, location or time (Spaulding 1984: 28). It happened within the village or group of villages with the exchange carried on face-to-face and based on mutual trust, and it embodied an element of reciprocity (Kapteijns 1984: 51). Trade could be in the form of exchanging locally produced goods with services called *nafeer* (communal services).

Market exchange (regional exchange as referred to by Kapteijns)

Here the exchange usually involved the immediate transfer of tangible and portable commodities. Most of the commodities were produced within the state; animal products of pastoralists were exchanged for the agricultural goods produced by sedentary peasants, iron from the Ethiopia for the cloth of the Blue Nile, and that of northern Kordofan for the dates of Dongola, the salt of the north for the honey of the south (Spaulding 1984: 31-32). This type of trade included the use of currencies and it was subject to some form of control by local or central government, and bound to a specific time and place (the market) (Kapteijns 1984: 53).

Royal exchange (foreign trade) or long-distance trade

This type of trade was sponsored by the sultan, and involved gold, ivory and slaves being exchanged for foreign goods imported from abroad. It involved mostly foreign traders, who traded in foreign goods across

international borders (Kapteijns 1984: 63). Goods from Sudan were extracted by the sultan in raids against rebellious southern districts or from beyond the national borders through government-sponsored slave raids by the army of the kingdom.

Imports and Exports Through History

The first products of the country which attracted the attention of the outside world were animal products and precious and semiprecious stones. The Neolithic site of Kadruka, in northern Sudan south of the 3rd Cataract region, presents evidence of local manufacture of ivory objects. A comb made from elephant tusk was found here, but what is interesting is the presence of blocks of ivory fashioned from elephant tusks, sometimes partly carved, which might indicate local craftsmanship (Reinold 2004: 45-46). Beads are also common, made of stone like sandstone, agate, amazonite, quartz and green stone; ivory, bone and ostrich-egg shell. Archaeological records of the earlier period show the presence of beads of faience, shell, and various kinds of stone pendants and amulets, ivory combs and bracelets, copper tools and wheel made pottery (A Group 3500-3000 BCE). The same commodities continued to be traded during the succeeding period of the C Group (2460-2200 BCE), with the addition of objects made of copper and alabaster. Animal and forest products seemed to have acquired more importance than minerals after A Group; there is no evidence of the gold of Wawat and of Kush being extensively developed before the advent of new kingdom. Products like ivory, ebony incense, aromatic oil, leopard skins and later, ostrich eggs and feathers and hippo ivory (Adams 1977:144). Bagnold (1933: 114) reported finding ostrich eggs under one of the trees along *Wadi Howar*, where they found a nest of ninety four ostrich eggs arranged in a circle about 12 feet across and a central clutch of some twenty eggs upon which the bird was sitting.

That some objects were produced locally is evident at Kerma sites (2500-1500 BCE), where raw materials were found, like *Keriak* which

was used for polishing pottery, lumps of resin, block of mica ornaments, rock crystal, carnelian pebbles and fragments of ostrich-egg shell from which small disc beads were made.

From Meroe came round lathe-turned wooden boxes and kohl tubes (cylindrical containers) which were decorated with ivory inlays. The decoration suggests that these items were designed for Nubian markets and were perhaps made locally, although the wood was in some cases cedar from Lebanon. The famous Meroe industry was gold ornaments and jewelry. The gold industry of Meroe celebrated for the scrupulous finishing of objects like bracelets, necklaces, stamps and figurines. Other industries include pottery, spinning and weaving, where evidence of perforated mud-loom weights and basket weaving were found in large quantities. Interestingly enough that today Meroe is famous for weaving and production of certain types of cloth. Baskets and a variety of objects made from palm trees has been and is still being made in Sudan, as are leather items (sandals, bags, water skins, ablution pitchers etc.) (Plates 3.1, 3.2, 3.3).

Plate 3.1: Basket for Carrying Food



Plate 3.2: Food Cover (tabaq)



Plate 3.3: Ablution Pitcher (rakwa)



Objects of bronze, glass, faience, wood and ivory have also been found. Bronze was used for various kinds of ornaments, for small toiletry objects: tweezers, scissors, kohl sticks, but above all for bowls and other vessels (the majority in Hellenistic and Roman forms) but some are similar in shape to Meroitic pottery vessels and even have similar

decoration, though stamped rather than painted. Anklets usually with chisel-stamp decoration, are occasionally found in female burials, the majority of bronze and some of iron (Adams 1977: 371-374). During the Ptolemy period, elephants and the desert gold mines may have been the principal motivation for the expansion southwards.

During Christian period items from Sudan included ivory, leopard skins, dates, ebony for furniture manufacture, spears, emery, alum, exotic live animal such as monkeys, lions, leopards, elephants and giraffes, cattle, camels and slaves. The local craft included pottery, weaving, ironmongery and woven robes of wool; this is in addition to leather sandals and thongs, basketry and matting, wooden bowls, and grinding apparatus of stone.

Since the prehistoric and early historic periods, the incoming trade items had been mainly luxury objects like alabaster vessels and ointment jars, *ushabtis* of clay, faience, toiletry objects like bronze mirrors, wooden combs, alabaster kohl pots and sticks, weapons like bronze spear heads, arrow heads, axe heads and daggers. Wheel-made vessels of the Egyptian type were abundant during the Napatan period. During the Meroitic period glass vessels, bottles and flasks, and wine were traded. The latter had been produced in various parts of Egypt and presumably traded from there into Nubia since the time of the old kingdom. The cult of the grape, Bacchus rituals, vine wreaths and Bacchic decorative motifs were not executed only on imported pottery but on native Meroitic pottery as well. Amphorae, pitchers and jugs like vases are found in taverns in Seyala, as are beakers, cups, pitchers and oil lamps (Adams 1977: 362-363). The Axumite had carried silent trade with the Meroites, through which they obtained gold nuggets. Cosmos mentioned that emeralds were obtained from the neighboring Blemmyes (present-day Beja) and were traded to India at enormous profit (ibid: 385-6). During the Christian period and according to the Baqt Treaty items from Egypt included food (wheat, lentils, olive oil, exotic vegetables); vinegar and wine, horses, textiles (special fabrics,

luxury clothing and carpets). Imported Islamic objects, especially the Fustat Islamic glazed ware, Islamic glasware (cosmetic flasks, tumblers, goblets, bottles with marvering techniques, painting and cut decoration), textiles particularly the Fatimid silk, were among the traded items found in archaeological excavations at Kulubnarti, (Adams 1998), Qasr Ibrim (Adams. 1996), Soba (Welsby 1991), Badi' and 'Aidhab (Kawatoko. 1993), and Derheib (Castiglioni. 1994). Other imported items were Islamic bronze objects, such as slender decorated rods, iron agricultural tools, knives, and pectoral crosses.

Trade in Muslim Sudan

The prime agents of Islamisation during the time of the Christian kingdoms were Muslim traders from Egypt and the Arabian Peninsula. Arab nomads entered the country looking for good pastures and trade in gold, emerald and slaves. During that period they penetrated as far south as Soba, the capital of Alwa Kingdom. Al-Aswani who is quoting alMagrizi, mentions the existence of Muslim traders at a *ribat* (lodging house) in Soba (Magrizi 1905: 311-12). The second wave of Arab immigrants came in the period between the collapse of Makurra Kingdom in 1321 and the rise of Funj kingdom 1504. Archeological evidence from the Old Dongola site shows the existence of Muslims towns, *kebalwas* and domed tombs (it). When Eliya Celbi passed the ravin in the late 17th century was in ruins. The third wave of Islamisation occurred during the Funj and Fur/Keira Kingdoms. The rulers welcomed the holy men, who started a period of reform. The Úlama didn't confine their stay to big urban centers and they moved to the frontier areas of the states. There were some of them who had been traders and this combination was a common theme in the literature of the Sahel and Savanna areas south of the Sahara (Manger 1984: 12).

As for the Islamic kingdoms Funj and Keira, there were articles from Kordofan, Darfur and Sennar. It included gum, hides, senna leaves, ivory, rhino horns, camels, cattle, tamarinds, ostrich eggs and

ostrich feathers, gold in rings and in grains, water bags, salt, tobacco, *natrun* (niter), whips, alum and slaves. *Natrun* has been traded since the time of the Egyptian Old Kingdom and is used with other material for mummification. According to a British report of 1907, the Kababish was affected by the closing of natrun fields for trading purposes due to the unsettled state. In the 1908 report, the natrun fields are considered as part of Darfur and not Dongola (1907, 1908: 235).

The Funj and Fur Kingdoms were dependent on international trade thus the proximity to major trade routes was thus an important factor for their development. The coming of Muslim traders was important to trade, as they introduced a new legal code which could be used to regulate trade, and secure respect for contracts (Manger 1984: 13). Arabic had been the language of trade since the time of the Christian kingdoms. Traders working in areas far away from home felt the need to live in close community with each other. Traders thus created small trading societies along their routes and they regularly among the initiator of towns. The early traders who dominated these societies were from Egypt and Arabia, and they were engaged in foreign trade. However in the 17th and 18th centuries a group of Sudanese (called *jallaba*) traders started operating and became engaged in international trade. This development took place in the Funj and the Fur domains; the Sudanese traders were also Muslims. The dominant goods are the Sudanic items of gold, slaves and ivory. Many of these items had to be raided in the frontier areas to the south of the states. This penetration could be followed by military conquest and thus the subjugation of the areas into the states. The development of trade as an investment has not wholly moved from north to south, rather it had moved from market towns outwards to the surrounding area. The fact that the early market towns were found on the crossing points of caravan routes shows their importance to the long-distance trade. This type of trade is not directed at the local producers; it was in the whole an elite affair and the products exchanged were luxury items. The profits were not

put into production, but into elite consumption that helped maintain status and perpetuate privileges. The local economies fell outside this sphere of trade. There was however barter trade going on between local producers (Manger 1984: 9).

The Islamic kingdoms of the Funj and the Fur/Keira became interested in Kordofan for trade in slave, gold and gum arabic. The items were traded in the urban markets of al Obeid, Bara, Umm Ruwaba and al Rahad, which were all towns established by migrants from the Nile Valley. Scarcity of land in northern Sudan, a tradition of migration both to the north and south and periods of political instability on the Nile, particularly in the 18th century, had led to an intermittent diaspora of Ja'aliyyin, Danagla and others away from the river. The migrants came as *Fugara* or holy men, and as *jallaba* or traveling merchants. Their commercial skills, experience of urban life and religious prestige led them to open up trade and trade routes and to establish towns west of the Nile (O'Fahey 1951: 18-19).

Historical evidence which provides a number of important insights into the interaction of economic, military and political power within the Middle Nile basin. In DarFur, trading and raiding formed part of a closely integrated cycle affording politically momentous forms of wealth which complemented those derived from local subsistence resources. A similar pattern is found within Sennar, where the annual *salatia* provided the sultan not only with slaves for export but also with personal retainers for his bureaucracy and slave regiments (Edwards 1998:183). For smaller kinglets to the south or southwest of DarFur and Sennar raiding was an essential mechanism for economy and subsistence, e.g. the *Shulluk*.

Local market (regional trade)

Country people also brought their commodities to the market; mats, baskets, ox and sheep hides coarse pottery, camel saddles wooden dishes etc., so it was not only international trade that was being conducted.

Native crafts have survived for millennia, and still supply in almost every need of daily life. From the cotton they grow the Fur carry out every step of cloth-making: ginning (fluffing and cleaning with a bow-like instrument) spinning -with a simple wooden staffs and finally weaving on a hand-loom in strips about 10 yards long and 250 cm wide. The cloth is strong and durable, and a certain amount comes to the market after families have satisfied their own needs; it is thicker and warmer than the cheap Indian cottons that the merchants peddle, and readily commands a higher price than the mass-manufactured article. The same activities were carried out in the time of the Funj and Fur sultanates. As mentioned before, Berber was famous for its damur, as were Sennar and Shendi. For footwear, some of villages have their tanners, working with local goat and sheep-skins and with local tanning agents like *Garad* and slipper-makers probably buy their dyes and needles from the hawkers, but they use knives and scissors made by local smiths until recently, these smiths smelted their own iron from ferruginous sands occurring in the hills, but nowadays they are more likely to buy a broken lorry spring or axle as their raw material; they are to be found in most villages, squatting over a charcoal fire. The purchase of iron must have been the most important element in the Shilluk trade with neighboring peoples. Traditionally the Shilluk obtained some iron from the Dinka and Nuer who, in turn, obtained it from Jur and Bongo iron smelters. Another source of iron was Kordofan. The Fur of Wadi Azum make knives, spear-heads, scissors, hoes and other implements. These, though far below the standard of manufactured goods regarding quality, and probably a worse proposition economically, are nevertheless cheaper in first price than imported articles; another advantage is that the poor quality soft metal is easier to repair or sharpen locally than the tempered products of modern metallurgical skill. While they are regarded as members of a distinct group, the smiths are not of a different caste or tribe, as is the case in northern Sudan. Smiths have their own plots of agricultural

land, which they work in the rainy season, when they take a break from repairing broken hoes and axes for their neighbours.

Generally, Shilluk trade seems to have been of marginal economic significance; mere casual small-scale barter. Even at Eleis, the Shilluk had only relatively meagre goods on offer; strips of hippo-hide for making whips, spears and pots, hides and various vegetables. However, though its economic value was limited barter-trade undoubtedly played an important role in the fluid pattern of relations between the Shilluk and their neighbors. It is not known how long these trading patterns had been in existence, as they were recorded for the first time at the end of the 19th century (Mercer 1971: 415). Sennar merchants kept slave agents at El Eis to buy up Shilluk goods (Werne 1849: 99-100).

The women pot-makers use local clay and dung fuel to mould and bake water pots and cooking utensils. They work by kneading a lump of clay against a special type of rope matting, and attain a remarkable circular result. The women of el-Khandaq were famous for making objects out of palm leaves and wheat stalks. These ranged from the food covers, *tabaq* to baskets used as food containers, or for carrying food, roof-hanging devices to keep food fresh, mats etc. Women also prepared hearths, or stands out of lime mixed with animal dung. The extraction of lime to use for flooring and the making of hearths was once women's work. An ethnographic observation of a female oven maker was carried out, as remains of ovens were observed in the deserted houses and are still in use by some families elsewhere in the town. (Soghayroun 2008: 77)

The markets in wadi Azum area are held at the principal villages once or twice a week and at Zalingei every day, with a crowd on Fridays. These markets are attended by every villager who can find time from his regular occupation from within a radius of 24 km or so (and in winter this means almost the whole population). The Baqqara come to barter butter and milk and perhaps a bull, hawkers offer cloth, needles and thread, razors and mirrors, sugar, tea and spices, charms

and sandalwood; local women bring grain, cotton, some cooked meats for travellers, and home-brewed beer to be drunk at the end of the day. There is little formal organisation of markets, no payment of dues, but a natural separation seems to occur between men and women, and between Fur and non-Fur.

Such, then, is the economic interrelation between different population groups in western Darfur, where a single region is occupied by persons with very different modes of life. This is, of course, not the only part of the Sudan belt where such a mingling occurs, and the interdependence of Fulani and Hausa in northern Nigeria springs to mind. What is perhaps the outstanding feature of this region is the large number of groups which meet along the Azum, so that an extremely full and varied economic life is maintained between them (Barbour 1954: 180).

International Royal Trade

Exports

- a) Articles from Kordofan: gum, hides, senna leaves, ivory, rhino-horns, cattle, tamarinds, ostrich eggs, ostrich feathers, gold in rings and in grains, ox water-bags, salt, tobacco, simsim, wooden dishes and slaves (Appendix 2). (Burckhardt 1822: 309, Pallme 1844: 280, Petheric and Petheric 1869: 304-305).
- b) Articles from Darfur and Sennar: camels, gum, ivory, gold, water skins, feathers, natron, tamarinds, shishm, rhino horns, slaves whips and alum.

Ostrich eggs and feathers are among the commodities which had a considerable value. Reference has been made before, to the presence of ostriches along Wadi Howar in the third decade of the 20th century (Bagnold 1933: 114). The nomad Arabs of the North and western desert were and are still dealing in it and in Natrun. Natrun has been in demand since the time of the old kingdom; it is generally acknowledged that the ancient Egyptians used the natural soda (natrun) in connection

with the burial and preservation of bodies (mummification) (Lucas 1932: 119). Salt, according to Burckhardt, was the second most important product in the 5th Cataract region, and it was monopolized by the king of Shendi. Sennar traders bought this salt and sold it to the Ethiopians. The salt as a commodity is widespread in different parts of the country the Fur of the mountains trade it along wadi Azum as part of the local and regional economy.

Indigo was one of the corner-stones of the colonial economy, together with sugar cane and cotton. It was the monopoly of the government. It was cut three times during the season, at intervals of about two months (Bjorkelo 1983: 69-70). To extract the dye, the stalks and leaves are placed in a cemented mud basin or cistern of water for eighteen hours, the water is then drawn off into another vessel where it soaks for a few hours. It is stirred well with sticks, after which it is let it off into a cauldron, in which the final process of boiling takes place. Indigo of very good quality was produced. Indigo factories to extract the dye were established at Berber, al-Matamma, 'Aliab, Thamaniyat, Marawi, hafir, Khandaq, and old and New Dongola. Remains of these factories are still standing at different sites, with different conditions of preservation varies. The best preserved are at Berber and Saqadi (Plates 3.4, 3.5). The pasha received nearly 14,000 okres (*Ugga* of 1.25 kg) of indigo, which was then sent to Cairo and sold there at 15 dollars per ochre (Hoskins 1835: 52-53). In April 1837 Puckler Muskau was shown a factory at New Dongola by the province governor. "It already produces indigo of three different qualities; the first one is equal to that of India. The *Ugga* of this quality costs the government twenty four piaster and it is sold for eighty piasters. On the whole, 50,000 okres are manufactured annually and no European is now employed on the works. Berber indigo industry was in operation from 1828; it was established to produce some 14,000 *oqas* of indigo annually which, together with 20,000 hides tanned at another Berber Factory and grain produce, were transported by camel to Aswan as tax payment in kind.

Indigo was important for European textile and printing industries and the 14,000 *oqas* produced (17.5 tonnes) manufactured at Berber in 1832 comprised the major part of over 30 tonnes produced in the Sudan at Berber, Dongola, and Kamlin on the Blue Nile (Udal 1998: 272). The government gained considerably by obliging the peasants to plant indigo. Peasants were unwilling to cultivate mango (indigo) as much labour is required and they don't consider the price they receive sufficient. It also requires more water than other crops; in Berber province they produce 10,000 okres of indigo, each waterwheel requires four oxen, four or five men and children (Hoskins 1835: 162, 177). In Dongola Province Hoskins found 5,000 saqias each irrigating 1.6 – 2 ha, a total of 8093 ha of grain in addition 12.5 tonnes of indigo (ibid: 273, 337).

Plate 3.4: Remains of Indigo Factory, Saqadi



Plate 3.5: The Basins of the Indigo Factory



Imports

Surviving evidence suggests that the goods imported into Nubia during the Christian period included luxury foods such as wheat, lentils, olive oil, exotic vegetables, vinegar and wine, horses, and a wide variety of textile goods, including special fabrics, luxury clothing and carpets. In return, the Nubians are known to have offered the Muslim princes ivory, leopard skins, dates, ebony for furniture manufacture, spears, emery, alum, exotic live animals such as monkeys, lions, leopards, elephants and giraffes, and cattle, camels and slaves. (Spaulding 1995: 587).

While during the Islamic states textiles, metals, silver dollars, handware, scents, medical herbs and spices, beads, semi precious materials, firearms and military supplies. During the second Turkiya of Mohammed Ali Pasha, Taylor reported the English Muslins, calico, light-red woolen stuff, cutlery, beads and ornaments, cloth silk; powder and tobacco are also brought in considerable quantities. In the large towns, sugar, coffee, rice and spices were available (Taylor 1854: 386-88).

Means of Transaction

The goods for local consumption and the use of goods was limited only to certain sphere of society; a fact underlined by different types of currencies that could only be used in certain standardized exchanges where different currencies were used for different types of products. Means of transaction are either bartering or in kind. Since early times barter was the system of transaction in Sudan used for slaves, cattle, iron and corn imported from the north (Arkell 1961: 191). The abundance of glass beads in the Meroitic graves, where thousands and tens of thousands of beads were found, led to the conclusion that beads were the media of exchange in the absence of coins. In Dar Masalit, west of Wadi Azum, some of the commodities were also currencies i.e. media of exchange with fixed prices, *midd* (handful) of grain, goat, cow and beads. The latter is generally a store of value first and second a medium of exchange (Kapteijns 1984: 56). This bartering system continued for a long time even when money, like the Spanish dollar during the 18-19th centuries came into circulation.

The currency in Shendi until the early 19th century was *dhura* and *damur* (cotton cloth weaved locally). While slaves and camels were generally bought with Spanish dollars; *Abu Mudfaa* (from showing a supposed figure of a gun on the reverse) *Abu Amod* (column), *riyal abu Areyaa* (Carolus 1111) (Burckhardt. 1987: 289). Cloth, iron hoes and copper and tin rings served as media of exchange and were essential elements for the maintenance of power and prestige (Hassan 1979: 204).

With the general commercialisation of the economy which took place in the 18th and 19th centuries, new currencies were introduced, taxes became to be paid in money, and a debt relationship between producers and people controlling money development. These are a few factors which made people more dependent on money and on the market. The development in the Turko-Egyptian period is of crucial importance to this development as the government itself interfered directly on the productive life of people to an extent that was formerly

unknown. So the government monopoly in trade is not a new one but the demand of taxes in money represented a new development (Manger 1984: 10).

In the 18th and 19th centuries there were traders who were still primarily involved in foreign trade, and indigenous traders who dealt at various regional and local markets. Supply and demand was between urban and rural areas. Later, in the mid 19th century some of tax revenues were taken in kind. Ahmed Pasha Widan (1838) had took the greater part of taxes in kind e.g. indigo, hides, ivory, gum and slaves (Udal 1998: 297). Transactions between nomads and peasants led to the development of local crafts like basketry, pottery, ropes and cotton yarn.

The Traders

The Jallaba (sing. Jallabi) is a name for northern Sudanese traders and shopkeepers operating outside their area of origin. It is a term used in western and southern Sudan to describe traders from the riverine tribes in northern Sudan, mainly Danagla, Ja'aliyyin, and Shaygiyya (Haaland 1984: 274). The term has been used to designate travelling merchants who were usually associated with slave trade, as in most of the 19th century travel literature. According to Walz, this association shouldn't be comprehensive as the Jallaba have traded in various items and "*should be seen as importers and exporters in the broadest sense*" (Walz 1978: 71). Cuny explains Jallaba as "*merchants who transport goods between Egypt and the interior either on their own account or on that of an associate*" (Cuny in Walz 1978: 72).

About 200 names of Jallaba who appeared in Cairo during the 18th century, or who were connected in a legal or familial way with local merchants have been preserved in Cairo court texts (*Mahkma*). They either carry place names or tribal or racial names like *ad Dongolawi*, *al Mahasi*, *al Khandaqawi*. Other Sudanese *gallaba* had names suggesting origins in Argo, Dalgu, Ankawi Island (near zaydab) and Sinnar city

itself. Few merchants from Darfur are described in texts other than *ad-Darfuri*, except when they carry such well-known ethnic names as ad Dongolawi (Walz 1978: 74).

The slow migration of Dongolese to major trading centers of the Sudan can be dated to the late 17th century. Consequently many Dongoloses came to Egypt from Darfur in the 18th century and from Wadai in the 19th century. Still others came from Sennar from the 18th century. Dongolese came to Egypt as *Khubara* (guides) e.g. Khalid ad-Dongolawi, who appears in documents dated 1751 and 1756. The Danagla became the backbone of the jallab commercial network which, by the middle of the 19th century, had spread to every part of present-day Sudan and Chad (Walz 1978. 74).

Some traders specialised in certain commodities Abd Allah Bey Hamza traded in gum arabic and ostrich feathers. Surviving documents show that a full load of these items was brought by Kababish nomads for the benefit of Abd Allah Bey in Khandaq. Both items originated in Kordofan, was then carried on camels to the Nile through Wadi al –Al Malik to Ed-Debba or through the branch of Wadi Howar to Khandaq. Then, from any of these sites it has transported on boats to Hafir, offloaded and loaded on camels again, which joined the forty road caravans to Egypt.

Manpower and Services

Uni and Harkhouf, the Egyptian Old Kingdom officers, reported carefully in their texts how they were obliged to secure the collaboration of local chiefs in their commercial enterprises, and the scrupulous negotiation conducted with them. It was during the same 4th dynasty the, that the governor of Aswan assumed the role of the keeper of the door to the south; further evidence of the growing prosperity and importance of the country (Adams 1977: 144). The increase in desert vegetation made camel nomadism possible across a wide belt that included the Red Sea Hills, the Bayuda and northern Kordofan

and Darfur (O'Fahey. 1974: 4). The sparse desert population provided services, which included the camels and operating the carrying industry (Oliver 1977: 232). Another relation is created in favourable circumstances when they exchange animals for vegetable foods with the sedentary neighbours creating a symbiotic relationship. During the dry season, they were pushed towards the Nile or they migrated to the south and become dependent upon cultivation for food (Bjerkolo 1989: 105).

The most important of the nomadic or semi nomadic tribes are the Kababish in Dongola and partly in Halfa, and the Hassaniya and 'Ababda in Suakin and Berber districts. The nomads are chiefly dependent on the camel carrying trade. Owing to high freight charges in the early 20th century, the nomads are still able to compete successfully with the railway and motor vehicles on the first half of the 20th century (Hamilton 1935).

The 'Ababda had worked as camel drivers and guides, and had controlled the route between Berber and Egypt for a long time. They extended their control further south and west during the Turkiyya and controlled the route between Omdurman and al-Ubayyid. Their work included a postal service to Darfur and south to Fazugli. The Bishariyyin controlled the route from Berber to Suakin (Bjorkelo 1989: 105). The Turks were dependent upon the Bishariyyin for the route from Berber to Suakin, and on the Kababish for the Kordofan-Dongola route. Also on leading eastern desert route from Korsko. The British report of 1907 referred to heavy rainfall in the desert that year, they forecast good grazing for the nomads. But the prosperity of the Kababish affected by the closure of the natrun fields for trading purposes for almost a year. The Report gave assurances that the Wadi al-Qa'ab would be protected against Bedaiyat raids and the Natrun fields would be open for trading and security provided (1907: 235)

In the western desert the Kababish controlled the Kordofan-Dongola route, providing camels and the manpower necessary to

transport gum and leather to Khandaq. In some cases they acted as partners and travelling agents of big merchants; a good example reported by Bjorkelo and Ali is the partnership between Hassan Hamza of al-Khandaq and the chief of the Kababish camel nomads, al-Sayyid Fadl al Mula. Hassan invested 48 Majidi Rayal for the partner to trade with (Bjorkelo and Ali 1990: 36). Thus the role of the camel nomads was not confined to leading camel caravans or providing the transport services. Transactions between nomads and peasants were a permanent feature of local production craft and manufactures activated both men and women, and the cotton yarn and *damur* cloth from el-Matama as well as from Sennar, found customers all over the Sudan. Palm-leaf mats were exported as far as Egypt, whips, ropes, saddles and leather bags were produced for the caravans as well as for local use. Dongola area produces and exports dates both northwards and southwards (Hoskins 1835: 8). It is clear that merchants had financial partners in other regions and countries who could be asked to pay or receive payment on their behalf, rather than cash sending over long distance with reliable person.

The *Khubara* (sing. *Khabir*) are the traders and camel drivers; some of them were wholesale traders who specialised in a few commodities. Some were leaders of the royal caravans of sultans of Darfur. The name is now part of the famous family names of al Khubara or al Khabir family, and is still retained in Al-Khandaq.

The role of local communities must be taken into account regarding caravans and at boat harbours. Retail traders at these ports have their agents and partners who distribute the commodities to the interior and to villages along the Nile where the boats have no stops. Again, local crafts like palm-branch baskets (for carrying dry bread and dried stripped meat), water skin bags necessary for the desert trip and mats were produced in these centres (Plate 3.6, 3.7).

Plate 3.6: A basket made of palm branches and leaves

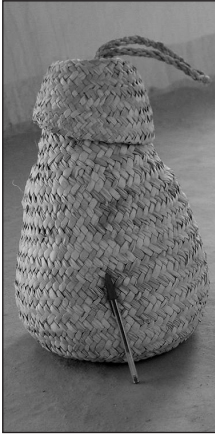


Plate 3.7: Palm leaves hangings



Several small towns developed from villages to service stations where camels could rest for some time, commodities were exchanged, customs dues were collected and caravan guides recruited. Agents were either natives of respective areas or partners from traders' families or relatives. This led to the development of the Jallaba system, a continuation of the mechanism of ancient Nubian trade. It also led to intermarriage of Nubian traders with people to the south which, in turn, helped to secure faithful agents (Osman 1984: 136).

Conclusions

Within the Funj and Fur/Keira sultanates, long-distance trade was primarily the monopoly of the sultan, concentrated on the export of gold, slaves and ivory, brought together at the royal market or *bandar* at Sennar, Cobbe, and al-Fashir. Control of long-distance trade was an important source of power for both sultanates. Its importance was such that its loss had important political consequences. The Fur/Keira dynasty probably inherited long-standing trade networks existing under

the Tunjur dynasty, and Egyptian merchants were certainly trading at the Tunjur capital at Uri in the sixteenth century (Edwards 1998:183).

The gradual weakening and disintegration of the Funj state during the 18th century appears closely linked with the wearing away of many royal privileges, including trading rights. Similar developments were also found in DarFur in the 19th century, with the appearance of new, informal but powerful elites that existed largely outside the existing state hierarchies; these included powerful slaves, *fugara* (religious leaders) and merchants.

More generally, despite some control over subsistence resources, which remained essentially the privilege of the sultans, provincial elites were dependent primarily on the proceeds of various customary dues; access to other forms of wealth and power were derived either from participation in slaving-raiding and trade, or from royal gifts channelled through the sultan. Despite the possibilities for the control of subsistence production, particularly in areas with irrigated agriculture, the most important state revenues were derived elsewhere, from non-agricultural exotic resources. The peripheral zones of raiding and the domination of areas provided specific valuable resources destined for the court or long-distance export trade.

4

Trade Routes, Towns and Forts

The Trade Routes

Medieval Arab historians and geographers had referred to Sudan's trade routes. Al Magrizi mentioned the long distance along the Nile from Abu Hamad to ad-Debba, which was shortened by the Bayuda desert route. They also mentioned the eastern route of Abu Hamad–Korsko, which had been in use since the Meroitic period (Musád 1972: 357). Ibn Sulayman mentioned the Abu Hamad –'Aidhab, Suakin route across the eastern desert.

The trade caravans linked different parts of the region, and extended from Cobbe in the west to Suakin on the Red Sea coast, and from Shendi and Berber in the north to Sennar in the south. Major caravan routes had also penetrated deep beyond the region boundaries, as far as Egypt, Ethiopia, southward to the kingdom of Kulla and westwards to Bornu and Hausaland (El-Bushra 1971: 65). The caravan route to Suakin had opened the country to Arabia, India and the Far East.

Land routes are not the only ways of trade flow; in the early beginnings of trade relationships between Egypt and Nubia, the Egyptians surmounted the difficulties of the 1st and 2nd Cataracts. According to an inscription prince Uni, the governor of the south at Abydos, was sent by King Merenre of the 6th dynasty (2423-2242 BCE) to make canals through the 1st Cataract to establish an unbroken connection by water between the granite quarries west of Tumas and Abu Simbel and the north. It seemed that he succeeded in opening five canals (Breasted 1912: 136). The 2nd Cataract presented greater difficulty because of its length and because of the series of broken expanse of black rock. In 1964 the French expedition working at Mirgissa discovered an ancient, ingenious way of negotiating the cataract (Vercoutter.

1964:36). A slipway for boats was built on the land by spreading a layer of slippery Nile mud on the sands, thus bypassing the cataract at its most difficult points. This muddy slipway was reinforced by poles serving as wooden rails, making it possible for sailors to pull boats along it. It is not clear when the slipway was first constructed but it is possible that it was in use during the 2nd millennium BCE, when Egyptian domination extended south as far as the 3rd Cataract (Osman. 1978:114).

The quantity and variety of Egyptian goods in A group graves suggest that the Egyptian traders, boat captains or caravaneers must have been frequent visitors to Nubia over a long period of time, mostly itinerant as no evidence of royal interest exists about the earliest Egyptian dynasties (Adams 1977:136). It seems that such bulky trade flowed along the Nile and in donkey caravans. The Egyptians employed donkey caravans to transport goods from Nubia as far back as the Old Kingdom.

Land routes

Darb al Arba'in (forty days route)

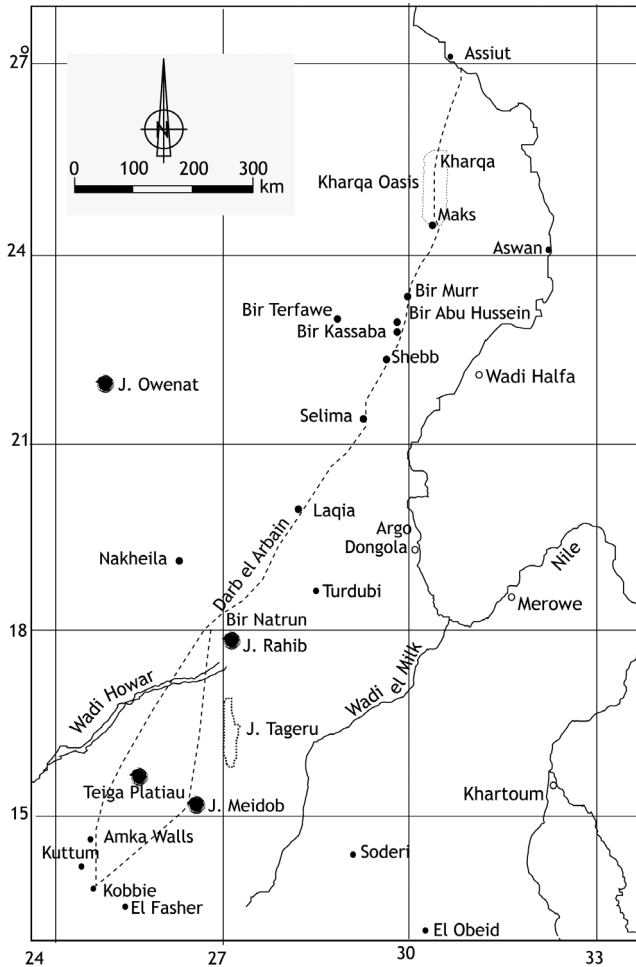
The road took its name from the number of days required to accomplish the journey along it. Shaw, referring to Gleichen's estimation on the length of the road, and the difficulty met, lack of grazing, except at few watering places, concluded that the forty days implies 40 marching days, excluding stops (Shaw 1929: 65). It was one of the main caravan routes that cross the deserts of North Africa: the Algeria-Timbuktu, Tunis-Kano, Tripoli-Chad, Benghazi-Wadai, and the Darb al-Arba'in from DarFur to Assyut (Shaw 1029: 63).

Darfur had two main routes: direct to Egypt via Darb al Arba'in, or north-eastwards to the Nile at Debba and Khandaq. In fact, the direct route of Cobbe was established and was much shorter than the route that went via Kordofan. In addition to its directness, the advantage of the desert road was being able to avoid adverse winds in the reverse bend of the Nile between Karima and Ed- Debba.

On the way back from Egypt and after passing the valley of Wahat (Oasis) to Selima, the Darfur caravans turn southwest while Sennar

caravans turn southeast to Mushu along the Nile, then by Khandaq, Debba or alternatively to Ambuqol or Korti, from there leaving the Nile and crossing the Bayuda desert to Al-Metamma. There are sections of the route still in intermittent use. Brown, the first European to cross the route, estimated the value of goods carried by a caravan of 500 camels in 1796 as £115,000 (Map 4.2)

Map 4.1: Darb Al-Arba'in (adopted from Shaw 1929)



From Assyut the caravan ascends from the Nile and crosses the limestone plateau in a southerly direction, until 144 km from Assyut where it descends into Kharga oasis. Then to bir al-Murr, abu Hussein, Qasaba, cheb (Natrun). The caravan reaches Selima oasis after two days. The old maps show the Arbai'in road as turning in from Selima to the Nile, which it reached near Argo in the 3rd Cataract region. This route was taken by Poncet (1698), Du Roule 1704 and Krump (1799). From Selima the route leads southwest to Laqia for 225 km, where in many places there is water within 1.5-1.8 m of the surface. The Laqia is the stepping stone on the route of the Bedayat and Gor'an raiders who, coming via Nukheila from the mountains of Ennedi, pass Laqia on their way to raid the tribes which frequent the fertile wadi of al-Qaab. The next stop south of Laqia is bir natrun 257 km away. This refers strictly to one of the four wells in the oasis; Bir sultan, Milani, natrun and Nakhla. The Kababish and Howawir know the place as a whole as el-Átrun. Bir sultan is said to be named after Sultan Ali Dinar. Bir Natrun is visited more today than Laqia or Selima. Every year a number of caravans come from Dongola, Kordofan and DarFur to collect rock salt, which is found in quantities in the salt-pans 3 km west of Jebel Kashafa (Shaw. 1929: 69).

From Bir Natrun there are two alternative routes the first and longer leaves in a southwesterly direction and crosses Wadi Howar, leaving the Teigha plateau on the east, and arrives at the first water at Anka well. The second and shorter runs almost due south to Malha wells at the western end of the Meidob Hills.

Sennar Routes

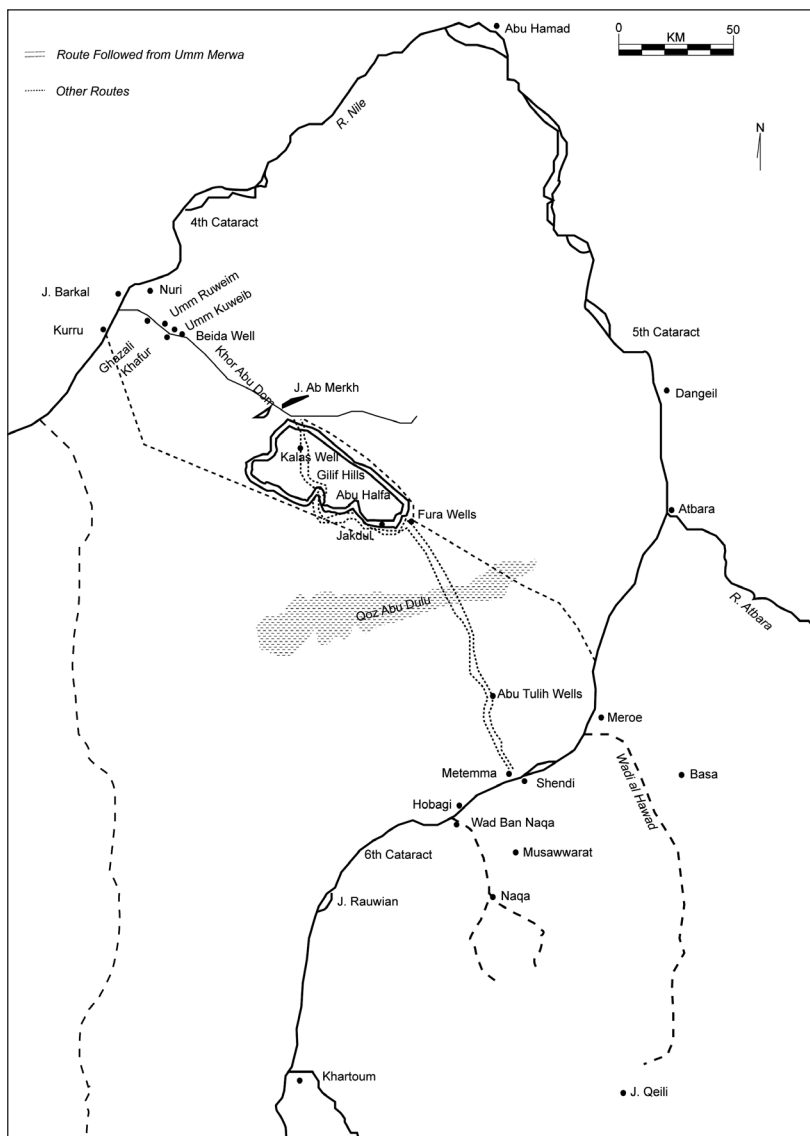
Sennar had many routes to the north, east and west. It was connected to Cobbe, the Darb al-Arba'in's terminal, through El-Eis on the White Nile. To the east it had a route to Gondar in Ethiopia, while its link to the north through Gerri, then Shendi/Al-Mettama and across the Bayuda desert to Ad-Debba, then along the western bank of the river to Mushu, from where the route diverged northwest to join Darb al-

Arba'in in Selima Oasis. After natively, the route proceeded to Shendi-Berber, then from Berber either east to Suakin or to the west across the Bayuda Desert and across the river to Old Dongola. Bruce arrived in Sudan in 1772 via the route that connected Sennar with the Ethiopian plateau. He then followed the Blue Nile to Halfya, to Shendi, then used eastern caravan routes to Aswan (map 4.2).

Bayuda Desert route

The Meroitic civilization (350 BCE-350CE) owed its existence to the Bayuda route. It became the lifeline connecting the northern and southern districts of Kush, with Napata and Meroe as the termini. Once established, Meroe also became the main staging point for overland trade, not only with Napata but ultimately with Egypt as well. Nastasen Stela provides testament of the existence and use of this route, describing his progress across the desert from Meroe to Napata for his coronation. Along these routes the ruins of a stone fort have been attributed to the Meroitic period at the wells of Fura, halfway across the Bayuda Steppe (Adams 1977:303) and at its northern end more Kerma and Medieval sites were reported. The route was in use during the Islamic kingdoms and today it's used for camels caravans from the Butana region (Map. 4.3).

Map 4.2: The Bayuda Desert Route



Meheila Road

This is an overland route from the Barkal across the desert to Kawa below Dongola. During the Kushite period of Napata-Meroe, the absence of important settlements between Kawa and Sanam indicates the continued use of the Meheila Road, rather than the Nile as the principal route between the 3rd and 4th Cataracts. If towns at either end of the Meheila Road became the main urban centres of the Napatan period, and if no important settlements grew between them, it is a logical inference that trade along the overland route played an important part in their development, as the further extension of the overland trade was an even more important factor in the development of Meroe and other cities in central Sudan (ibid: 291). Evidence shows that Napata and Kawa have achieved prominence, because of their location as the termini of the Meheila route, which bypasses the Upper Dongola Reach and its adverse winds. Meroe represents a further and much more significant extremity of this overland trade. The city lies at the upstream end of the great desert route which cuts across the Bayuda Steppe, bypassing both the 5th and 4th Cataracts and the adverse winds of the Abu Hamad Reach. While supervising the digging of the well at Jebel Um Madrum, Woodland reported in the British Report of 1904 the discovery of an ancient road, which he thought was of considerable importance for travel between Khandaq and Barkal. Whether this ancient road is part of the Meheila Road or not, it requires further investigation.

Shendi/Al-Metamma routes

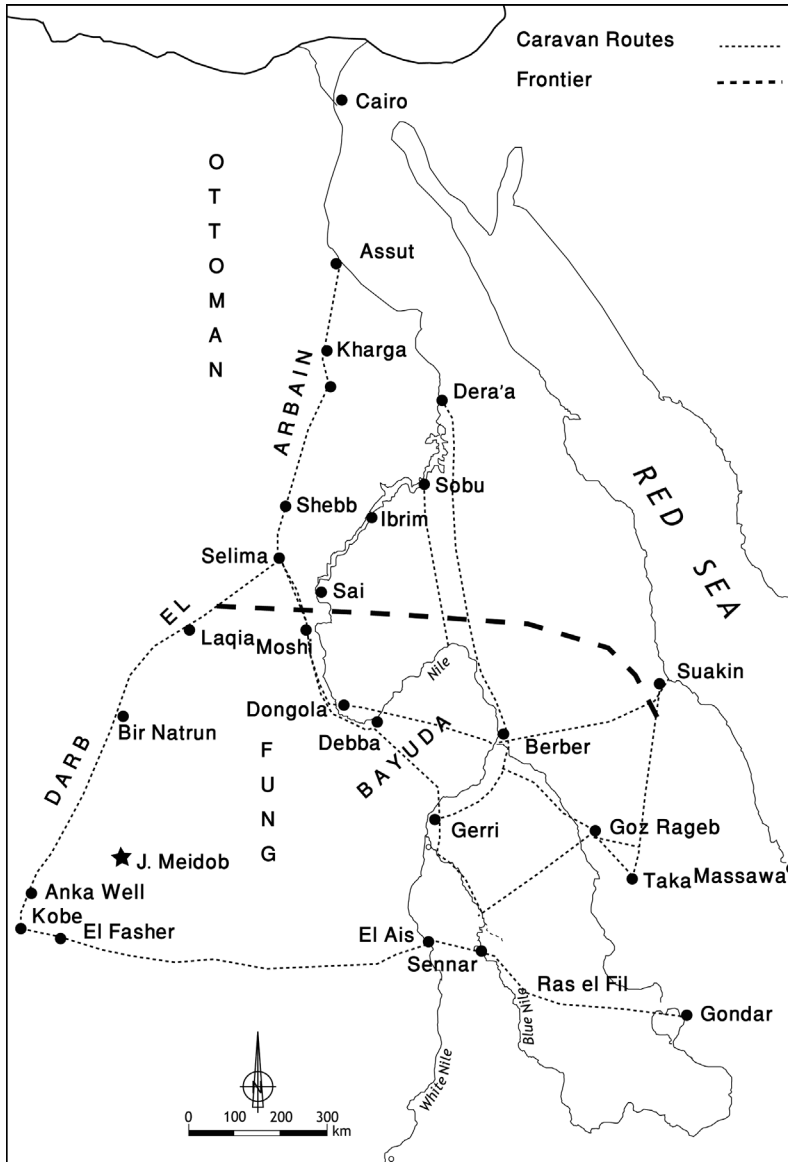
Near Shendi the river made its closest approach to the southern end of the Red Sea, thus opening the way to Arabia, India and the Far East (ibid: 590). Another route that travels east by way of Sinkat leads to the ancient port of Suakin. The convergence of these trade routes led to Meroe's dominance in political and economic spheres. Trade items were found as far south as Sennar and included bronze, glass

and other luxury goods. In observing the position of Meroe near modern Shendi, it is logical to infer that the same routes led to its rise as a large commercial centre for the caravan trade. Southeast wards from Shendi across the Butana ran the historic trade route to the high lands of Ethiopia. This route can be traced from the Ethiopian plateau, through *wadi* Hawad in the Butana, to al-Metamma, then across the Bayuda Desert through wadi Abu Dom to Karima and then through the al Meheila road to Khandaq.

Abu Hamad-Korosko Road to Egypt

Another route that was important for the development of trade's this road, which leaves the river at Abu Hamad and reencounters the Nile further down in lower Nubia, thus avoiding the great bend with its navigational hazards and length. While little is know about the first development of caravan trade along the Korosko Road, it had evidently become the main economic link between the Sudan and Egypt by the last century BE (Adams 1977:304). Apparently it was not until Meroitic time, however, that the desert road became the main link between central Sudan and the Mediterranean world. If Meroe owed its beginning to the Bayuda road, its final ascendancy and the eclipse of Napata were due, in all probability to the development of Korosko road to Egypt. It might have been known in the New Kingdom, for it was in large part the same road that led to the Wadi Gabgaba goldfields.

Map 4.3: Main Trade Routes During the Funj and the Keira Sultanates



River trade

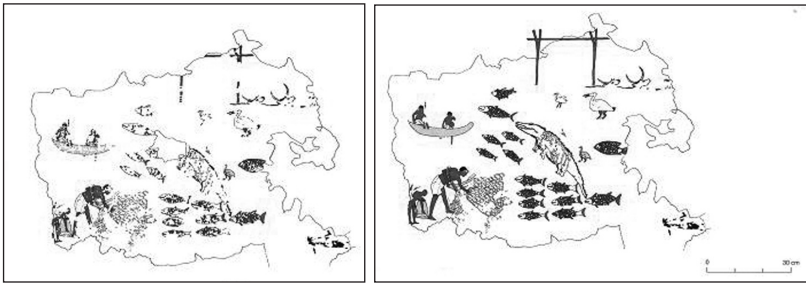
River transport is cheaper than overland movement, but the suitability of the Nile for transport varies along its course; alternatives are by donkey and camel. Boats can go as far as Mushu, from where cargoes are carried overland to Wadi Halfa. A 1908 British report showed that water traffic was made up of native sailing boats and that several new boats, had been built during the 12 months of 1907, and added to the existing fleet. Most of the dates from the northern end are conveyed by native sailing boats to Semna during the Nile flood, and thence transported by canals to Halfa.

River trade in the early 20th century has been well documented and helps to account for previous periods. This trade included both local and external trade (regional and international trade). The local trade based in Dongola was organised into two groups; one controlled the river trade to the north up to Halfa, while the other group controlled river trade to the south. The movement was scheduled so that they could meet and exchange goods in the Dongola region in summer, which is the time of the date harvest and high floods in the cataracts (Osman 1984: 134-135). When the Nile was high, boats could pass through the cataracts up to the Egyptian border and return before the recession of the Nile. Goods transported north included household pottery, water jars, doukas (flat pottery dishes for cooking local types of bread), food storage jars, dough containers and wood (either worked on bed saddle and ceremonial container, or unworked blocks). Hangings of wool and palm branches, decorated gourds, salt niter and spices were among the traded items. Upon reaching Halfa, all the goods were sold and the traders then loaded up dates which they offloaded to traders who controlled trade between Halfa and Egypt. Dates are used for exchange, but wheat is rarely used. In Halfa exchange was by cash when they returned with manufactured goods: agricultural material, chinaware, ornamental goods, and luxuries such as tea, sugar, razors and towels.

The return trip was quick, as these objects are needed south of Dongola. The objects were bartered with households and traded for

ceremonial objects produced in the south, which would be collected by the fleet traveling south. In many cases traders had agents in different places, with whom they would leave some of their goods so that they could gather the necessary southern goods. According to Osman (1984:137), three factors made the trade likely; ecological, technological and economic. The ecological factor is the Nile as the main constant element of trade, together with alternative roadways. The technological factor is represented by boats, canals and slipways. Nubian rock art and wall paintings depicts boats of all kinds and sizes that were used (Plate 4.1). The economic factor refers to the variability of economic products and the other commercial needs of people along the Nile Valley, which varied according to the different climatic zones through which the Nile and its tributaries run. These same factors were present during the medieval period, so that it is likely that same system, with some modification, produced at the succeeding periods.

Plate 4.1: Boat Drawing on Walls of a Funerary Chapel, Kerma, (K11)



By the end of the 18th century, DarFur caravans surpassed Sennar's in size. This coincides with immigration of the Nile Valley traders, searching for opportunities to trade with Egypt along the forty-days route. The direct desert route to Egypt was the shortest, but the most dangerous. The alternative route by way of al-khandaq in the Nile Valley is probably older. It had two routes, either through central Kordofan, landing at ad-Debba, or directly through Wadi Howar to Dongola, landing at al-Khandaq (Colston 1884: 161)

Means of Transport

The early history of trans-Saharan caravan trade is obscure. Although greatly facilitated by the introduction of camels, its origins certainly go back several centuries earlier. The Egyptians had employed donkey caravans to bring goods from Nubia as far back as the Old Kingdom. Donkeys were used since the Egyptian kingdoms for the cargo offloaded from boats at the cataracts (Plates 4.3, 4.4).

Plate 4.2: A Boat Rock Drawing, 3rd Cataract Region



Plate 4.3: Donkeys Being led to Markets



Plate 4.4: Camel Caravan to Egypt



Food for the camels was brought from Egypt for consumption on the forty-days route. Brown's caravan took one camel-load of beans and chopped straw for every ten camels. On the return from DarFur the camels were given *dukehn* (Shaw 1929: 65).

The Arabs of the Bayuda desert had formerly held the monopoly of the date export trade from ad-Debba and Korti to Omdurman (1907 Report: 240). In the early 20th century, the natron trade was flourishing and sailing boats from Argo, Dongola, Khandaq and Ed-Dabba could proceed under canvas to Afat, where the River Nile bends sharply to the north (1905 Report: 49).

The Turkish, in the early 19th century, brought Egyptian boats which couldn't manage the Nile conditions of the Sudan, specially the cataracts. The Sudanese built big and small boats, the big version could load up to 200 *Ardab* of Dhura or dates. The big boats could reach up to the 5th cataract and not all of them could pass through the cataracts doors *abwah*.

When Taylor arrived in ad-Debba he observed that here were seven vessels in the river waiting for the caravans. One had just arrived from Kordofan and the packages of gum arabic were piled up along the shore (Taylor 1954: 403-404). In northern and most of central Sudan, these trading boats are called *nugger*. They were reported from Al-Khandaq, Dongola, Omdurman along the White Nile to Malakal. Gleichen (1888: 46) reports the Khandaq *nuggers* to be very solid, single masted and generally able to transport five camels.

To the south, the Shulluk canoes were the only really navigable craft native to the Upper Nile region. They were of two types; the small, light, swift craft made by lashing together stems of the *ambatch* tree. They were used primarily for fishing and short distance transport. The second type, the dugout canoe made from the trunk of *Sunt-mimosa*, was used for long-distance raids and trade. These canoes, when full to capacity, could carry 9-12 crew, but the normal crew was 4-5. Before the establishment of Turkish White Nile shipyards, the Shilluk canoes had no superior or rivals in the region (Mercer 1971: 412). No other major tribes on the White Nile had adopted canoe building on any scale.

The Dinka had small reed fishing canoes and the Baggara unwieldy transport rafts; both easy to intercept and destroy. The canoes give the Shilluk a high degree of mobility and were used for trade too. Mercer mentions that before 1820 there were no sailing ships on the Nile above Dongola (ibid: 413).

In the 1905 British Report the hope is expressed that the new railway would eventually be extended to Afat, which is the point where the river bends sharply to the north and up to which sailing boats from Argo, Dongola, Al Khandaq and ED-Debba districts can proceed under canvas (1905: 49).

Towns, Cities and Forts

In the 18th and 19th century Sudan, administration was one of the functions shared by towns because the Sultan usually had his representatives in important settlements. Trade was another important function which was closely associated with caravan routes; it brought towns in contact with the outside world. Large commercial centres were those located on major caravan routes (ibid: 66).

Towns provided labour, camels and services, several small towns developed from villages to service status, where camels could rest, some commodities were exchanged, customs dues collected and caravan guides recruited. The regular caravan traffic led to local prosperity. If routes were to change due to the shrinking of wells or high dunes, poverty would result.

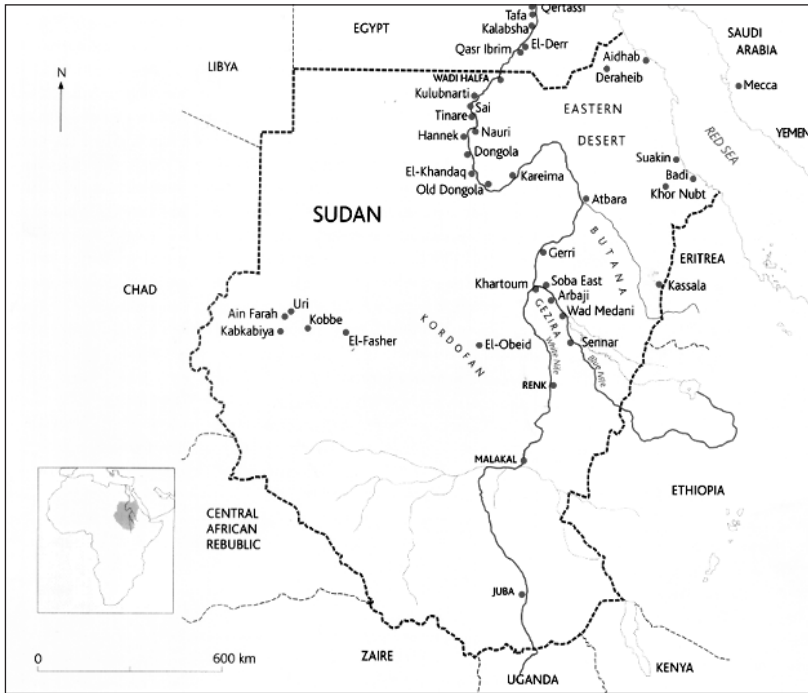
Merchants in northern Sudan operated on the frontier between the Middle East and Africa. In some cases their field of action, export and import, covered the area between Cairo and the southern Sudan. After 1821 the Turkish regime opened in for foreign merchants, including Europeans. Many average Sudanese traders became travelling agents for the foreign firms, but there were also many who carved out prosperous niches, unhampered by the presence of the foreigners. In both cases the Sudanese merchants came to play a vital role in linking the Sudan

to the world capitalist market. Slave trade, gum arabic, gold, and animal products were traded, first in urban markets of western Sudan, like al Ubbayid, Bara and al Rahad, which were all towns established by migrants from the Nile valley.

The Wadi Howar pours into a wide area which extends from Old Dongola in the south to near Khandaq in the north. Towns were markets, places where caravans stopped to exchange commodities, food supplies and other desert road necessities.

According to documentary and archaeological information, at least 20 settlements were important centres for commerce, administration and industry, and are therefore referred to as towns (El Bushra 1971: 63). The caravan routes and the foundation of the Funj and Ottoman sultanates were of great importance in developing trade and towns. These towns performed functions of both trade and administration, not only for themselves, but also for the surrounding areas e.g. Sennar in the Funj Domain and Cobbe in the Keira sultanate. Over time, some of these towns reduced in size, while others developed into big or small centres. Sennar, Arbaj, 'Ain Farah, Suakin declined, while Shendi, and Damer developed slowly as market centres for Shendi and a religious centre for Ed-Damer. The forts and towns that are detailed below were not the only ones, but they were either the major ones along trade routes or the ones which have been covered by archaeological work or document analysis (Map 4.4).

Map 4.4: The Main Towns of the Medieval, Post Medieval and Modern Sudan



Along Darb Al-Arba'in

Cobbe

It was the real terminus of the Arba'in road, and lies about 56 km northwest of al Fashir. Now deserted, it was once the chief city of the western Sudan, to the extent that Burckhardt called it the second town of the country, after Sennar. He estimated the population as 6,000, mostly merchants and foreigners, with a few Furs. It was the main commercial centre in Darfur where Egyptian commodities were sold and where African commodities and slaves were acquired by caravans going north to Egypt via Darb Al Arba'in. Cobbe was an important trade center on the road crossing Darfur from north to south. Water resources were secured from shallow well dug

in the bed of the *kebor* running on the southeastern side. Browne describes a caravan on the forty day road which comprised 500 camels, the value of cargo was estimated £ 115,000. The commodities were much the same as Burkhardt was to encounter a few years later in the market at Shendi.

Other centers include Shoba, Sweini, Kurma, and Kabkabiya. All of them were located near Cobbe, and all commanded trade routes. Ril was the key to southern and eastern roads, as was Kabkabiya to the west and Sweini in the north. The market was held twice a week; Monday and Friday. Browne states that a short distance from Cobbe were small villages which were dependent on the big town. (Adams 1977: 612). There was a daily movement of people from the surrounding villages to the town. There were four or five schools where students were taught the Koran and theology (El-Bushra 1977: 67). Nile Valley immigrants played a big role, the *Danagla* and the *Mahas* traders who escaped the wars in their regions tried to recommunicate with Egypt to trade through other routes. That is how the traffic along Darb al Arba'in was resumed.

'AinFarah

Famous locally as the last capital of the Tunjur rulers. The archaeological components of the site include fortifications, mosques, palaces, houses, granaries, a cemetery and other general utility structures. Walls were built to fortify parts of the site lacking natural fortification.

Shoba

Lies about 12 km to the southeast of Kabkabiya and covers a total area 1 km in length from east to west and 700 m wide from north to south. It includes a palace, the sultan's mother house, at least one mosque, a fort and the area occupied by the settlement (Reed 1994: 13).

Along Sennar-Berber route

Sennar

The capital of the Fung kingdom was a royal, administrative, military and trade centre. It was founded in 1504 CE and continued to be the capital

until 1821 CE. It was a large, unfortified town with a circumference of about 4.8 km. The main archaeological features of the site were the palace, mosque, markets and the cemeteries. The palace and mosque were built of burned brick; the first was already in ruins when visited in 1833 while the latter remained standing until early decades of the 20th century. There were two cemeteries, one for the *sheikhs* and the other for commoners. Sennar had a daily market, which shows its commercial significance as markets in other towns were restricted to certain days of the week. In the vicinity of Sennar there were also numerous villages that had economic relations with it. The radiating routes from Sennar to the neighbouring habitations were another manifestation of the political and commercial leadership of the town. There were two markets in the town, one of which occupied a great area in the center of the town (El-Bushra 1971: 66). Crawford (1951: 79) mentioned that there were three market places in the 19th century (Plate 4.5). The phenomenon is still in Sudan main towns; at Ed-Damer there is a big weekly market for local crafts livestock, spices etc.

Plate 4.5: Sennar Town in Ruins (after Bellfonds)



Arbaji

Lies on the left bank of the Blue Nile, about 148 km south of Khartoum. It is said to have been founded in 1445 CE by Hijazi ibn Ma'in (Dayf Allah 1992: 5) but the visible remains of today belong to the Funj town of the 16th-18th centuries, when the town was an urban centre of administration. The main archaeological features of the site, which measures about 1,000x750 m, are the foundations of mud brick, rectangular and square structures with thick walls and two cemeteries to the north and the south. The ancient northern cemetery contains remains of five big qubbās of red brick. Another important feature is a track, nowadays used by lorries, which crosses the site from the north to the south, called *Darb al Jamal* (the camel road), which used to be a caravan route, probably the main route between Sennar and the north. The site in the first half of the 20th century was merely low mounds covered with scatter of potsherd and broken stone artifacts. North of the mounds were the cemeteries, with three gubbās built of unfired mud brick and known as the tombs of sheikhs Abu Sinayna, Doshayn and Abu Zaid. If the information given to Bruce in 1770s was correct, it had been in existence in 1504 CE and was the capital of the 'Abdellab chiefs.

Evliya Celebi (1672), Ludfus (1681) and Bruce (1772) visted Arbaji. Bruce mentioned it as the seat of wad Ajeeb and as a large and pleasant village. Bruce was the last European to see Arbaji and he recorded that, according to tradition after a battle in 1504, 'Amara Dunqus removed the seat of Wad 'Ajeeb to Arbaji so that the latter could be immediately under his own eyes (Bruce 1772: VI, 423). Thus Arbaji could have been an urban centre of administration. It was in Arbaj, and not Qerri, that the sheikhs of Qerri received the customs tolls of Krump's caravan in 1700 (Krump. 1710: 256).

Gerri

The political centre from which the 'Abdellab ruled the northern part of the Funj kingdom. The caravan routes from Egypt and Suakin met at Gerri (see Map 4.1). Thus it became customs post and checkpoint of small box (Crawford 1951:66). According to Krump (1710) Qerri was a small collection of houses around the residence of the sheikh. By the last third of the came century Bruce (1772) mentioned that it consisted of about 140 houses, well built and flat roofed.

The main archaeological features were the town walls, stone houses, the cemetery, and the forts. The walls extended from the western side of the *jebel* to the bank of the Nile; some were built in the gaps between the different parts of the *jebel*. Remains of stone houses were found built on top of *jebel* on a flat circular area about 50 m in diameter. Most of them were rectangular, the rest were circular. The cemetery lies on a rocky plateau about 2 km south of Gerri. Most of the burials were inside rooms, the rest were in corridors (Soghayroun 2004: 45-46).

Shendi

According to James Bruce (1808: 529) Shendi was a large village, the capital of its district, governed by Queen Sittna, the sister of Wad 'Ajeeb. Shendi had grown into one of the largest markets in the eastern Sudanic belt before the Turkish invasion of 1821. It was a crossing point for the caravans going both north and south, east and west; caravans also stopped there to exchange commodities before and returning home. Upon arrival of big caravan, merchants from different parts of the country and from abroad would be there. There would be traders from Sennar, Suakin, Kodofan and DarFur in addition to craftsmen and artisians; sandal designers, and silversmiths. Spacious areas were used for the weekly market days. A barter system was used, using local media of exchange, like *dhurra* and cotton cloth or the Spanish dollar.

By contemporary standards Shendi was a rich town (Bjorkel 1984: 84). There was always some new caravan arriving and another departing,

indicating the high commercial standing of the town; the people of Shendi were traders and almost everybody was engaged in commerce or related occupation. Pilgrims from west and central Africa pass through Shendi on their way to Mecca, and according to Burckhardt about 5,000 slaves used to pass through town each year. The market was held on a wide open space between the two principal quarters of the town. The shops were organised in three rows, built of mud the one behind the other in the shape of a niche, each about 1.8 m in length and 4 in depth, and covered by mats. These shops for the most wealthy traders of the town, who carried their goods to and from home daily, as the shops have no doors. Other merchants sat upon the ground under a kind of a shade (Burckhardt *ibid*: 290).

Shendi and Berber furnish good examples of traded items and commercial towns during the Islamic kingdom of Sennar and the Sultanate of Darfur. Moorehead, reporting Burckhardt's observations about Saturdays and Fridays "*a thousand miles from any part of the world that one could call civilized you could buy such things as spices and sandalwood from India, antimony, medicines, German swords, and razors, saddles and leather goods from Kordofan, writing paper and beads from Genoa and Venice, cloth, pottery, and basket ware of every kind, soap from Egypt, cotton, salt and Ethiopian gold. Monkeys to do tricks, Shendi wooden dishes, Dongola horses, camels and beasts to carry these goods across the desert*" (Moorehead. 1961: 157-60). Hoskins has noticed that merchants from Shendi and Sennar furnished Berber with soap, rice, mocha coffee, mirrors, glass beads, shells, cotton articles, tobacco pipes, crockery cooking dishes etc, as they passed through it to and from Egypt. In addition came some grain, vegetables and salt, metals, silver dollars, scents, medical herbs and spices, beads, semiprecious materials, firearms and military supplies. The craft industries provided the peasants with *sagya* pots, ropes, and wheel implements, shoes, cotton and linen cloth and basketry.

Near Shendi the river made its closet approach to the southern end of the Red Sea and thus opened up to Arabia, India and the far East.

To the west the caravan routes, keeping as far as possible within the cover of the rain belt and south of the Sahara, led from oasis to oasis, to Lake Chad and Timbuktu.

Al-Metamma

A large market town opposite Shendi. Al-Mattama relied mostly on its cotton cloth export in the 19th century each of these places had a garrison of Turkish irregular cavalry of 400 men, each commanded by Sanjak. It is celebrated for the native manufacture of coarse cotton cloth, with blue or red borders, used by men and women in the Sudan. A considerable market is held there once a week. The town consists of houses built of sun dried brick, like those described at Berber, or round huts made of the reeds of *durra* or maize, ground each of which is a small courtyard. There are no streets each inhabitant built his house or hut wherever he chose.

Berber

To the north of the confluence of Atbara with the Nile, the town of Berber placed on a slope on the east bank of the Nile, stands on a gravelly, sterile spot. With the exception of a narrow strip of land close to the river, it consisted of four villages. A town with perhaps 10,000 inhabitants is the capital of the province of the same name. The only troops are a regiment of Turkish irregular cavalry of 400 men commanded by a Sanjak holding the rank of colonel. There were no public baths as in Egypt in the town (Petheric 1869: 108-109). Each village consisted of about a dozen quarters standing apart from each other. They probably indicated different tribal groups. The houses are generally divided from one another by large courtyards, thus not forming regular streets. Each house consisted of a large yard divided into an inner and outer courtyard. Around this yard are the rooms for family; which are all on the ground floor (Burckhardt *ibid*: 212) (Plate 4.6)

Plate 4.6: Remains of the Turkish Police HQ, Berber



Ad-Damer

Lies south of the confluence of River Atbara with the Nile, known as a holy place with a large mosque. Students from Sennar, Kodofan and DarFur came to study the Shari'a and the Koran (Burckhardt 1987: 266). In the 18th century Ad-Damer was actually ruled by dynasty of saints. In addition to its religious significance, it was an important centre of cotton manufacture. Burckhardt referred to its mosque as large, well-built, with a roof resting upon arches, built of brick and no minaret. It was the capital of Northern Province during the condominium rule, replacing Berber, which had been the capital for most of the 19th century. According to Burckhardt it was a large village or town, clean and much neater than Berber, with many new buildings and no ruins. Its principal trade was with Dongola and Shendi. The market was weekly and commodities stored in warehouses were sold.

Ad-Debba-Mushu route

Al Debba

In the 18th century Al Debba became a natural harbor for caravans going and arriving from Kordofan along Wadi al Malik, beside Shendi and al Mettama.

Old Dongola

After the final eclipse of the Christian Makurria Kingdom, the town continued flourishing under the Muslim kings. It was an important point of tax collection during the early Funj period. Its importance had reduced by the end of the 17th century, when the city was destroyed completely by the Shagiya because of disagreements between the rulers. When Celebi stopped there in CE, 1671 Old Donogla was partially ruined. It comprised a square red-brick fortress with three gates, 650 mud-brick houses, seven mosques and six *Khalwas* (Celebi 1938: 498). It has been proved historically that Old Dongola in the 17th century was ruled by the *Mek* of the Bedayria for the Funj king. When Bruce visited the town in 1772, the *Mek* of Dongola was still nominated by the Funj king (Bruce 1808: 428-29), and the tribute paid in horses, for which Dongola had been famous since the Napatan period (Plate 4.7).

Plate 4.7: Remains of the Islamic Town, Old Dongola



Khandaq

The capital of one of the Funj mekdoms, which ruled between the 17th-19th centuries. Al Khandaq, on the left side of the Nile, had in the past been an

important junction for trade routes to Egypt. The site includes the castle, the town and the cemetery. The castle was built on a high area facing the Nile, its walls were battlemented and had towers. The material used are stones, mud brick and mud (*jaloos*). The town, with its two-storey mud-brick houses, extended for nearly half a mile along the river and was surrounded by mud wall whose remains were visible in the early 20th century. The interior decoration include a keel arch, tri-lobed arched windows beside the wall recessed shelves. The old cemetery lies to the north of the town, and comprises three conical *qubbas* (domed tombs) of stone and mud, and remains of rectangular structures which might had been small mosques, as there are small *mihrab* niches indicating the *qibla* direction. These were built of mud-mortared stone. No roofs can be seen today, nor evidence of the material used for roofing, but in accordance with general practice in the area, roofs would have been of palm leaves and logs. It was the home of many, rich merchants. It became the main port for Darfur and Kordofan caravans who chose the Nubian route to Egypt. Thus Khandaq became connected to regional and international trade along the Nile (Plate 4.8).

Plate 4.8: Al-Khandaq



Red Sea Coast

'Aidhab

Lies to the northeast of the country, close to modern Egyptian boundaries. It prospered through trade and proximity to Wadi 'Allaqi's gold mines, and owing to its position opposite Jeddah it benefited from the pilgrim routes. Three distinct settlement zones have been identified archaeologically, the port, the rectangular coral houses linked with the port and an area covered with ceramic scatters. The latter is interpreted as the former site of a nomad encampment. It is probable that the numerous cisterns, as well as wells beside the extensive cemeteries which are beyond the need of the local community, are evidence of the Hajj route as well as huge trade enterprises. Excavations revealed ceramics from Fustat in Egypt, Chinese and Tai sherds, glass bracelets from the 13th and 14th centuries (Kawatoko 1993).

Suakin

Suakin provides an example of the Red Sea coral-building tradition, which was used at Jeddah and Massowa and was left to deteriorate in the 1960s-1970s. Its oldest houses go back to at least 1415 CE. Suakin was the main trading town on the Red Sea coast which, after the destruction of 'Aidhab was the focus of an important trade network and pilgrimage routes through the 17th-19th centuries, it became the principal port between Qusair and Musowa'. It became part of the Ottoman *Sanjak* (district) and the *Eyela*t (province) of *Habesh* (modern Ethiopia and Eritrea) in 1523. Before that, the Funj had annexed it to their domains before 1517. When the Ottomans arrived it was part of Mamluk Egypt.

Suakin remained an important market until the building of Port Sudan in 1910. These days, due to traffic in the harbour, it has been brought back to life for used by passengers and pilgrims to Jeddah.

The main features of the site were its mosques, *qubbas*, *ṣanyas*, houses, caravanserai and *Muhafaṣa* (governate). The mosques were

in the style of Mecca and Medina early simple mosques. The houses belong to two major phases of building. The first phase dates to Turkish rule. The later phase dates to the Egyptian period, which came after 1864 CE (the *Muhafaza*, Caravanserai). The houses were designed to accommodate Muslim families, with the *harem* hidden from the main reception area *diwan* (Plate 4.9).

Plate 4.9: Remains of Three Storey-House in Suakin



Forts

Forts were erected or reused, especially at the origin of *wadis*, at some points along the route, or at discharge points.

Kuban

A fort situated at the mouth of Wadi Gabgaba on the right side of the Nile. It was probably originally intended as a supply and control point for traffic along the desert road which led to some of Egypt's richest mines and quarries, and may well have served as administrative centre. These mines, which number more than 100 were scattered over the

eastern dessert at distances up to 241 km from the banks of the Nile (Adams 1977: 187, 233, 304).

The Gal'at (fortress) Abu Ahmed

A massive stone-walled enclosure found at about 100 km to the west of the River Nile, on the southern bank of Wadi Howar channel. It has an irregularly trapezoidal ground plan of 120x180 m, built of dry-stone masonry (Jesse 2006: 50). The fortress of Gala Abu Ahmed is an impressive structure with projecting towers and dry-stone walls preserved to a height of more than 4 m. It encloses an area of about 120 x180 m.

The field season 2008/09 provided abundant new information about the fortress; a multifunctional role for Gala Abu Ahmed (see Jesse and Kuper 2006: 145-147) seems increasingly probable: It may have been a stronghold, a symbol of power and a controller of trade routes. The buildings exposed in the interior suggest different uses based upon the archaeological material, especially the pottery and small finds, which provide evidence of long-distance contacts. The 2002 and 2006 seasons revealed a human presence in Napatan times (c. 900 to 400 CE) and indicated that there had been wide-ranging contact with Egypt.

Zankor

Penn (1931:179) noticed archaeological remains consisting of a few mounds at the foot of Jebel Zankor. In this area a Meroitic outpost was thought to have been erected by people who followed Wadi al Melik from Dongola. Archaeological investigations have shown the existence of a medieval town with a fortress. The *wadi* discharges near Debba, which became the natural harbour for caravans traveling to and from Kordofan in the 18th to 19th centuries.

Abu Sufayan

Northwest of wadi al Melik, MacMichael (1912) and Newbold (1924:78-82) noted the existence of archaeological remains such as graves, rock drawings, small walled *bash* or courtyards, and large mounds of red brick.

The Wadi Abu Dom

flowing near Sanam and Abo Dom, it had a fortress in the Bayuda Desert.

Conclusions

1. The Egyptian eastern desert had its wadis systems; the wadis dissect the region and it is along their dry beds that the ancient roads traversed, crossing from Wadi to Wadi. There were both unfortified and fortified water stations for travellers. Some of these wadis had been identified by classical writers like Wadi Abu Greiya, identified by Pliny the Elder as *Vetus Hydrenma*. This station accommodated 2,000 travelers. Remains of five forts lie on the western side of the wadi; two are relatively small hill-top installations. A third overlooks the two large forts in the main Wadi. The pottery from all five forts dates to the Ptolemaic era, to the 6th or possibly 7th century CE (Zitterkopf And Sidebotham 1995: 42).

An adequate supply of water was obviously the most essential resource for travel through or residence in the desert. The eastern desert and the Red Sea Mountains of Egypt receive occasional rains in winter, perhaps up to 25 mm annually in the mountains and much less along the coast and the Nile. Although rarely occurring, an intense localised shower can cause torrential flooding in a *wadi*. Evidence of destruction at many of the stations attests to the overwhelming power of these floods. Although some evidence exists of attempts to collect water runoff from nearby mountains for storage in cisterns, the general and more reliable water source was wells, like it is today. Many stations preserve evidence of interior wells; most have extant cistern that are circular, elliptical or rectilinear in plan. Some of the smaller stations have two internal cisterns, circular or oval in shape, constructed of stone and water-proofed by mortar. In the latter cases ceramic dates go back to the Ptolemaic period and often later (ibid: 44). Thus one expects

the same situation and only with extensive surveys can we come to greater understanding wadis systems and trade routes. There are more forts at Al-Qa'ab on the western desert, which need to be examined.

2. Cobbe and the other towns of the kingdom were located within an area surrounded by mountains that run in a north-south direction. These mountains provide natural protection against the neighbouring kingdoms, such as the Funj to the east, the Nilotic tribes of the south, and the west-African Kingdoms of Bornu and Bagirmi to the west. Those natural defense features were of paramount importance in those days when wars among tribes were endemic (El-Bushra 1971: 68).
3. Even in the Butana steppe, the urban character of most of the known settlements makes it probable that they were supported by the development of agriculture in the nearby *wadis*, rather than by animal husbandry in the surroundings grassland (ibid: 329).
4. An eyewitness caravan guide in the early 20th of century had revealed interesting information concerning the organisation caravans trade items sent, gifts exchange and imports. It also detailed the route and important wells and/or oases for caravans. Bedi Awdi from Bedayat of Melit was summoned by Sultan Ali Dinar to guide a caravan to Kufra in Libya in 1915, one year before the sultanate's final collapse (A.J.A 1922: 130-136). The sultan provided them with money (300 Riyal Majeedi; 100 to buy silver, 100 red gold, and with the remaining hundred to buy magazine rifles), she camels to be sold, and 4 male slaves and 4 female slaves. They were ordered to give a certain Sharifi at Kufra 30 of the camels and two slaves. They were asked to buy rifles, revolvers and some silk garments for the sultan. Since it was a royal caravan they were accompanied by 12 soldiers. Along the route they received water-skins filled with water and sheep for their food from some of the rulers of the districts. Names of wells, volcano craters, and oases were all provided accurately.

5

Conclusions

Since the Sudan was highly diversified both geographically and culturally before the coming of Islam; its response to the new religion and the immigrants who brought it was very varied. It is evident from historical and archaeological data that Islam entered the country as early as the 7th century CE and co-existed with Christianity until the end of the Christian kingdom of Makurra. By this time a new era of reform had begun, with the coming of *'ulama* from Arabia, who settled in Dongola region. From there their descendants moved southwards to the Shaigiya area where they established more *khalwas* for teaching the Koran and other religious sciences. When the Funj Kingdom came into existence there were already Muslims in the Jezira (land between the Blue and White Niles, and the Butana areas (between the Rivers Nile, Blue Nile and Atbara), the domain of the Funj. The first Islamic kingdom in the Middle Nile Valley came into being without a Jihad (holy war) which emphasises the existence of a large Muslim community. The first kings of the Funj were very occupied with legitimising their rule over Muslim Arabs by claiming Arab pedigree (Soghayroun 2004: 18). The Sultanate of Darfur was founded in 1596 by Suleiman Solong, it reached its greatest extent around 1780, and was overrun by the Egyptians under Zubair Pasha in 1874. After the fall of the Khalifa Abdullahi in 1898, the Sultanate was revived by Ali Dinar, and it persisted until 1916, when the Sultan joined the Senussi revolt and was defeated and killed.

Archaeological Sites

Several archaeological sites were reported along *wadis* by travellers and the employees of the Sudan government during the period of British colonisation. Newbold toured most of the western Sudan, especially

Kordofan. He mentions the sites at the origin of Wadi Al-Malik, and also details the pottery finds and their implications. Today there is a mission working at that end and a fort was discovered, which might have been what Newbold called heaps of rubble. Maydon, on his travels from North Kordofan to Dongola, reported several ancient burial grounds where he thought that several hundred persons could have been buried. The graves were marked by small piles of stones and in some cases the oblong shape of the grave was marked by selected bits of white stones stuck upright, once or twice by a huge rough sort of head stone (tomb stone). There was no trace left of any buildings. Among the objects he mentions an area where few astonishing stone beads and many fragments of ancient *burmas* (clay pot) scattered about. As the Nuba of Kordofan Mountains always stick to the hills and the few Arabs hereabouts were all nomadic, Maydon found an explanation for such a large graveyard (Maydon 1923: 37-38).

The same could be said about Wadi Howar which was, for a long time thought to end south of Jebel Rahib, where its waters sink into sand dunes. Recent research has revealed the extension of the *wadi* to the Nile. This explained much of what is recorded in documents about the route through the wadis to Dongola and Al-Khandaq.

In the 1905 British Report, there is a reference to an ancient road which was discovered while supervising the digging of a well on Meheila road at Jebel Um madrum. The road between Khandaq and Barkal was thought to be of considerable importance. It is 25 paces in breadth, cleared of stones and marked by rows of stones on the sides. Halfway between Khandaq and Barkal a large reservoir has been dug out of sandstone. According to Woodland both the reservoir and the road are pre-Arab constructions (1905 Report: 50). Here there is good evidence that the Meheila road has profound antiquity.

The Wadi Abu Dom was a region of intensive activity in both ancient and medieval times. The green landscape of the Wadi supported an amazing number of people, especially in medieval times. A town

site, several camp sites, as well as numerous cemeteries near the well-known monastery of Ghazali attest to its great fertility in the Christian period. West and east of this site, the Christian mission working on the site (Free University; Berlin) found numerous remains of Kerma - culture, represented in stone tumuli and cleft burials with sherds of Kerma domestic ware. Near these features there were also tumuli which may be dated to the Post-Meroitic period, but in this case the evidence is not very clear (Lohwasser 2009).

The study carried by Barbour on Wadi Azum did not only concentrate on the geology of the area or the origin and debouche of the *nad*, but it sheds light on the settled and nomadic tribes, giving information about their homes, subsistence economy and the symbiotic co-existence of different groups.

The Trade Routes

The desert routes proved that, with the increased use of camels, it was quicker and cheaper for trade and traders. Several routes developed from the south to the north e.g. Darb al Arba'in, and from east to west, like the Sahel route. There are some stretches of the Nile which enable trade between the cataracts. Thus caravan traffic was possible by means of a combination of both river traffic and desert tracks. In the 19th century the most important trade routes that linked Wadai and DarFur with the Mediterranean were two; DarFur forty-days road, Wadai had two, one to the north through the desert to Benghazi, the other the eastern road to Egypt through DarFur.

When the Nile is in flood it flows with tremendous force but comparative smoothness, down the cataracts, but as the water level drops, the rocks begin to appear. A boat propelled by oars or poles or moved by sails, or dragged by two ropes, can crisscross from rock to rock at al *bab el Kebir* (2nd Cataract) (Henry et al. 1898: 105). Kajbar cataract (the third) was very broken and spread over a long distance, but with a little careful steering, boats can surmount the difficulty (Henry et al: 114).

Water, as noted by Browne, was the keynote in developing centres of even a few thousand people. The sands and clays of DarFur and Kordofan supplied small amounts of groundwater, thereby limiting both the size and the distribution of settlements. However the hilly area in which those towns developed did not only offer natural protection against the enemy, but also provided sufficient water for drinking purposes (El-Bushra 1971: 68).

Dar Masalit, west of Wadi Azum, located on the borderline of savanna and Sahel; crossed by three major *wadis* and numerous small streambeds in which the water is close to the surface and easy to obtain, therefore, this land is well watered and fertile (Kapteijin: 50).

Maydon (1923: 38) reports five ancient wells, drilled in the rock on top of the plateau, but close to Wadi Magrur. From the appearance they could not have been used for many years, nor did anyone know of them.

It is important to study a site where cargo was loaded off boats, like Hafir. In the same line the sites at beginning and end of cataracts. Caravan routes encouraged the spread of market places and made the exchange of commodities possible.

Maydon's informants told him that the wadi Howar was now (in 1920s) the best route from Darfur to Dongola or Bir Natrun as alternative to the old Arba'in road. He noticed that the bed of the *wadi* was marked by camel tracks coming and going (1923: 39). These marks are visible until today in these *wadis* beds. Animal dung and fireplaces for the caravans can be found within a few kilometers of the main trading towns along the River Nile.

In the Arabian Peninsula, when the Wadis run, as they do from time to time, people cultivated crops in these wadis' beds and other areas which was covered by the running water; they also dig wells. In the past these wadis had determined the axes of the ancient trade routes. Thus the caravans to al-Sham (Fertile Crescent) moved parallel to Wadi al-Sarhan, while the ones going to Mesopotamia followed

Wadi al-Ruma and Wadi al Batin. With the arrival of Islam the same Wadis contributed to delineating the Hajj routes (Wild Dada 1987: 35 in Arabic). Wadis played an important role especially during the early and middle Holocene, when they transferred a great amount of water to the Nile, as can be deduced from size of the present channel. During that time the whole of the present day Sahara was wet and ecologically hospitable, when it started getting dry by c. 3500 BCE. Wadi El- Milk, as was the case with Wadi Howar, and Wadi Mugaddam, it became a refuge for many Saharan groups, untill very recent times.

Trade as Socio-economic Agent

Trade is not only the movement of goods and money, i.e. an economic activity; it is a socio-economically and socio-culturally complex phenomenon (Manger 1984: 2). Al Khandaq town is a good example of how trade had acted not only as a system of exchange but also, as Manger explains, as an agent of change, contact and of integration. In this town the relationship between traders and local communities and their role in commercialisation of local economies is well documented in documents uncovered. The socio-cultural effect of is also attested through the lifestyles of traders which in turn influenced the live of the local people.

Traders and their activities in the south and southwest helped to link together vast areas, from the savanna across the parts controlled by the early states. And finally across the deserts in the north into Egypt and across the Red Sea to Arabia (Manger 1984 8).

Most of the present-day Sudanese settlements (villages or towns), were partially established by north/riverain Sudanese. From before the Turkiyya the Danagla were among the most numerous and prosperous immigrants to Kordofan, closely followed by the Ja'aliyyin and outnumbered them in many areas during the Turkiyya. Wars, raids, famines (under the Funj, Turkiyya and the Mahdists) land scarcity, the positive picture of life and opportunities in the Diaspora, especially

regarding of trade, are the main reasons behind this movement. The diffusion of culture, language, and religion of the immigrants to these regions was an inevitable outcome (Bjorkelo 1989: 137). Manger (1984: 12) refers to the development of trading Diasporas in which the traders acted as agents of Islamization as well as commercialisation. In the Sudan it is the process of Islamization and Arabisation that is related to traders and their activities. This, in fact, was the case before the emergence of the Islamic Fung Kingdom of Sennar (c. 1504 CE), when a steady flow of '*Ulama* (scholars) and/or Fugara (Muslim religious teachers) ensued. Success in the Diaspora according to Bjorkelo, was usually achieved via trade and, to some degree in religious activities (Bjorkelo 1989: 137-140). In fact, the Fugara as holy men are as successful, as the Sultans of the Fung and Fur depended on the sheikhs for the stability of their rule and usually offered land to sheikhs. Some caravans preferred to take routes that passed by sheikh's village or tombs, for security reasons.

According to O'Fahey the immigrants' commercial skills, experience of urban life and religious prestige led them to open trade and trade routes and to establish towns west of the Nile (O'Fahey 1951: 18-19). A biography of Hamza Pasha Imam gives an example of this movement. Hamza Imam el-Khabir was a merchant of Darfur, his ancestors were Danagla merchants who settled in Kobbe. He and his brother, Muhamad Pasha were already substantial traders before the Egyptian invasion of Darfur in 1874, dealing in commerce with Egypt by caravans along the forty-day road between Kobbe and Asyute. The Egyptian occupation of Darfur helped this trade and they helped the Egyptians (Hill 1967: 151). Another example is that of 'Abd al Mula, from Khandaq, who had established himself as Khabir in Kobbe in Darfur (Bjorkelo 1989: 124).

The traditional Muslim cities of the northern central region from 1520 to 1898 can be connected with the familiar model or archetype of the Muslims. These cities functioned as trading centres and

had in common with the Muslim cities of the Middle East certain morphological features, such as irregular streets (Winter 1977: 500).

Women's participation in this trade is significant, as they prepared containers made of palm branches and wheat stalks which were of lightweight and allowed for air to penetrate, keeping food-stuffs in good condition for the long journeys. They also prepared water-skin bags and leather bags in addition to preparing the dried meat, spices and dried bread (*keisra*, *abrai*). Ovens for making bread are a local industry, as is the case of al Khandaq. In the author's 2007 season an ethnographical observation was made for the making of an oven (Soghayroun 2008: 77). They were and still are the main customers of nomads, who bring white lime from the wadis plateaus to be used for painting walls. The women of al Khandaq extract yellow lime from within the town outcrops, which they use for paving the floor and making fire stand "hearths". Their role was not confined to craftsmanship, but they could be traders or partners too. Fatma bint Salim of Shukaba Village east of Medani was a wealthy merchant with slaves from India and Egypt, who surpassed her male peers in trade network.

What is Necessary for the Future?

Most of the archaeological theories on the movement of the Sudan's people have concentrated on people migrating in one direction, that is along the flow of the Nile. Recent studies have revealed that there was much movement vice versa. Kordofan's sand-dunes, with cultivation in between them, in the small basins of clay (*Khairan pl. Khor sing.*), is a vivid example of the movement of people and ideas. The economy became a mixture of agro-pastoral with the advent of immigrants from the Nile Valley. According to Manger (1981 1, 18, 22-23) the immigrants were traders, mercenaries, and a group of farmers, the latter brought with them irrigation technology to be used in areas where water was close enough to the surface; mainly *shadouf* and *saqya* from Dongola area. By the end of the 18th century Darfur caravans

surpassed Sennar's in size. This coincides with immigration of the Nile Valley traders, searching for opportunity to trade with Egypt along the forty-days route, which was the shortest desert route to Egypt but most dangerous. The alternative route was by way of al Khandaq, which is probably older. It had two courses, either through central Kordofan landing at ad-Dabba, or directly through Wadi Howar to Dongola, landing at al Khandaq.

Apparently there are sharp, clear players in this scenario; the traders, the commodities, the wadis, the towns and forts, and there are hidden, unseen players. There are other factors that need to be analysed in detail such as; means of transport such as donkeys, camels and boats. When we started using donkeys? Is it at same time as the Old Kingdom of Egypt in the 3rd millennium CE. The earliest evidence of camels is during the Napatan period in the 7th century BC. Until other data is recovered we assume donkeys were used when people started using camels for transport. As for boats, the material used, technology, purpose and environment are essential elements for detailed study. Purpose refers to the intended function(s) of the vessel: whether for communication and trade, subsistence or industry, such as fishing or military. Technology refers to technological means available for constructing the vessel, tradition refers to the way ships and boats and how they should be designed and constructed, the material available locally and the resources required to build craft (Adams 2001: 300). It has been stated that only the boats built in Sudan could navigate the cataracts, and that most of the boats built in Egypt during the Turkish period failed to negotiate the cataracts.

The local crafts produced were of great importance to caravans, e.g. baskets for carrying dry bread and dried meat. In addition to fruit, date trees supplied the people with a variety of indispensable articles; timber for construction and house-hold purposes, ropes for water machines and other purposes, mats, and baskets of many descriptions; the young leaves are good food for camels, reeds are worked into doors, couches,

stools, receptacles and various objects (Petheric and Pethenc 1869: 105). This variety of items made from date palm explains the care and attention paid to the trees by the owners. It can create serious problems and conflicts as what happened during Meroe dam construction when people asked for high price for their date palms which is now under the dam lake or under the dam body.

Detailed study of all that is written about the country, especially by the commissioners and other high-ranking officials during the British rule is a necessity. This to be compared to what travellers and geographers recorded. Many stories and folk tales were recorded in Sudan Notes and Records (which started in 1919).

Private legal documents, such as the 18th and 19th century documents concerning the Äbd Allah bey Hamza (Björkelo and Ali 1990: 31), can shed light on type(s) of trade, contracts, agents etc. There are contracts of sale of land, partnership, commercial and financial records, and confiscated properties, as well as documents granting the title of bey, marriage, disputes over inheritances etc.

Archaeologically speaking, the sites mentioned can be divided into three categories; sites known from written resources only and not surveyed, sites that have received preliminary survey and sites that have received partial survey and excavation.

The role of Wadis and paleochannels as archaeological site's bearers as well cultural transferors between the desert and Nile Valley has drawn attention in recent years. Recently, with exploration of such areas, their importance becomes very clear e.g. that of Wadi Hower, Wadi Al Milk (Al Malik), Wadi Al Muqaddam.

The trade routes and the *wadis* studies are still in an initial stage lower wadi Howar is now being studied intensively, research into wadi al Muggdam terminal (Abu Sufyan site) is also in progress but what is needed urgently is a detailed survey of the trade routes, to locate ancient centres and to find out more about the small branches of these wadis, which were sometimes crossed by the caravans. The wadis mentioned

in Chapter 2 are just few examples, and don't cover Sudan as a whole. There are more *wadis* like *wadi* soba, extending up to 30 km from the modern Nile, with small, widely spread (Edwards 2004: 27-28).

An important aspect of this trade network is the traditional practices before, after and during the caravan trip. According to Burckhardt (ibid 184) caravan leaders conduct certain practices when they enter a wide *wadi*. They salute it solemnly and thank heaven for having permitted them to arrive so far in safety. In crossing the valley each person took a handful of Dhurra and threw it on the ground, a kind of pious offering. Such observations have social and religious connotations and through studying in detail all previous literature on caravans preparations, knowledge will be gained about all practices along the route and at arrival.

It is important to apply modern landscape archaeology, which integrates the methodologies of archaeological, social and environmental sciences on a regional scale and over long time scales (Barker 2002: 491,496). Studies should be regional, as these *wadis* do not stop at political boundaries; a wadi can originate in Chad and pour most of its waters in Sudan, like Wadi Howar, while Wadi Azum which collects all its water from Sudan and channel it into Chad).

And finally, Sudan is full of pretty spots; in Kordofan, two hours from Umm Lehhei is a fine gorge, one of the prettiest spots Maydon had seen in the Sudan. Wad Al haraz is 200 yards broad sandy wadi, shaded by immense green trees and shut in by abrupt sand-stone and rocky cliffs about 30 m high (Maydon Ibid: 38).

An ambitious joint project between the ACACIA and the Sudanese experts in 1998 which have surveyed the entire length of Wadi Howar for the first time, resulted in the official declaration of more than 100,000 km² as Wadi Howar National Park in 2001.

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Appendix 1

Trees & Shrubs

Near the Nile and at hinterlands, plants are plentiful. These include:

Dahasir : (*indigofera oblongifolia forsk*)

Date palm and tumam: (*pancum turgidum* Forks)

Ambatch: a tree of the local riverbanks, with extraordinary tight fungus-like wood

Sunt: *Acacia Nilotica*

Talh: *Acacia Seyal*

La'ot: *Acacia Nubica*

Haraz: *Fadherbia albida*

Hashab: *Acacia Senegal*

Selem: *Acacia Ahrenbergiana*

Tarfa: *Thamrix*

Tundob: *Cappris decidua* (grows on edges of Khairan)

Nabag: *ziziphus spins Christi*

Neem: *Azardachata indica*

Senemaka: *Cassia Semna*

Temam: *panicum targidum* (khairan)

Halfa: *cyndom dactylon*

'oshar: *catorrophis procera*

Direasa: *Tribulus Longipatus*

Handal: *Medicago Sativa*

Haskanit: *cenchrus biflorus*

Appendix 2

Slaves and slavery

The 1st dynasty inscription of King Jer is the oldest document in Nubian history; it probably marks the beginning of the slave trade. It shows two bound captives alongside the more numerous slain. The records of the 1st, 2nd, 4th, 6th, 11th, 12th, 13th, 18th, 19th and 20th dynasties show that every military operation yielded, as by-product a considerable harvest of prisoners. Some were obtained through commerce; enslaved by the Nubians themselves and traded by them to Egypt. But the greatest number were captured directly by the pharaohs' armies. Slavery was thus a royal enterprise. Slave labour was not a feature of the Egyptian economy, but social status and notably as in the later times for oriental monarchs and nobles generally needed to bolster the ranks of the Egyptian army itself as in the 19th century.

Slavery as an institution, and trade were fundamental to the rise and expansion of the Keira Sultanate of Darfur. The slaves were an important part of the state machinery in Darfur and Funj. In the Funj Sultanate there was a regular hunt for slaves, organised by the court. Half of the slaves belonged to the king and the rest was for export. Not only the royal house-hold used the slaves "even the modest trader owned field hands to cultivate family landholding and girls to carry water and grind grain, while the leading merchants had large slave establishments" (Spaulding and O'Fahey 1982). There was both a public and a private slave trade in the Sudan.

There seems to have been a class of professional slave raiders:

1. Any of the sultan's subjects, after giving a suitable present, could request permission to carry out a raid.
2. Leading notables could also lead raids, as in the case of a grandson of Sultan Mohammed Tayrab, in second half of the 18th century (Spaulding & O'Fahey 1982: 32).

Uses of slaves

1. In DarFur slaves were among the most important export items. The sultanate sent 2,000-3,000 slaves to Egypt annually in the period 1750-1830.
2. In the Sultan's household there appear to have been a complex hierarchy of slave groups and slave office-holders, functioning as soldiers, bureaucrats, concubines, domestics and attendants.
3. Slaves were also used by the state as soldiers and agricultural workers on royal lands. slaves were also employed by the Sultans and others as settled agricultural labourers, although the evidence for a form of plantation slavery is meager (O'Fahey 1973:37). Rich Danagla were able to use slave labourers to expand their cultivation.
4. Slaves were given as gifts to powerful or holy men and bureaucrats (Spaulding & O'Fahey 1982: 153).
5. Traders who were climbing an economic and social ladder used slaves to improve their positions.

Areas where slaves collected

The slaves were collected from their home areas south of Darfur, the Nuba mountains and later from Bahr el-Ghazal. As military power was undoubtedly essential for the maintenance of the state and indeed warfare, raiding may be seen as a fundamental activity of the state, either as punitive action or for the acquisition of slaves (Spaulding 1984:31). In DarFur, as in many parts of Sudanic Africa, an essential element of military power was the availability of cavalry horses, in this case imported from the Dongola Reach. Slave raiding around the periphery of the state is likely to have been a crucial source of wealth for the elites, either to acquire personal retainers or for export to Egypt. Within Funj state, military expansion brought vast areas under the sultan's control. Annual campaigns by the *salatiya* were mounted primarily to gather

slaves, most of whom became royal possessions. The slaves acquired in this way were not only important for their value in Long-distance trade, but were also incorporated into the Sultan's military units and bureaucracy, essential for maintaining the power of the Sultan over his provincial and district vassals (Edwards 2004:261). The DarFur slave trade followed a West African rather than an East African pattern, in that the traders did not go and capture the slaves themselves. The slaves are used to cultivate the masters' fields (O'Fahey 1973:32). The slaves came from the south and southwest of DarFur. There was steady flow of captives, both for trade and for the use of the sultans during the 18th century Keira Sultnate. That century the Keira was almost continually at war. The penetration into Bahr alGhazal and central Africa marked the triumph of the Sudanic state over other societies.

Slaves shipped by river barge were less fortunate; a French merchant who had been living in Sudan for many years made an extensive trade in slaves. On one occasion he loaded a boatful of slaves at Khartoum (Udal 1998: 289, 291).

Slavery and the *Baqt* Treaty

The Muslims originally intended to stabilise their borders with Nubia through the Baqt treaty (Beshir 1975: 15-17, 22-23). According to Spaulding the medieval Makurian *baqt* was a typical expression of the system of diplomatic gift exchanges sponsored by northeastern African kings. The institution was neither unusual, peculiar to Makuria's relations with the Muslims, nor even new; by chance it is known, for example, that in the year 573 CE the Makurians were already sending typical diplomatic gifts of ivory and exotic beasts to the great northern monarch of those days, the Roman emperor Justin (Spaulding 1995:585).

The Baqt Treaty between the Muslim ruler of Egypt and the Nubian Christian kings was more a commercial agreement than a treaty opened the way for Arab migration into the kingdom of Makurria. Muslim merchants during the rule of Kanz ad-Dawla and his successors at

Aswan continued it between the 1st and the 2nd Cataracts. (Soghayroun 2004: 15). One of the items indicates that the Christians had to supply 360 slaves annually to the ruler of Egypt. There had been period when the kings stopped sending the number prescribed; and there also had been times of negotiations to reduce the number required, as it was beyond the kingdom's capacity. This might had been the situation during the first three centuries after signing the Treaty. Conditions in later periods show that there was a marked change in the nature of the *Baqt*.

More presents are reported coming from the Sudan and in it were male slaves and slave girls, ebony wood, elephants, giraffes and other things. Presents from Mahdata included 20 horses , 80 camels and a number of Sudanese slaves and slave girls, a leopard, Nubian goats, birds, monkeys and elephant tusks, elephants and giraffes.

Ibn Abu al-Makarim from Muhadata in Aswan sent presents to the Fatimid ruler in the early 11th century, consisting of 20 head of horses, 80 camels, a number of Sudanese females and males, a cheetah in a cage, Nubian goats, birds, monkeys and elephant tusks "Akhbar Misr of al Musabbihi (complete manuscript at the Escorial Madrid code 534.

The above information reveals a marked change in the nature of the *Baqt*, with important implications. The initially stipulated quota of Nubians referred to slaves only, but slaves were eventually reduced to a secondary position and a number of new items were introduced, chiefly animals. The failure of the Nubian kings to provide the stipulated quota of slaves was a major reason for this change, though there is little doubt that the number of blacks was steadily increasing in Egypt, reaching a peak under the Fatimid. We also know that the units of the blacks in Ahmed ibn Tulun's army were almost exclusively Nubians. In this light it is reasonable to assume that the meager numbers of slaves provided by *Baqt* no longer satisfied the increasing demand for slaves, and their slave trade became the chief medium of supply.

It is also reasonable to assume that, when the Muslim court shed its simple and austere ways, there arose a demand for, among other things for animals. Animals were initially acquired for hunting, as visible proof of power, as rarities to be exhibited in ceremonial parades, and as gifts to foreign rulers. Later, animals were acquired for medical experiments and display in zoological gardens. Ayyubid Egypt in fact imported Abyssinian elephants through Yemen. Nubia big game reappears once more in the Mamluke annals. Ibn Sulaym mentions that a considerable number of big game roamed the area around the bend of the river south of Dongola. But far more important, the king of Nubia had access to Darfur, the land from which predynastic Egypt acquired its big game. Al-Tunisi mentions big-game hunting in Darfur (professional body of hunters *daramida*). The hunting ground of Ptolemy was the Baraka and Gash districts in the Red Sea Hill, where another reservoir of the big game at that time. Medieval writers pointed to the richness of the area (Mas'udi part 1, 11, 4 Maqrizi 1, 195 in fact, by the late 19th century the reports of the travelers attested to the richness of the area regarding wildlife.

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