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SUDAN STUDIES: Number 29 (June 2002)

Editorial

Issue No. 29 of *Sudan Studies* carries papers on a range of topics, from scholars spanning several generations. The paper from Simon Mollan, currently a research student at Durham, comes out of research carried out at an earlier period of his studies here; inevitably limited in its scope, it provides an interesting glimpse of recruitment to the Sudan Medical Service during the Condominium. Mahasin el-Safi, long established as one of the principal historians of twentieth-century Sudan, has contributed a paper - first presented at the Durham 2000 conference - on the Somali community in the Sudan; and Samir Alredaisy and Jack Davies have collaborated once again, this time to produce a paper on the looming problems of providing water for one of Sudan's growing urban centres.

I very much hope that we will continue to be able to bring this kind of variety and range of work to our readers; but I must stress again that we rely on you to help us do this! *Sudan Studies* is always willing to consider papers, on any appropriate subject - and we can only keep producing if you keep sending us material, whether articles or items for the Notes and News section, or books for review.

We expect that the next number of *Sudan Studies* (No. 30) will contain, in addition to the usual range of articles and news, an index of contents for issues 1-30.

Justin Willis
Hon. Editor, *Sudan Studies*

Preliminary conference announcement

The Sudan Studies Association of the United States will be hosting the Sixth International Conference on Sudan Studies, in Georgetown, Washington, in August 2003. It is expected that the meeting will run over three days at the beginning of August. Further details will be provided as we receive them; readers may also wish to visit the website of the SSA

http://www.sudanstudies.org/

This will carry details of the conference as they become available, and also carries full details of the SSA's own programme of annual meetings.

SUDAN STUDIES: Number 29 (June 2002)

WATER RESOURCES UNDER PRESSURE IN URBAN SUDAN, WITH PARTICULAR REFERENCE TO KHARTOUM NORTH

By Samir M A Alredaisy and H R Jack Davies

With the rapid increase in urban population in most countries of the less-developed world, the provision of sufficient potable water for their needs is often a serious problem. This is particularly important in arid lands. In some countries, such as the wealthy Gulf States, desalinised seawater is used and water is even imported to eke out terrestrial supplies. For many countries with arid lands, including the Sudan, such solutions are impracticable. In the Sudan the main urban centres are located either in the west-east sub-&&x-an zone with annual rainfall totals of less than 250mm or are located north-south along the Niles. It would not be surprising to learn of water supply problems affecting El Fasher, El Obeid, Gedaref, Kassala and Port Sudan in the first zone due to their rapid growth over the past half century (Table 1).

The nation's capital, in Khartoum State, is situated where the two zones meet. Nevertheless, with its position at the confluence of the White and Blue Niles it seems strange that water shortages affect its three large urban centres of Khartoum, Omdurman and Khartoum North. It might be thought that the problem lies with the Agreements between Sudan and Egypt relating to the extraction and use of the Nile Waters. But, this is not the case as it has been estimated that total extraction of water from the rivers for urban purposes does not exceed 0.1 milliard a year (1 milliard = 1,000 million cubic metres (m^3)) out of a total averaged annual flow of 73 milliards (Walsh and Musa 1991).

Table 1: Population of some major urban centres in the west-east Sub-Saharan Zone of Sudan

	(Population in 000s)	
	1955	1993
El Fasher	26	142
El Obeid	52	230
Gedaref	18	191
Kassala	40	235
Port Sudan	48	308

Source: Sudan Censuses 1955 and 1993.

The daily deficit between supply and demand for the three cities was about 70,000m^3 in 1990 (Musa and Musa 1991). For the urban dwellers (excluding those living in displaced camps) the water available in relation to population was estimated in 1988 at 0.107m3 (107 litres) per person per day based upon the capacity of the various water supply facilities. There was, however, considerable variation between the three cities. Khartoum had the best figure at 0.152m^3 (152 litres) per head per day and Omdurman the poorest at 0.055m^3 (55 litres). Khartoum North's figure lay in between at 0.140m^3 (140 litres). Bearing in mind that Khartoum has a larger proportion of its population living in First Class Residential Areas compared with the other two towns and that it also houses almost all of the main organs of national

government, it would seem that the inhabitants of Khartoum North might be relatively better off for water than those in either Omdurman or Khartoum. Except in the case of Omdurman, the WHO recommended minimum water requirement (WHO 1989) of 60 litres per person per day, seems to be comfortably covered. However, the actual amount of water available for all purposes is unlikely to exceed 80-85% of design figures (Musa and Musa 1991) due to inevitable deficiencies of the water delivery system made worse by siltation problems and losses through pipe leakage. Besides domestic needs for water, the daily deficit reported above arises from the demands of industry and of water for irrigation of gardens and public spaces. Furthermore, the above figures ignore the needs of the people in Displaced Camps, conservatively estimated at 403,000 in 1990 (Davies 1991). Consequently, the actual quantity of water available for domestic purposes is considerably below the above quoted per capita figures. Furthermore, the climate of Khartoum State is such that the above quoted WHO figure is too low. 150 litres per head per day has been suggested as needed for domestic use under climatic conditions typical of northern and central Sudan (El Saryanie 1994).

Since 1990 the water supply situation has worsened throughout the whole of Khartoum State, due to the expansion of population and the wider areas to be brought within the urban supply system. The increasing urbanisation of Khartoum State over the last half-century is recorded in Table 2. Its total population was reported to be close to 5 million in 2000 (Davies 2001) compared with 3.5 million at the 1993 census. Only an enormous investment

in water supply infrastructure, well beyond the capacity of the Khartoum State authorities, could hope to cope with such an expansion. To make matters worse, if current annual rates of urban population growth of 6% (Ministry of Finance 1995), were to continue then the numbers requiring domestic water supplies will double in less than 15 years. The water supply situation in Khartoum North is of particular interest.

Table 2: Increasing urbanisation of Khartoum State

	1956	1983	1993	2000
Percentage reported as urban	50.4	74.4	83.1	>85
Urban population(in 000s)	246	1343	2920	4250

Source: Sudan Censuses 1955,1983,1993; estimate for 2000.

Khartoum North

Permanent settlement on the site of present day Khartoum North dates from 1691 when Sheikh Abu el-Gaz built himself a house there. After his death in 1743 his followers built a dome over his tomb and this became the nucleus for what became known as Hillet Khogali. Soon after, a second nucleus Hillet Hamad, situated a little further to the south-east, was created by Sheikh Hamad Wad Maruam (Abu Saleim 1970). This settlement was Kouba

on many European maps of Sudan in the nineteenth century (Lejean 1865) (Figure 1). Also, within the confines of a modem Khartoum North was Halfaya, which, during the Fung Kingdom, was an important settlement within the Abdullab Sheikhdom. After the establishment of the Condominium in 1898 what is now Khartoum North was at first known as Halfaya. In 1904 when the name was changed to Khartoum North it had a population of 2000 (Gleichen 1905). In course of time the three nuclei and other old village settlements have become absorbed into an expanding Khartoum North. Khartoum North developed into an industrial centre, being the southern terminus of Sudan Railways until the Blue Nile bridge was completed across the river to Khartoum in 1909. So much construction work was going on, associated with the railway and steamer operations together with the workforce for the bridge, that Khartoum North's population was reported as 25,000 at this time (McLean 1910). By Independence in 1956 Khartoum North had become the chief industrial centre not only in Khartoum State but also of the Sudan with oil mills, leather works, cotton ginning, textiles, a shoe factory, brewery, dockyard and many workshops. Since Independence it has continued to have this role and has expanded its industrial capacity and range of products perhaps most notably into chemicals. With the development of the Sudan as an oil producer this aspect seems likely to be further developed.

The industrial development of Khartoum North has been paralleled by an expansion of both the area covered by the city (Figure 2) and by its increase in population from both rural to urban migration and natural increase (Table

3). After 1910 its population declined significantly. Nevertheless, by 1949 its population was estimated at almost 31,000 (Sudan Almanac 1949).

Table 3: Population of Khartoum North (in 000s)

1955	1973	1983	1990	1993	2000
40	151	341	606	701	1020

Source: Sudan Censuses of 1955,1973,1983,1993; Greater Khartoum Census 1990; Estimate for 2000.

The figures in Table 3 suggest a phenomenal rate of population increase since the middle of the twentieth century. This growth has been accompanied by the rapid expansion of the area occupied, so that Khartoum North now comprises three Town Councils, namely, the Main Town, Bahri Sharg and Bahri Shimal. (Locally, Khartoum North is usually referred to as Bahri). The population figure for 2000 is based upon a similar rate of increase to that of 1983-1993. If this were to continue, adding 45,000 to the population each year, then by 2025 the population would reach 2.25 million.

Water Sources for Khartoum North

Khartoum North has two sources of water supply and, due to the arid nature of the region with its annual average rainfall of c. 150mm, both are intimately inter-connected. The major source is the Nile and the secondary

source is groundwater, the recharge of which depends upon the flow of the river. The major source of groundwater for Khartoum North comes from the Nubian Sandstone Series, which is a lithologically diverse deposit of mainly permeable rocks which in their turn are underlain by the impervious rocks of the Basement Complex. The Nubian Sandstone Series is overlain by a thin veneer of sands, gravels and clays which supply small quantities of water of very variable quality and frequently dry out. The Nubian Sandstone Series contains two main water-bearing layers. The top is rather thin and again provides water of varying quality but is a reliable source. The lower layer is an excellent source of groundwater and is the major resource tapped by public wateryards and other private boreholes (Musa and Musa 1991). It is an important source of supply not only to the rural areas to the north and east of the Blue and Main Niles, but also to the urban requirements of Khartoum North town and suburbs. The depth of the watertable increases with distance from the Niles and so does the quantity of dissolved solids making groundwater, beyond 20km from the river, increasingly unsuitable for domestic use. There is little agreement about the storage capacity of the Nubian Sandstone Series with estimates for Khartoum State varying from 85 milliards (Saeed 1974) to 300 milliards (Sudanese-German Team 1979). Nevertheless, it is clear that potentially the Nubian Sandstone Series is an important source of water for Khartoum North (and other parts of Khartoum State).

Khartoum North is served by two waterworks extracting Blue Nile water with a capacity of 85,000m3 a day. Unfortunately for Khartoum North,

36,000m^3 have to be sent daily by pipeline over the Shambat bridge to increase Omdurman's water supply, leaving 49,000m^3 to supply Khartoum North. This quantity for the pipe supply network is augmented by 10,320m^3 of groundwater. A further 40,830m^3 is available from boreholes and wells outside the network giving a total daily supply of water of 100,l50m^3 (Khartoum North Water Administration 1996). However, if actual supply is only 85% of capacity this leaves 85,150m^3 of daily water supply available in practice for Khartoum North (Musa & Musa 1991).

For a current population of 1,020,000 this gives 0.098m^3 (98 litres) per person per day. But from this must be subtracted the demands of industry in Khartoum North. The average water consumption by a factory has been computed at 650m^3 per day (Khartoum North Water Administration 1996). If all the water requirements for the industrial area were to be taken from the pipe network then this would amount to 75,000m^3 per day, more than 85% of the total supply available (Khartoum North Water Administration 1996). Fortunately, many of the factories have their own private wells from which water is obtained. Hamed, in a survey of First, Second and Third Class housing areas has estimated that in practice water available for domestic use is only 29 litres per person per day (Hamed 1996), which for a population of 1,020,000 amounts to 30,000m^3, far below the WHO figure of 60 litres (61,200m^3). Furthermore, Hamed concluded that two-thirds of the population of Khartoum North have inadequate access to daily water supplies and that in summer months the shortages are particularly acute.

Table 4: Khartoum North water supply (in cubic metres per day)

Khartoum North waterworks (Blue Nile Water)	85,000
Less supplied to Omdurman	36,000
Net for Khartoum North	49,000
Add Groundwater	
Piped Network	10,320
Outside Network	40,830
Total	100,150
Less 15% for losses	15,000
Actual water supply available	85,150

Source: Khartoum North Water Administration, 1996.

It is therefore evident that Khartoum North is not well supplied with domestic water, and the position is likely to become more serious. At present the population is expanding at 6% per year whilst the water supply is expanding at only 3% (Khartoum North Water Administration 1996). Furthermore, other factors are also coming in to play. The general standard of living of many people is improving so that modem bathrooms, washing machines and other domestic appliances demanding large quantities of water

are becoming more common in the whole range of urban residential areas. There is an increasing need for water for irrigation of private gardens and public parks and squares following trends in other parts of the Arab World and in accordance with Moslem tradition. Hamed states that in some of the First Class Residential areas of Khartoum North, such as El-Safia, four-fifths of the houses had gardens (Hamed 1996) and the development of private gardens is by no means confined to just the First Class Residential areas. Estimates of the water supply requirements for these facilities in the Sudan are: for modem bathrooms 25-40 litres per head per day (Isam and Bashier 1986); washing machines in average households 15 to 30 litres per day (Aladawie 1990); and house gardens 2-3 litres per square metre per day (Isam and Bashier 1986). Table 5 takes into consideration a rising population at 6% a year in 1993 but with a slowly declining rate of increase and

Table 5: Future water demand for Khartoum North

	Population	Water production	Water demand
2000	1.02 million	97,925m^3	153,000m^3
2015	1.85 million	123,475m^3	325,000m^3
2025	2.25 million	149,025m^3	600,000m^3

assumes a 3% annual increase in water availability. It also anticipates an increasing demand for water from industrial establishments and an increasing domestic demand for water over the next 25 years based upon UN

estimates for comparable countries in the Arab World (El Saryanie 1994) but modified downwards somewhat.

Conclusion

These figures suggest that the present water shortages are not only going to continue over the next 25 years, but will increase dramatically unless there is a massive injection of funding into water provision for Khartoum North. This will require not only an expansion of waterworks extracting Nile water, the inclusion of the separate water yards extracting groundwater into the pipe network and the creation of new ones, but also a substantial re-piping programme to take account of the required increase in pipe capacity. Much of the present piping was installed from the 1950s and did not envisage such an increase in the size of Khartoum North both in population and area. There appear to be considerable possibilities for the extraction of more groundwater and certainly there is plenty of water in the nearby river. At present, roughly half of Khartoum North's water supply comes directly from the Blue Nile. If this proportion were to continue then even by 2025 the extraction would still account for only 0.1 milliard. The present water shortages are not only caused by the factors of rapid growth, but are also related to problems of management and to a simple shortage of finance.

Perhaps, with the emergence of Sudan as an oil producer and if there was an end to the Civil War, more funds might be available for such necessary development of the urban infrastructure.

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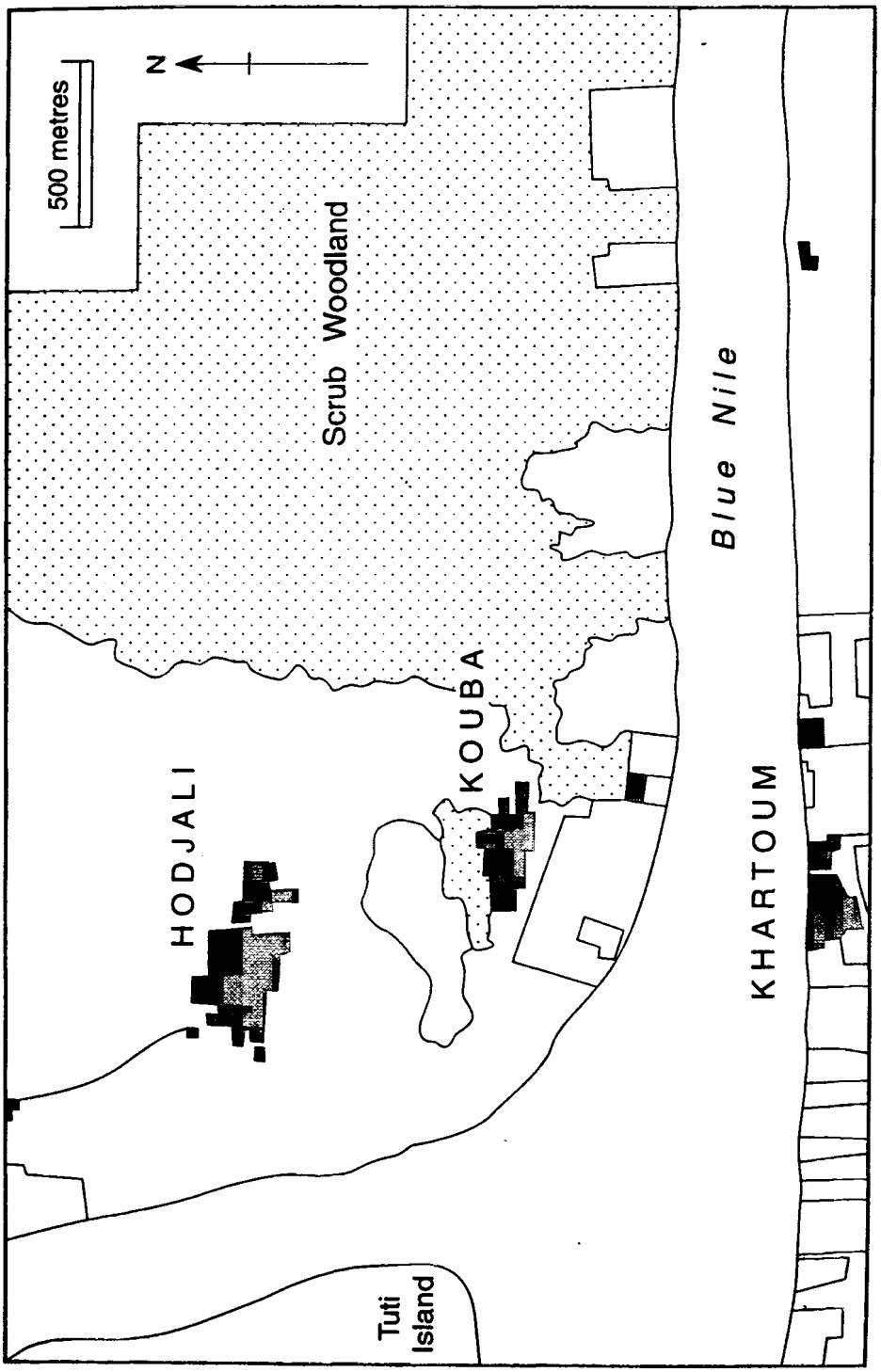

Figure 1: Khartoum North in the Nineteenth Century (after Lejean 1865)

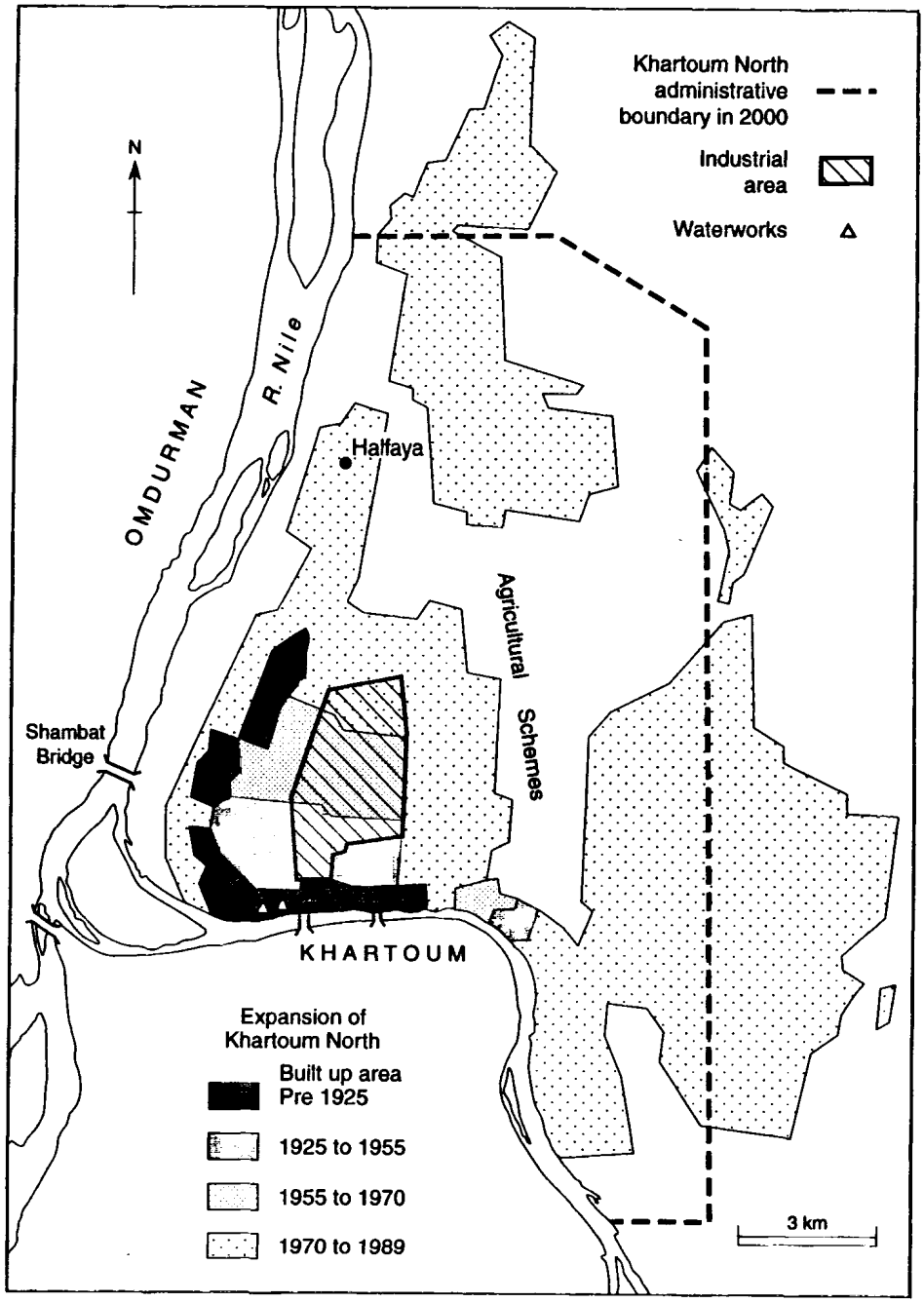

Figure 2: Expansion of Khartoum North (after El Bushra 1976 and Mohamed 1989)

SUDAN STUDIES: Number 29 (June 2002)

THE HISTORY OF SOMALI COMMUNITIES IN THE SUDAN SINCE THE FIRST WORLD WAR

By Mahasin el-Safi

Introduction:

Sudan and Somalia are connected historically through strong ties: religious, cultural and political. Sayyid Muhamad Abdallah Hasan, known to the British colonial authorities in Somalia as the Mad Mullah, fought the colonizers from 1898-1920. The Sayyid was a disciple of Muhammad Salih al-Rasheed, the Sudanese who propagated the Salihhya order in Mecca. Al-Rasheed appointed Sayyid Muhamad Abdallah Hasan as his deputy to spread the Salihhya teachings in Somalia. Due to the efforts of the latter, the Salihhya order ranked second to the Qaddriya order in Somalia in the nineteenth century[1]. Other sources point to the actual participation of some Sudanese in fighting with the Sayyid's troops against the British and the Italians in Somalia[2]. Also, the same sources direct attention not only to the impact of the Sudanese Mahdi on the Sayyid, but also to the possibility of their meeting at the port of Suakin in eastern Sudan; though this event could not be confirmed or validated[3].

[1] Sudan National Archives, Khartoum, File 48/b/1/2, Natives.
[2] Ahmad Suleiman, "A Call for Dialogue over the Countries of the Horn of Africa", Al-Raya, Khartoum, 20/12/1988. (in Arabic)
[3] R. L. Hess, The Poor Man of God : Muhammad Abdullah Hassan in Bennett, N. R., Leadership in Eastern African, 1968, p. 70

a) Somalis in the Sudan: The early phase

The coming of Somalis to Sudan, according to informants[4], dates back to the early years of the twentieth century. This pioneer group is important for this study as it represented the elements that lived in the Sudan and integrated with local communities to the extent that it is rather difficult to distinguish them physically and culturally from the Sudanese people. Since 1918 the families of Hasan Abdu, Muhamad Arabi, Musa Haj Aden, Jami al-Royali and Warsma Ghalib have lived in Gedaref town among the early group of Somali residents in eastern Sudan[5].

In later years these communities grew, due to the fact that both Sudan and northern Somalia (British Somaliland) were subject to British administration. The latter encouraged Somalis to move to the Sudan for better chances of living, as northern Somalia at the time was much weaker economically. In addition to arrivals from northern Somalia, other groups from the Ogaden country (in south-eastern Ethiopia) crossed over through Eritrea and across Sudan's eastern border into the Red Sea and Kassala Province. The annual report of Kassala District in 1945 shows that out of a population of eight hundred and seventy-one non-native inhabitants thirteen Somali men, six women and nineteen children were present in the District[6].

[4] From an interview with Abdallah Farih - Somali Embassy Khartoum - A resident in Sudan (Khartoum July 2000).
[5] An interview with Osmari Abdalla Hamid an administrator during the condominium period, stationed for a number of years in various towns in Eastern Sudan. He is also married into a Gadaref family (June 2000).
[6] SNR/ Kassala province 2/14/55 Annual Report 1945

The population census of Kassala District for the years 1947-49 gives a slight increase in their numbers: thirty five men, thirty women and thirty one children.

The statistics available in the colonial records in Khartoum for the eastern province do not reveal the exact figures of Somalis in districts like Port Sudan and Beja. Yet upon examination of the legal reports of the same period, one finds mention of Somalis being convicted in summary and non-summary cases, which indicates the presence of Somali groups in these districts[7].

The most significant group of Somalis in this first phase was, therefore, the community which since the early years of the twentieth century inhabited the part of Gedaref town known as Deim al-Nur. Those Somalis, having little or no education at all and at the same time enjoying the reputation of being good fighters, were exploited by the British and were particularly enrolled in the Sudan Defence Force. At the end of the War, they were demobilized. Some of them had spent over twenty years in service and thus became pensioners. They preferred to stay mainly in the eastern Sudanese towns, particularly in Gedaref, working mainly as farmers and pastoralists[8]. Here it is worth noting that while Somalis were traditionally unaccustomed to farming, in Sudan they were largely involved in mechanized agriculture; an indication of their being integrated into the Sudanese mode of life.

This first group which lived in Gedaref also took part in trading activities, especially pioneering the trade in *Tarak* (*Sterculai Stieera)*.

[7] Ibid.
[8] Interview with Osman Abdalla Hamid, (July 2000).

In this trade item they even exceeded the local Sudanese people, exploring and preserving the trees found in large numbers in the Gedaref area. They made a good profit since prices were very high. Later, they discovered that equal quantities of the same tree grow in the Nuba Mountains area in southern Kordofan and made their way there. The family of Hasan Jami became well known in respect of trade in *tarak*.

b) The Second Phase

The second group of Somalis in the Sudan were the students who came to seek benefits from the educational institutions established by the British Administration in northern Sudan during the Condominium Period. Distinct among those were the northern Somalis from British Somaliland. Some of them joined the Gordon Memorial College. Among them were Muhamad Ahmad Ali, Ahmad Shiekh Musa and Omer al-Somali who arrived in 1921. Muhamad Ahmad Ali was to become the first Director of Education in Somalia in the wake of independence in 1960. He was also part of the Somali national movement. This first wave of Somali students was joined by another group in the 1930s. Later in 1946, another group arrived, including Abdel Rahman Ahmad Ali (who was know as Tor) who became the first president of the breakaway Somaliland in 1991. Among Somali women, Rogaya Haj Dawalih and Amna Haj Adam joined the Omdurman Teachers' Training College in the early 1960s[9].

The records of the Department of Education during the Condominium Period reveal that a good number of Somali pupils were undergoing teacher training in Sudan. Among them were Muhamad Haj al-Hirsi and Yusuf Ismail

[9] Mahasin A. G. H. el-Safi, "Sudan Somali Relations" Sudan Foreign Relations: Arab and African Dimensions, (IAAS, Khartoum, 1992)

Muhamad Shirieh[10]. A letter from Major C.R.N. Bell, Director of Education of British Somaliland, to the Department of Education Khartoum, shows that by 1945 there were already some Somali boys in Bakht al-Ruda Teacher Training School in Sudan[11]. The Somaliland authorities had in a number of letters expressed their gratitude to the Sudan Government of the day for rendering assistance by training Somali students at Bakht al-Ruda and Hantoub Secondary School.

In addition to the presence of Somali students in Sudanese schools during the Condominium Period, northern Somalia also benefited in another way: the syllabus in elementary schools there was in fact based on the Sudanese example. Furthermore, the running of schools in northern Somalia during the period of the Military administration, depended largely upon the secondment of teachers from the Sudan. This is obvious from the correspondence between Major Bell in northern Somalia and the Ministry of Education in Khartoum during the period 1944-46[12]. The secondment of teachers of the Arabic language from Sudan to northern Somalia was necessary because attempts to get some from other places, like Zanzibar, failed owing to the lack of suitable men. Thus authorities in Somalia had no alternative but to recruit the majority of teachers for secondary and post-primary education from the Sudan[13]. In this respect Hantoub Secondary School played a significant role in training Somali students who went back home to teach Arabic.

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[10] SNR/ Dakhlia, civsec dept. C.S Archives Educational 17.c.7 vol. H.
[11] SNR/ Dakhlia, civsec, Ed, /401/103 Major Bell to Dept. of Ed. Sudan 31/8/1945
[12] Ibid 3/9/1944.
[13] Ibid 550/60 front sect. of Somaliland Govt to Cvil Sec. Kht. 6/9/45.

c) The Third Phase

The third group of Somalis, according to Abdallah Farih, came to Sudan in the 1970s when the Eritrean liberation movement against Ethiopia was at its peak. It is also evident that the Ogaden War between Somalia and Ethiopia in 1977/78 increased the movement of Somalis into Sudan. They, together with the Ethiopians and Eritreans, crossed over to Kassala province to escape war atrocities. Those groups were hosted in refugee camps. Negotiations between the Sudan and Somali governments failed to convince those Somalis to return to Somalia, as Somalis preferred to stay in Sudan where their economic prospects were better. The Somali Embassy in Khartoum helped some of them to get Somali passports and residence in Sudan.

This third group of Somalis who crossed over to the Sudan in the 1970s remained more detached, and far less integrated with the local Sudanese communities than the first group. Some of them still live in Kassala and other towns of the eastern and central provinces like Gedaref and Port Sudan.

d) The Fourth Phase

The fourth group of Somalis, according to Farih and Adam Awad[14], came to Sudan in the 1980s. They were originally employees of a Sudanese-American company named Ark-dalab. Previously they had been employed by the Saudi Arabian government. They came to Sudan to deliver food for the people affected by the 1985 drought, which hit some Sudanese regions. This group of about one hundred and ten men were driving a number of trucks. Having completed their task, the company which employed them

[14] Adarn Mohammed Awad, "An Essay on Somali communities in Sudan" Omdurman Ahlia University, p.5

terminated their contracts. The company itself no longer functioned in Sudan but these Somalis preferred to stay in Sudan and to seek jobs as drivers with local companies. In 1988, after the flood disaster, they proved useful in transporting emergency aid to the affected areas. In addition to that, they were employed in delivering material connected with road construction. Later on, they proved equally useful working with the companies engaged in petroleum like Concorp and Nile Petroleum especially in the west and south of Sudan. This is because Somalis gained a good reputation as long distance drivers. It is worth noting that for years they were employed in carrying trade between Kenya and Sudan. Most of these Somalis managed to get Sudanese Nationality and preferred to stay in Sudan with their families in places like Khartoum, Omdurman and other Sudanese towns.

e) The Fifth Phase 1991-1997

During the years of the Somali crisis, individual Somalis continued to find their way into the Sudan. Observers wondered why Somalis would come to Sudan since it is not a neighbouring country, and moreover, the Sudan during the same years of Somali crisis was itself suffering from severe economic constraints which meant it was not an 'El-Dorado' to Somalis.

The introductory pages to this piece of research may give an explanation as to why some Somalis would prefer to come to Sudan in the period following 1991. The information collected from a former Director of the Commission for Refugees in Khartoum (COR)[15] points to the fact that most of the Somalis who came over were young people between eighteen to thirty years

[15] An interview with Abdel Rahman Ali Kheir, Commission of Refugees (COR), Khartoum, April 1999.

of age, accompanied by very few women and children and rarely elderly people of fifty years or more. These Somalis crossed the border from Ethiopia to Gedaref town in eastern Sudan[16]. Their numbers were estimated to be around 200-400. The number increased during 1991-1996 to about 600. This increase led the Sudanese authorities in Gedaref to gather these Somalis and put them, as a separate ethnic group, at the Camp of 'Um Gulja'. This camp was in fact a special extension of the camp provided for the Ethiopian refugees.

Some Somalis gradually infiltrated from this camp to Khartoum to join relatives already in 'Hai al-Zuhur' in the Khartoum Municipality, without the knowledge of COR authorities in Gedaref. This was made possible by the strong tribal and clan affiliations of the Somali groups, and the strong ties of loyalty, which offered protection to the kin and relative. In Khartoum, the Sudanese community received the Somalis cordially in the neighbourhood and in the places of worship, e.g., *Zawias*, since both people are inclined to religious practices involving the veneration of sheikhs and sufi orders.

Examination of UNHCR social services format for reporting, show that at least 377 Somalis out of a total number of 3,806 received medical and health care assistance in the period up to 1998. This put the Somalis in fourth position, after refugees from Eritrea, Ethiopia and Uganda[17]. According to Refugees' Counselling Service (RCS) of UNHCR, the funds given by

[16] The historical connections between Somalis and Gedaref town have already been noted.

[17] UNHCR/Social Services Format, Quarterly Report Dec. 1998. Some Somalis still live in Khartoum and receive medical assistance from the Refugees Counselling Service (RCS). See for example Files RCS/16/0, ID14/97, and RCS/1650, etc., for the period 1992-1998.

UNHCR to meet these services do not cover their needs. The Sudan government, though unable to offer financial assistance, has opened its hospitals and available facilities for refugees. Refugees are normally treated on an equal footing with the Sudanese. For example the Sudan National Tuberculosis Programme offers the refugees services on the same basis as the locals. However, COR officials point to the fact that with regard to Somalis, the degree of treatment for difficult and serious diseases is far less forthcoming compared with other groups. In most cases they tend to seek assistance from their own kin and community rather than appear before the officials.

In recent years, the number of Somalis in the Khartoum Municipality continued to increase and the COR officials therefore decided to move them outside the town to what is known as Fou 5 in the Central Province Butana East, al-Rahad project, in 1997[18]. The number of Somalis in this camp, according to COR authorities is forty-six individuals, compared to 140,000 Eritreans which is an indication of the small number of Somalis compared to refugees from the neighbouring countries. Some Somalis naturally dispersed in other towns without the knowledge of COR authorities and because of their physical similarity to the Sudanese, it is very difficult to distinguish them from the local population.

In 1997, a Committee from the United Nations Food Programme and the Save the Children Fund of Britain was entrusted with the task of studying the

[18] An interview with Bushra Al-Amin Mohammed Ali, COR, Khartoum, April 1999.

situation of refugees in Sudan[19]. The Committee visited Fou and reported on the condition of Somalis in Fou 5. The camp in Fou 5 is under COR supervision. They provide all the services to Somalis there. These services include:

1) **Health care and medical treatment**:

In this respect, Somalis in Fou 5, like any other inhabitants of the area, suffer occasionally from common diseases such as malaria, typhoid, diarrhoea, etc. The Committee recommended the improvement of their health condition and their diet. From July 1998, the bread basket of Somalis was improved to contain the following diet per head per day: a) starches 500 grms, b) cereals 70 grms, c) fats 30 grms, d) sugar 20 grms, e) salt 5 grms, f) protein 68 grms, g) energy 2076 calories.

Additional foodstuffs are also provided for patients, mothers, and children who suffer from malnutrition. There is also a special section of the care unit for mothers and children.

2) **Housing:**

The Committee observed that Somalis particularly complain about poor housing conditions. In July 1998, a rehabilitation of Somali dwellings was recommended so that they could withstand the rainy season. This was carried out accordingly.

[19] Ibid.

3) Education:

Education in the camp was undertaken and supervised by COR from levels one to four, i.e., primary level. Besides COR, private organizations such as the Islamic Relief Agency (IRA) are present in the area in order to provide assistance for the refugees.

Mr. Bushra al-Amin, the COR official, pointed to the very limited assistance available front the United Nations Programme to the refugees in the Sudan. He himself wrote a dissertation on this subject reflecting the weakness of the international assistance programme, which naturally has a negative impact on the refugees in Sudan. He clearly points out the fact that the amount of assistance given to the refugees in Sudan is far less when compared to other countries in Africa. This leaves a heavier burden on the Sudanese government.[20]

With regard to Somalis in Sudan, as mentioned above, their numbers are much smaller than those from neighbouring countries of Ethiopia and Eritrea or Uganda. At any rate, Somalis are distinct from the others due to the fact that they likely to depend on themselves or relatives, rather than come forward asking for assistance. They depend mostly on their community self-help activities and normally avoid appearing before the authorities, i.e., COR or the Sudan government. It is thus logical to maintain here that the figures given by COR for Somalis living in the Sudan after 1991 are not realistic.

The other very important factor is that, as stated previously the majority of Somalis in the Sudan are young men, students who came mainly in search of

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[20] Bushra El-Amin Muhammad Ali, Shortage of International Aid and its Impact on Refugees in Sudan (The Military Academy, Khartoum, Session 1995/96) (in Arabic).

education either in the secondary or university levels. After 1991, UNHCR assisted in this effort, but after 1996 UNHCR stopped assisting them, owing to its policy of minimizing aid to Sudan. In the period 1991-1996 the RCS who deals mainly with urban refugees, offered services to both secondary and university students. The Director of RCS Khartoum maintained that UNHCR has provided vocational training for secondary school students lasting for one to two years.[21] This kind of service was offered to about forty refugees in Khartoum who were paid in three monthly instalments of 16,000 Sudanese Pounds, the equivalent of US$46.[22]

Regarding the other sector, university students, COR used to look after Somali students joining all universities in Sudanese towns through the period 1991-1996. These included students in the University of Khartoum, Africa International University, Omdurman Ahlia, University of Shendi, Africa College, etc. The COR office in Khartoum facilitated admission to these universities, paid travel expenses to students outside Khartoum, paid fees and assisted in accommodating and granting living costs to them. They were paid in three monthly instalments the sum of 375,000 Sudanese pounds, the equivalent of US$150.[23]

After COR stopped its scholarship programme for these students, the RCS could not help them; therefore, other interested organizations have taken over. Since 1981 the World Assembly of Muslim Youth (WAMY), through its branch in Khartoum North, has offered assistance to all non-Sudanese

[21] An interview with Abdallah Muhamad Abdallah, Director RCS, UNHCR, Khartoum, 3.4.99

[22] COR Khartoum Project, 99/EA/SD/LS/417.
[23] COR Khartoum Project, 94/EA/SD/LS/485(a)

Muslim students. It helps them to enrol in Sudanese universities. Somalis, like other non-Sudanese Muslim students benefited from the services given by WAMY in the form of scholarships and bursaries. During the last five years, WAMY offered financial assistance for education in Sudan in a range of specializations: Medicine, Veterinary Medicine, Health Sciences, Laboratories, Agriculture, Economics, Commerce, Arabic Language, Sharia, Law and Engineering. An average of six students per year received assistance from WAMY. Some of these students have already graduated and have gone back to Somalia.

The main objective of WAMY, as its Director explained, is to give Muslim youth the necessary training in administration and to educate them so that they could contribute positively to their countries once they go back.[24] The organization facilitates the study of these students by making available to them expensive books and study materials for medicine, engineering and other sciences. A number of female students from Somalia are studying medicine, nursing, laboratory science and other specializations, also on the list of students assisted by WAMY. It is worth noting here that the number of Somali students is again much smaller compared to those from other countries. The bursaries given to students range from 30-40,000 Sudanese Pounds per month - the equivalent of US$12-15.

Since 1995 another organization has offered help to Somali students. The Non-Sudanese Students Welfare Organization (NSSWO), a branch of the Islamic Dawn Organization, gave one hundred and fifty male and twenty-

[24] An interview with Abdallah Mekki Saddig, Chairman of World Assembly of Muslim Youth, Khartoum, April 1999.

five female Somali students financial assistance. Like WAMY, they facilitate the enrolment of students in institutions of higher learning. They also help in providing accommodation and subsistence.[25] Although no more information was made available by the NSSWO regarding the amount of financial assistance given to these students, it would be reasonable to think that it is no less than that offered by WAMY.

About a hundred Somali students are enrolled in Africa International University in Khartoum at the moment. The university has, since its foundation as the Islamic Africa Centre, offered Somali and other African students accommodation and subsistence. However, after the Gulf War and its impact on Sudan's relations with the donor Arab countries, the financial position of this institution has been badly affected. Moreover, the impact of the Somali crisis and the collapse of the state in 1991 affected the standard of secondary education in Somalia. The result was a smaller number of qualified students who could join the university.[26] Moreover, since Sudan does not neighbour Somalia the Sudan government will not receive the aid given to refugees like the other neighbouring countries by which it could assist a larger number of Somali students. These factors have encouraged a number of Somali students to seek better chances of sponsorship in the Gulf, Egypt and other parts of the world since 1996.

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[25] Information collected from Non-Sudanese Students Welfare Organization office in Khartoum, April 1999.

[26] An interview with Somali students: Mahmoud Yusef Musa, Ibrahim Abdi Mohammad, Abdel Aziz Ali Lid, Muhammed Ahmad Sheikh Ali (all from Africa International University) 15.4.99, my office, Khartoum.

Despite this, Somali students who live in Sudan very much appreciate and enjoy the hospitality of their colleagues and the community at large. They particularly praise the fact that they experience no harassment from the authorities and can practice their activities normally through the Union of Somali Students. They, however, wished to see themselves treated on equal terms with Sudanese post-graduate students regarding the payment of fees, although they themselves admit that some of them do get that treatment. The Somali community, other than students, living in Khartoum and other Sudanese towns co-exist peacefully with the community since their number is small and because the cultural and religious background of the two people is very similar. Intermarriage between the Sudanese Somalis except for the group of the first phase, is known to have existed since the early years of contact between them, but is by no means equal to the degree of their cultural similarities. This could be explained by the fact that both the Sudanese and Somalis are traditionally conservative about intermarriage outside their communities. For Somalis particularly, marriage is not an individual affair but is largely a tribal and clan business.

Conclusion

The Somali presence in Sudan is historical. The two peoples exhibit a degree of physical and cultural similarities and a small number of Somalis have found their way to live in Sudan. And due to the same reason, the Sudanese government has opened its doors to Somalis during the current crisis, which has existed since 1991, despite the meagre resources at its disposal, and the political problems facing the country.

The Somali community in Sudan is largely made up of students who, since 1902, have joined the educational institutions in the country and trained in the existing branches of knowledge. At the moment not only the Sudan government but also the international organizations within Sudan help to facilitate the education and training of Somalis in order to contribute positively once Somalia is back to normal. As the Somali saying optimistically states "Dijal Debdi Wanbeda".

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RECRUITMENT TO THE SUDAN MEDICAL SERVICE, 1899-1938: SOME SPECULATIONS BASED ON THE USE OF SOCIAL NETWORK ANALYSIS

by Simon Mollan

This paper pilots the application of the sociological research technique of Social Network Analysis in an imperial context. A recent theme in imperial history has been the role of elite groups and the occurrence or otherwise of social preferment linked to social and institutional ties. Cain and Hopkins constructed the idea of the 'Gentlemanly Order' as one of the chief analytical tools in their meta-account of British Imperialism[27], while in imperial medical history Mark Harrison discusses the extent to which doctors in India were elite.[28] Cain and Hopkins present a case of a high level of elite integration and presence within the British imperial system, while Harrison contends that medics in India were not well integrated with the elite and, moreover, were not elite within their own profession. In her comprehensive study of medicine and medical practice in the Sudan, Heather Bell in contrast argues that the Sudan Medical Service doctors were elite[29], a position confirmed by my own research in this area.[30] This paper will offer an

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[27] P.J. Cain and A.J. Hopkins, *British Imperialism I: Innovation and Expansion* and *British Imperialism II: Crisis and Deconstruction*, (Longman, London, 1993)

[28] M. Harrison, *Public Health in British India: Anglo-Indian preventive medicine 1859-1914*, (Cambridge University Press, Cambridge, 1995)

[29] H. Bell, *Frontiers of Medicine in the Anglo-Egyptian Sudan 1899-1949*, (Clarendon Press, Oxford, 1999)

[30] S.M.Mollan, *The Sudan Medical Service, 1914-1938: Development and Practitioners*, (unpublished MPhil dissertation, University of Glasgow, 2000). This paper is largely based in research undertaken while at Glasgow University in 2000. Many thanks to Dr

explanation of the way in which the elite group of doctors in the Sudan functioned with regard to recruitment and, secondly, how sociological techniques can be used and adapted as analytical tools for the study of elite groups in a historical context.

Historians often fight shy of using techniques from other social science disciplines. Techniques of social analysis in sociology, anthropology and social psychology have mostly grown up alongside a theoretical canon, which quite naturally historians have mostly ignored – the evidence-led methodology of most historians not easily lending itself to the more ordered and regimented systematic testing required to subject a hypothesis to scrutiny. Historical data is often imperfect and there is, perhaps, also something in the disposition of historians that rejects the confinement to the research parameters established by a theory. There are exceptions; for example the use of prosopography (collective biography) by historians is common. Taking the basic life details of an identifiable group (or 'cohort') from which it is possible to assemble and analyse the social attributes and connections (the 'collective biography') that form the backdrop to events. Perhaps because this is an evidence based technique, its application and practicality for historians is clear:

> Prosopography is used as a tool to attack two of the most basic problems in history. The first concerns the roots of political action: the uncovering of the deeper interests that are thought to lie beneath the rhetoric of politics: the analysis of social and economic affiliations of political groupings, the exposure of the workings of a political machine and the identification of those who pull the levers. The second concerns social structure and social mobility.[31]

Marguerite Dupree, Dr Don Spaeth at Glasgow, and the Wellcome Trust for funding my research.

[31] L. Stone, 'Prosopography' in *The Past and Present*, (Routledge, London, 1971), p. 60

A prosopographical study of the Sudan Medical Service provides the data used in the second substantive section of this paper.

John Scott identifies three types of social science data, of which prosopography chiefly uses one. The three types are: attribute data, relational data and ideational data. The last of these – ideational data – will not figure largely in this paper, because it deals with the meanings and motives attached to data. The first, attribute data, includes the 'attitudes, opinions and behaviour of agents, in so far as these are regarded as the properties, qualities or characteristics which belong to them as individuals or groups'; it includes occupation, income, education and so on.[32] It is this kind of data that makes up the mainstay of prosopographical studies. The second form of data, relational data, is described by Scott as 'the contacts, ties, and connections, the group's attachments and meetings which relate one agent to another and so cannot be reduced to the properties of the individual agents by themselves'.[33] It is this type of data that is especially illuminating when studying elite groups from a historical perspective – this data provides the actual link between the correlative inference drawn from a group identity and the actual causal execution of a connected, inter-personal action giving us a unique insight into *how* the group operated. Thus a prosopographical study married to a relational study will provide, at least in part, the necessary techniques needed to a social network.

There will be three substantive sections to this paper. The first will deal with the known accounts of recruitment into the Sudan Medical Service before 1938. The second will deal with the educational origins of the doctors recruited and ask whether the composition of the Sudan Medical Service

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[32] J. Scott, *Social Network Analysis: a handbook*, (Sage Publications, London, 1992), p. 2

[33] Scott, *Social Network Analysis*, p. 3

from an educational perspective reflected the idiosyncrasies of the recruitment process and how this changed over time. The third section of this paper will be devoted to a discursive analysis of sociological concepts that can be used to analyse the findings presented in the first two sections, and use of one of the analytic techniques that form part of the Social Network Analysis repertoire.

Section I: **Recruitment, 1899-1938**

Historical records relating to the recruitment process of the Sudan Medical Service are scant. There are three memoir accounts of recruitment to the Sudan Medical Service. Although not a representative sample they nonetheless provide insight into the various modes of entry into the Sudan Medical Service. In addition, there are certain things that can be determined from the collective biographical data of the SMS doctors. From the total number of seventy-three medics, we know that forty-three were recruited in the first seven years of their careers (calculated from the first known date of graduation – a conservative test of when a career begins); six doctors were recruited more than seven years into their career and for the remaining twenty-four we have no data of this kind.

The first memoir is that of Leonard Bousfield, who was recruited in 1911 when already thirty-five (a mid-career recruit). Bousfield's account of medicine in the Sudan, *Sudan Doctor* (1954),[34] reveals quite an unusual character: a man who married his cousin, was a graduate of Cambridge University, had worked with the poor in the London hospital before joining the Royal Army Medical Corps in 1904. Bousfield joined the Sudan Medical Service as a military doctor; a feature of the early SMS was its military

[34] L. Bousfield, *Sudan Doctor*, (Christopher Johnson, London, 1958)

dimension. Bousfield was seconded to the Egyptian Army from the RAMC in 1906 and served in the Sudan in Kassala Province and in Khartoum. Although he returned home for a brief period in 1910, by 1912 he was offered a position by the Sudan Government as Medical Officer of Health. He enjoyed various promotions before eventually becoming Chief Sanitary Officer in 1920, a post he retained until his retirement in 1935.[35]

The next account is that of H.C. Squires. Squires served in the Sudan with the SMS between 1908 and 1930; thereafter he was the second medical representative of the Sudan Government in London (1930-1938) and then was the Sudan Government's Consulting Physician in London (1938-1951).[36] His book, *The Sudan Medical Service: an experiment in social medicine* (1958), is the first real history of the SMS. Though it suffers from a number of shortcomings, it is a mine of information. Squires' account of his own recruitment is very short, but points to the social and institutional links that were a part of the recruitment process:

> I was appointed to the vacancy caused by the retirement of Nedwell [in 1908]. I had become interested in the Sudan through Oxford friends and had earlier in the year discussed with Dr Acland the possibility of going out there to see what it was like. I had been medical Registrar at St Thomas' Hospital and had obtained my M.R.C.P. the previous year. I arrived in Khartoum in October 1908 and so commenced an association with the Sudan Government that in one form or another lasted forty-three years.[37]

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[35] Bousfield, *Sudan Doctor*, pp. 54-55

[36] H.C. Squires, *The Sudan Medical Service: an experiment in social medicine*, (Heinemann, London, 1958), p. vii

[37] Squires, *The Sudan Medical Service*, p. 10

This account is suggestive of informality, and contains three key pieces of information: Acland, Oxford and St Thomas' hospital. To each of these we will return.

Squires' account has a similarity with that of Alexander Cruickshank whose account is found in his memoir, *Itchy Feet*[38] in that they both feature Acland. Cruickshank served with the SMS for twenty-four years between 1924 and 1948 before taking up a post in Kenya. Cruickshank's Sudan career began in 1924 when, aged twenty-three, he saw an advertisement in the Sunday Times to which he responded.[39] This formal application was followed up by an interview with 'Dr Dyce Ackland' (sic). Notwithstanding embellishment, Cruickshank's account reveals a certain degree of informality in proceedings from the moment that he arrived at Acland's place of practice:

> I felt a bit of a cissy dressed in my borrowed finery when I presented myself at the door of a fine old house in London's Bryanston Square. I was also nervous about the ordeal ahead.
> "I'm afraid the doctor is not feeling very well," said a pert young lady who answered the door, "but he told me to bring you up to his bedroom."
> Quite without preliminaries, a genial elderly gentleman in his dressing-gown said, "Just bring me over my stethoscope, young man," and after a few moments of listening and tapping, "Yes, yes, that's fine, you've got many years to live yet. Now tell me, do you play any games?"
> "Rugby and water polo," I answered in a bit of a daze.
> "Good, good. Now pop downstairs to my little laboratory and examine your urine."[40]

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[38] A. Cruickshank, *Itchy Feet*, (Arthur Stockwell, Ilfracombe, 1991) – though it is a re-working of a previous memoir *A Kindling Fire* published in 1962.

[39] Cruickshank, *Itchy Feet*, p. 31 and p. 34

[40] Cruickshank, *Itchy Feet*, p.32

Because of the 'charming' receptionist, Cruickshank reports that he omitted to carry out the urine examination; after chatting to the receptionist, he reported to Acland that he had and that there were no abnormalities. Cruickshank reports that Acland told him "Excellent, well you'll be hearing from us soon".[41]

Cruickshank's commentary on his interview is interesting and is given in full below:

> When I began to ask what sort of work I would be expected to undertake, what the climate was like, the living conditions and the starting salary, he said, "Oh don't worry young man, you'll find out soon enough when you get there." This rather suggested to me that I had got the job, but also that my interviewer had no recent firsthand knowledge of the Sudan. Both my assumptions were right, and despite being a bit worried about the interview I had had, and the lack of hard information, I accepted the post without hesitation, knowing it was meant for me.[42]

Acland emerges as a key figure in two of the accounts of recruitment presented thus far. Cruickshank was recruited to the SMS in 1924, some sixteen years after Squires had been recruited, and in both cases Acland was instrumental in the process. This is entirely unsurprising given that Dr Theodore Dyke Acland was the medical adviser to the Sudan Government between 1911 and 1930. A question that will be discussed is whether his personal involvement left an imprint on the composition and recruitment of the Sudan Medical Service. To examine this we need to establish Acland's

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[41] Cruickshank, *Itchy Feet*, p.32

[42] Cruickshank, *Itchy Feet*, p.33

social and institutional links, and the origins of his involvement with the Sudan.

Dr Theodore Dyke Acland was born in 1851, the third son of a baronet and was educated at Winchester School, Christ Church Oxford; Leipzig, Berlin and St Thomas's Hospital. The height of his career came as a Consulting Physician and Governor of St Thomas' Hospital, but he was a well-connected man, sitting on many panels, advisory bodies and examining boards. His career took a distinct turn in 1883 when he was sent by the Foreign Office to deal with cholera in Egypt. When in Egypt he served with the Egyptian Army as Principal Medical Officer and later held the rank of Lt-Colonel in the Royal Army Medical Corps.[43] It is here he came into contact with Reginald Wingate, with whom he became good friends.[44]

Acland's initial involvement with the Sudan Medical Service began in 1900, from when 'he acted as medical adviser to the Governor-General and the Sirdar.'[45] This seems to have been on an informal footing in the first few years, an imprecision that contributed to the farrago over the appointment of the first Director of the Sudan Medical Service in 1900. Very simply, Wingate asked Acland to appoint a Director and he appointed

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[43] Information taken from *Who was Who, 1929-1940*, (Adam and Charles Black, London, 1941)

[44] Squires, *The Sudan Medical Service:* p.10

[45] Squires, *The Sudan Medical Service:* p.5

Christopherson. At the same time, the Principal Medical Officer of the Egyptian Army was asked to appoint a Director and he appointed Crispin who was already in the Sudan. The conflict was eventually resolved in favour of Christopherson, though it was far from amicable.[46] In many ways this situation was symptomatic of the clouded picture as to whom controlled the Sudan, Egypt or the Sudanese administration, but it also points to the important role that Acland played in the appointment of staff, a position to which he had been elevated by Wingate.

Acland's ambiguous position was eventually resolved in 1911 when he officially took up the post of Medical Representative of the Sudan Government in London. Wingate was especially pleased with the appointment, writing 'it is an immense satisfaction to us all to have now secured his [Acland's] services officially as the Medical Representative in London for the Sudan Government and also for the Egyptian Government' in October 1911.[47] This gave the official stamp to the situation whereby Acland had been 'entrusted with the work of selecting medical personnel' and also with looking after the medical care of Sudan Government official who were sent home ill, or became ill when in Britain on leave.[48]

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[46] Squires, *The Sudan Medical Service:* pp. 5-6 and Bell, *Frontier of Medicine* p. 26

[47] Wingate to Balance, October 23rd, 1911: SAD 301/4/56-58

[48] Squires, *The Sudan Medical Service:* p.5

Of the three memoir accounts that we have, one is indicative of recruitment via proximity contact (Bousfield was posted with the RAMC to Egypt and the Sudan) while two are indicative of a formal non-military recruitment process, with certain similarities in both accounts. The question now turns to the recruitment composition of the Sudan Medical Service and whether it is possible to speculate how Acland affected recruitment.

Section II: **Educational background of doctors recruited, 1899-1938**

The central issues that will be addressed are, firstly, to examine the educational and training background of the Sudan Medical Service doctors. This will focus on the university they attended in the pre-clinical part of their education, and the training hospital they attended in the clinical part of their education. Ideally this kind of analysis would be augmented by an examination of the schooling of the doctors in question but the data collected do not allow for this. From this initial analysis, three questions will be addressed. Which universities and training hospitals were most important; whether Acland's personal institutional ties were reflected in the composition of those recruited to the SMS; whether these universities and training hospitals were linked in any way.

The table below contains details of the seventy-three doctors who were members of the Sudan Medical Service between 1914-1938. The 'Total'

figure represents all of the doctors in the study; the 'cohort' figure represents those who were members of the SMS in that year; i.e., it is a running total and not an indicator of new additions to the service.

Table 1: Sudan Medical Service doctors' university education and clinical training in hospital, 1914-1938

The total column represents the whole group of SMS doctors, while the cohort totals represent the composition at the date given, as near to June 30th of the year in question as the available *Sudan Government Lists* showed. Biographical data is taken from *The Medical Directory* (1930, 1935, 1940, 1950, 1957 and 1965), the 'Obituaries File', Sudan Archive, Durham University Library and the personal papers of Balfour, Bloss, Christopherson, Gaitskell, Orlebar, Owen and Pridie from the Sudan Archive, Durham University Library. Additional data from Squires, *The Sudan Medical Service.* See S.M. Mollan, 'The Sudan Medical Service 1914-1918: development and practitioners', (unpublished MPhil dissertation, University of Glasgow, 2000) for further details on methodology of data collection.

Note on Section 1: Scotland includes universities of Aberdeen., Edinburgh, Glasgow and St Andrew's; Provinces of England includes universities of Birmingham, Bristol, Durham, Leeds and Liverpool; Ireland includes Belfast (Queens College) and Trinity College Dublin.

Note on Section 2: Scotland includes training hospitals in Aberdeen, Dundee, Edinburgh and Glasgow; Provinces of England includes training hospitals in Birmingham, Bristol, Durham, Leeds and Liverpool; Ireland includes training hospitals in Belfast and Dublin.

Section I: University groupings represented in the total group and chronologically differentiated cohorts of the Sudan Medical Service, 1914-1938

	Total	1914	1918	1923	1927	1930	1934	1938
London, Oxford and Cambridge combined	31	8	7	11	10	12	10	13
- London	11	4	3	3	1	3	4	5
- Oxford	8	2	2	4	4	3	4	4
- Cambridge	12	2	2	4	5	6	2	4
Scotland	14	1	0	1	9	8	12	10
Provinces of England	10	0	0	1	3	5	5	4
Ireland	5	0	0	0	2	3	3	4
Unknown	13	0	0	1	3	6	10	10

Section II: Training hospitals represented in the total group and chronologically differentiated cohorts of the Sudan Medical Service, 1914-1938

	Total	1914	1918	1923	1927	1930	1934	1938
London training hospitals (including Cambridge)	40	7	6	11	14	17	18	20
- Guy's	7	0	0	1	2	1	5	5
- King's	6	3	2	2	2	2	1	2
- London Hospitals	6	0	0	0	3	4	1	1
- Middlesex	1	0	0	0	0	0	1	1
- St Bart's	6	2	2	2	2	3	2	3
- St George's	1	0	0	0	0	0	1	1
- St Mary's	1	0	0	1	1	1	1	0
- St Thomas'	12	2	2	5	4	6	6	7
- Cambridge	1	0	0	0	0	0	0	1
Scotland	11	1	0	0	4	5	9	8
Provinces of England	8	0	0	1	5	3	4	3
Ireland	3	0	0	0	2	2	2	1
Unknown	11	2	1	2	3	7	7	7

For the purpose of analysis universities and training hospitals have been grouped together along geographical lines. These divisions are not artificial – they reflect cleavages in prestige and differences in training within the medical profession.

Firstly then, Section I of the table. The first observation of note is that the 'Golden Triangle'[49] universities of Oxford, Cambridge and London

[49] To borrow a phrase from the modern parlance used to describe research funding in universities.

dominated the education of the SMS doctors. In the whole group, the thirty-one doctors in this category represented forty-two per cent of the total number. This is more than twice that represented by Scottish university educated doctors, who represent twenty per cent of the total. The involvement of Scottish educated doctors in the Sudan Medical Service increased during the period under examination, but it only exceeded Golden Triangle involvement in 1934, and it dropped below again in 1938. When the provincial English universities are added to the Golden Triangle universities we can safely conclude that the Sudan Medical Service was dominated by English educated doctors. Notwithstanding this, however, when the expansion of the Sudan Medical Service occurred in the 1920s a majority of those that were recruited in this period (1925-1934) received their university education in Scotland. However, taking the whole group it is also possible to argue that the English provincial universities were almost as important for recruitment as Scottish (fourteen per cent to twenty per cent respectively); although as the table indicates there is a higher turnover amongst doctors educated at provincial English universities and they never number more than five at any one time.

In terms of relative importance - as can be seen in the table - Oxford, Cambridge and London universities have roughly similar levels of representation amongst the doctors of the Sudan Medical Service. It is therefore impossible to imply from this data any special relationship between a single university and the SMS. However, the salient fact is that these are the three most important universities.

Secondly, Section II of the table: From the total of the entire group, we can see that by far and away the most important training hospital individually is

St Thomas', which makes up the largest single constituent in the largest sub-group in the table, that of the training hospitals located in London. Fifty-five per cent of all of the doctors who served in the Sudan Medical Service between 1914 and 1938 were trained at London training hospitals. St Thomas' trained doctors retained a constant presence in the Sudan (something only matched by St Bartholomew's and King's College training hospital); and it is possible to conclude that the London training hospitals were the most important to the recruitment of doctors to the Sudan, and that St Thomas' does seem to have had a special relationship with the Sudan Medical Service.

Of the twenty-three medics recruited to the Sudan Medical Service once Acland ceased to have a role after 1930, the most common university grouping was, again, the 'Golden Triangle' (8) followed by Scotland (4) and unknown (6); the rest were from the English provinces or Trinity College Dublin. In terms of training hospital affiliation the pattern is largely the same as for the whole group: the most important were the London training hospitals (13) followed by the Scottish (5). However, of the thirteen recruited who attended London training hospitals only three attended St Thomas'. From this it is impossible to conclude whether a preferential relationship had been severed or not. Probably such relationship as existed between the SMS and St Thomas' remained intact because H.C Squires who took over from Acland as Sudan Government Medical Representative in London (and therefore charged with recruitment) had also spent some time at St Thomas' before he went out to the Sudan (he had been a Registrar).[50]

[50] Squires, *The Sudan Medical Service:* p. 10

Section III: **Social Network Analysis (SNA)**

It is questionable whether an analysis of the doctors of the Sudan Medical Service using Social Network Analysis techniques is - in the purest sense - actually Social Network Analysis. Despite being identifiably a defined and limited group that would seemingly be ideal for whole network analysis where the object is 'to capture all essential relations or ties within a social system'[51] there are a number of problems. Firstly, the nature of medical practice in the Sudan means that it is not certain whether we are dealing with a cohesive 'social system'. There is no surety that doctors who served concurrently knew each other (or knew each other well) and although we might assume most would have done, especially if they were based in one of the centres of population, we do not know what significance this might have. What we *can* say is that those who did not serve concurrently almost certainly did not know each other, even if they had attended the same university or training hospital. This would reflect one of the essential problems of applying Social Network Analysis to historical contexts – the 'you cannot step in the same river twice' problem. Just because two men attended the same institution, does not mean that they were in any actual sense linked, or that such linkage affected the operation of the institution of which they were both sometime members (in this case, the SMS). In point of fact, SNA seems to be more easily employed at a static chronological moment than for charting change over time. Furthermore, common institutional association is likely to be more significant if it is concurrent with events as they take place (for example, two politicians both holding

[51] C. Wetherell, 'Historical Social Network Analysis' in L.J. Griffen and M. van der Linden (eds.), *New Methods for Social History*, (Press Syndicate of the University of Cambridge, Cambridge, 1999), p. 127

membership of the same gentlemen's club at the same time), rather than the retrospective institutional affiliation that we are able to demonstrate here. Nonetheless, it is possible to use a SNA technique to show (1) how recruitment into the SMS was shaped by some form of institutional rigidity and social (educational) preference [the specific context] and (2) in the process of developing this analysis show how such a technique is employed and how feasibly its methodology might be employed elsewhere in imperial history. Thus, what will be shown here is how university affiliation and training hospital affiliation might be linked in the recruitment process.

The technique that will be used is that of a density matrix. John Scott describes density as 'one of the most widely used, and perhaps over-used, concepts', the objective of which is to show the 'linkages' between institutions or agents.[52] The type of density that will be established here will denote affiliation by affiliation, in short whether individuals were members of the same university and training hospital as other individuals comprising the total in the social group under analysis. The total number of medics in the study used here are seventy-three, representing all doctors who served with the SMS between 1914 and 1938. Density can be indicated by the number of links found divided by the number of possible links (in this case x/73, where data was complete for all 73 cases). Total density would be indicated by 73/73, thus the nearer to '1', the denser and therefore the more significant the relationship. The first density matrix below will deal with the linkage between the geographically delineated groups of universities and training hospitals. The second density matrix will show the relationship between

[52] Scott, *Social Network Analysis*, p. 72

specific universities and specific training hospitals, representing the densest group as found in the first matrix.

Table 2: university groups and training hospital groups affiliation density matrix, Sudan Medical Service doctors 1914-1938

Notes: (1) Irish groups have been omitted from the table, though not the calculations, because of their smallness. **(2)** Although there are 73 in the total group, data is not complete for several individuals in the group. There are 13 individuals from the university total for which there is no data and 11 from the training hospital total for which there is no data; for four individuals there is no data for university *and* for training hospital. Therefore the total number from which to calculate the density is 73 – (11 + 13 – 4) = 53. [four has to be added to the total to avoid double counting] **(3)** Real value given alongside the density value in brackets. **(4)** Data from same sources as Table 1

	London Training hospitals	English provincial training hospitals	Scottish training hospitals
London, Oxford and Cambridge universities	**0.53** [28]	**0.00** [0]	**0.24** [2]
English provincial universities	**0.03** [2]	**0.13** [7]	**0.00** [0]
Scottish universities	**0.12** [1]	**0.00** [0]	**0.19** [10]

The table above proves something entirely expected – that there is a strong (dominant even!) correlation between being educated at Oxford, Cambridge and London at the pre-clinical stage of a medical education and attending one of the London training hospitals at the clinical stage of medical training. This is expected because Table 1 showed that the Golden Triangle Universities had a dominance of university education amongst SMS doctors

and, crucially, they did not offer clinical training at the time in question: graduates of these institutions always had to go to external training hospitals to complete their medical training. Nevertheless, this table proves that this pattern of education was the most common for the doctors of the Sudan Medical Service.

Table 3: university (Golden Triangle) and training hospital (London and environs) affiliation density matrix, Sudan Medical Service doctors 1914-1938

Notes: (1) density calculations are the same as Table 2; **(2)** Data source same as Table **(3)** One Oxford educated individual is omitted from the table because he trained at Aberdeen training hospital, after also studying at Glasgow University

	Cambridge and Edinburgh	Guy's	Kings College Hospital	London Hospitals	Middlesex Hospital	St Bart's	St George's	St Mary's	St Thomas'
Cambridge	**0.02** [1	-	**0.04** [2]	**0.08** [4	-	**0.02** [1	-	-	**0.06** [3]
Oxford	-	**0.02** [1	**0.02** [1]	-	-	**0.04** [2	-	-	**0.04** [2]
London	-	**0.02** [1	**0.06** [3]	**0.04** [2	**0.02** [1	**0.02** [1	-	-	**0.06** [3]

Table 3 breaks down the densest grouping from Table 2. It shows in detail which training hospital doctors attended once they had left Cambridge, Oxford or London universities and reinforces the view that St Thomas' was important to this group, but also reveals that King's College Hospital, London Hospital and St Bartholomew's were also important. An aberrant

entry is the one individual who upon leaving Cambridge University began his training in a Cambridge Hospital and then moved to Edinburgh. It also reveals that St George's and St Mary's were not important to this group (indeed, of all SMS doctors, only one each trained at St George's and St Mary's). Similarly, Middlesex is unimportant in comparison to other training hospitals in London. What Tables 1 and 2 show is that there was an educational preference in the Sudan Medical Service for doctors produced by the English Golden Triangle universities and the London training hospitals.

Conclusion

This paper shows little that was unexpected; rather it seeks to add detail to our knowledge of the Sudan Medical Service recruitment process. As regards the actual process, little is known and what we can glean from the accounts is highly suggestive. The tempting hypothesis that the influence of Dr Dyke Acland can be seen in the educational composition of the Sudan Medical Service is not disproved by the data discussed in this study; nor, however, is it proved either. The best that can be concluded is in terms of the outcomes of the recruitment process: that there was a link between the universities of Oxford, Cambridge and London and the Sudan Medical Service, but that none was more important than the other. Similarly, it can be concluded that the London training hospitals were important in the clinical training of SMS

doctors, and that St Thomas' hospital seems to have had some kind of special relationship, but other than hinting at why this was, little can be said. Perhaps the hidden hand of Acland can just be seen, but without more accounts of the actual recruitment, nothing can be certainly concluded.

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CURRENT RESEARCH PROJECTS AND CONTACTS

This information is listed to promote research interchange amongst Sudanists; those with information or interests in the research area are encouraged to contact the researchers.

If you are involved in, or know of, ongoing research on Sudan which you would like mentioned here, please contact the Editor.

Lia Paradis' current research on Anglo-Sudanese returnees to Britain was mentioned in *Sudan Studies*, No. 26. She has asked us to publish this appeal:

I would like to speak to any former Anglo-Sudanese, or their children, about leaving the Sudan, and about their lives after returning to Great Britain. Please contact me either by email or by post:

lparadis@eden.rutgers.edu; Mid Ashgill Cottage, Garrigill, Cumbria, CA9 3HB.

Lia Paradis

History Department

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BOOK REVIEW

Henry Gunston, *Narrow Gauge by the Sudanese Red Sea Coast: The Tokar-Trinkitat Light Railway and Other Small Railways*, Plateway Press, East Harling, Norfolk, 2001. x, 67. Plates. ISBN: 1-871980-46-1.

This attractive little book provides a useful survey of the history of several small railways in the Sudan built between 1885 and 1922. The book grew out of a wish to provide commentary on a large collection of historical photographs of several of these railways; in recent years the Sudan Archive of the University of Durham Library, and other archives, have vastly increased their collections of such photographs, largely from the period of the Anglo-Egyptian Condominium, but pre-dating it as well. These are bound to be a source of increasing value as time goes by, when the writers (and readers) of Sudanese history are ever-less familiar with the material culture of the Turkiyya and Condominium.

Mr. Gunston's book deals with the 18-gauge military railways at Suakin built by the Egyptians in 1884-85 (the Suakin-Berber railway abandoned at birth after Khartoum fell to the Mahdi) and from Trinkitat to the wells at al-Tab in 1896; the Tokar-Trinkitat Light Railway built in 1921-22 to transport cotton to the coast for export; and small railways at the Port Sudan docks. There are chapters also on the transport of Sudanese cotton, on sand clearance - a major theme of Sudanese railway history - on locomotives and rolling stock, and on abortive other railway schemes. A brief, well-selected

bibliography is appended. The photographs are supplemented by several clear plans (of Trinkitat, Tokar, the railway linking them, the Red Sea railways in general, and the principal stations of the Sudan's railways). The author gives generous credit to Richard Hill and other transport historians, but the book stands alone as a useful contribution to the subject, of interest mainly but by no means solely to railway buffs.

M.W. Daly

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