

INTRODUCTION

BACKGROUND ON DAIRY AND POULTRY PRODUCTION IN SOUTH SUDAN

South Sudan falls within the tropical zones of the sub-Saharan Africa. It has an area of 64800 square kilometers and a population of about ten million people.

South Sudan is endowed with variable soils and rainfall, ranging from 500mm to 1500mm per year. The high rainfall areas, which are characterized by rainforest, are found in western Equatoria at the borders of Uganda and Congo. Part of this high rainfall area is found in western Bahr el Ghazal in the district of Raja.

The dominant grasses in this high rainfall area besides the thick forest are the spear grasses, *penisetum perperum*, *penicum maximum* and *hyperhenia* species. Some species such as *setaria* and *cloris gayana* are found too. These areas are mainly agricultural with few communities keeping cattle, sheep, goats, pigs and poultry.

The medium rainfall areas cover most of south Sudan. It extends from Bahr el Ghazal, most part of Equatoria and Southern upper Nile regions. This area is characterized by savanna grassland, dominated by *hyperemia* species. *Penicum maximum* and other grasses. Much of these grasslands are traverse by many rivers and streams with vast plains especially in Bahr El Ghazal and upper Nile regions. It is at this rainfall area that most livestock are found in South Sudan

The semi arid area is found in Kapotea County at the boarder with Kenya. It is also found at the Northern end of Torit county and in most parts of Northern upper Nile region. Large numbers of livestock are reared in this rainfall area. The Taposa, the Shilluk and the Nuer ethnic groups raise the Taposa type of cattle and the Nilotic short horn in this rainfall area respectively.

There are no classified milk breeds of cattle in Southern Sudan. Nearly all types of cattle are used for dual purpose. They are mainly used for beef but can also produce little milk. Various types of cattle are however found in south Sudan: -

1. THE NILOTIC LONG HORN

Found in Yirol, Rumbek, Aliab, Cuiebet, and Tonj countries in Bahr El Ghazal Region. Also found in Bor and Terekeka counties in Upper Nile and Equatoria region respectively. The average calving is up to eight calves during the cow's longitivity.

2. THE NILOTIC SHORT HORN

These are found in Gogrial, Tuic, Aweil East and Wau countries. All in Bar El Ghazal region.

The Baggara cattle of Western Sudan have influenced these types of Nilotic cattle. They have become short horned and small in size. They are good milking compared with the other Nilotic type.

3. THE NUER AND THE SHILLUK SHORT HORN:

These are found at both the East and the West banks of the White Nile in Upper Nile Region of South Sudan, among the Shilluk and Nuer ethnic groups. They are short horn and are slightly heavier than the other Nilotic types. They produce more milk compared with the long horn types.

4. THE TAPOSA, MURLE, DIDINGA, AND THE BOYA CATTLE

These cattle are kept by the Taposa, the Murle, the Didinga and the Boya ethnic groups. They are stocky in built, resembling the Boran cattle of East Africa. They are a typical beef cattle but can also provide some little milk

5. THE MANGALA CATTLE

These cattle are often referred to as the Southern Sudan Zebu. They are kept by the Bari, the Lango and the Latuho ethnic groups and are found both in Juba and Torit counties. The Bari cattle have changed in characteristics due to their mixing with the Nilotic cattle. They produce good amount of milk compared with the Nilotic type

6. THE LUGWARE CATTLE

These types of cattle are mainly kept by the Kuku and the Moru ethnic groups in Kajokji and Mundri counties respectively. Also found in Yei in smaller numbers especially along the Sudan, Congo and the Uganda border. They are small in size but are prolific, having a calving interval of twelve months. They produce good quantities of milk compared with their size.

POULTRY

Poultry in form of chickens are found in over three-quarters of the households in South Sudan. Few Muscovy ducks are also found in many homes in Western and Eastern Equatoria region except in Kapoeta County. All of them live under the free-range conditions and are deriving their livelihood mainly through scavenging around the homestead. Many families do however provide them with some household scraps and whole grains. Nearly all chickens in the villages in Southern Sudan are local types. They

provide the families with some source of animal proteins in form of meat and eggs. Occasionally some birds are sold for cash in order to use the money for solving social problems. Poultry are very useful as food for special guest as chicken meat or eggs are regarded as a delicacy in south Sudan.

The two main types of local chickens in South Sudan are the large Beladi types of chickens and the bare neck chickens. The large beladi chickens are very predominant as compared with the bare neck chickens. The large Beladi chicken has a relatively bigger body than the bare neck type reaching 1360 GMS at maturity, producing about 50 eggs per year. Desai (1962) the bare neck chicken is characterised by a small body, weighing about 1100 GM at maturity. Under improved management eggs may reach 100 per year

SITUATION ANALYSIS

SITUATION BEFORE THE CIVIL WAR

Little had been done in the development of dairy and poultry industry in Southern Sudan even before the civil war.

Following the attainment of peace after the first civil war in Southern Sudan (1955-1972), the Southern Regional government proposed five dairy projects to be implemented in Juba, Wan, Bumbek, Kapoeta and Malakal. Out of the five projects, only those in Juba and Wan were implemented fully by the Southern Regional Ministry of Agriculture and FAO with the funds from the World Bank. The one in Juba was known as MAFAO dairy and poultry farm, which was, located eight miles East of Juba town. The one in Wan was within the vicinity of Wau town in a place known as Marial Bai. Marial Bai dairy farm had a designated area of 24 square miles. MAFAO was relatively smaller than Marial Bai. The two farms were initially stocked with Friesians and Sahiwal cattle from Kenya. These were later crossed with local Nilotic cattle. The main purpose of these two farms were to act as nuclei farms from which some proven crosses be produced so as to be given to keen small holder farmers in order to boost milk production around these towns.

Though it was still at its construction phase, Kapoeta ranch did receive a small herd of Kenana cattle from Northern Sudan. They were extremely doing very well in milk production because the climate of Kapoeta is more or less similar to that of Northern Blue Nile from where they were bought.

In addition to the above-mentioned dairy farms, there were smaller dairy and poultry units attached to every provincial and district veterinary departments. They were managed by the provincial and district veterinary authorities. These departmental farms were established since the colonial time. Their purpose was to supply the colonial rulers and senior Sudanese officials with milk, eggs and chicken meat. These farms continued after independence mainly to supply government officials with the above mentioned products.

The production of these farms was always poor. Nearly all the dairy herds were local cattle and were depending mainly on natural grass with little supplementary feeding.

Specialized private dairy and poultry farms were non-existent in Southern Sudan but substantial quantities of milk, eggs and live chickens were sold in many towns by farmers living within the vicinity of the towns. In addition to fresh milk, sour milk and sometimes butter fat used to be supplied by farmers living far away from the towns.

Since the milk produced in the government owned farms and that supplied by the cattle keepers could not meet the demand of all the people living in those big towns like Juba, Wan and Malakal, majority of people were depending to a larger extent on powder milk and other dairy products from outside the Sudan. Sudan used to import a lot of dairy products.

Similar to the situation of milk and other dairy products, eggs and chicken meat supplied from those government owned farms could not meet the demand for these products, the bulk of eggs and live chickens were supplied by farmers living around these towns. These birds were produced through traditional free-range system

THE PRESENT SITUATION

With the event of civil war, the situation changed drastically. The few government owned dairy and poultry farms that existed in most towns in southern Sudan came to an end. Many places in which those government owned dairy and poultry farms were located became war zones. As such the animals that were in those farms became victims of the two armies to the extent that when SPLA finally took over those towns, nothing was found in their places.

At the moment the only source of supply of dairy products and poultry products are the local farmers. Milk is supplied mainly by pastoralists in Bahr el Ghazal, upper Nile and Eastern Equatorial. In Western Equatoria especially in Yambio, Maridi, Tambura and Yei counties where there are no cattle, people are depending on powder milk from Uganda. Powder milk is somehow too expensive for most people to afford, as such majority of the population does not consume any type of dairy products.

In Bahr el Ghazal, Eastern Equatoria and some parts of upper Nile where population of cattle is high, milk supply to the towns is seasonal such that during the dry season livestock are driven to far areas for grazing and watering.

Unlike the dairy products, the supply of poultry products, either in form of eggs or meat is slightly better because almost all the communities in south Sudan keep free-range chickens. As such, though there is still a wide gap between supply and demand, there are to some extent some reasonable numbers of eggs and live chickens in the market almost every where in South Sudan.

Though the cash economy is still in its development in the SPLM controlled areas, demand for poultry and dairy products is still higher. Many people living in towns and even some villages have the means to buy dairy and poultry products. Such categories of people are like traders, civil servants, NGOs officials, priests, some army and police officers etc.

Attempts to improve dairy in southern Sudan during the on going war has not been made by either the SPLM administration or by the none governmental Organizations. All livestock based NGOs operating in south Sudan are only dealing in community based animal health programs with emphasis on disease control.

There had been however few attempts to improve poultry production in some places in South Sudan by some NGOs. Among these NGOs are the World Vision, which in 1995 refurbished the poultry unit of former Yambio institute of Agricultural and imported a bout 120 chicks of the Arbor Acre breed from Kenya. The birds were not vaccinated and no provision for feeds either local or imported. As a result, out of the total number only 27 survived to maturity.

In Mundri and Maridi counties, a study on the desirability and feasibility of poultry production in Western Equatoria was carried out by Mariner (1995), a consultant hired by OXFAM. The study is contained in the consultant reports, one for Mundri and the other for Maridi. Both dated April 17th to 26th May 1995. There is no mention as to what has been done with the report

Also another study was conducted in Southern Bor by Ochan, (1997) who was then the UNICEF/OLS small livestock officer to assess the potential of poultry production in Southern Bor. The report was submitted to both Vet AID and UNICEF/OLS. There are no other documents as to what Vet AID and UNICEF/OLS has done with the recommendation. Reports from the ground indicate that nothing has been done as a follow up to the recommendations of the study.

In 1995, Christian Aid donated a number of two weeks old chicks to a women group in Narus, Kapoeta County as part of the integrated development program, known as Community Development Association (CDA). These birds were vaccinated before delivery and were supplied with feeds from Kitale feeds mill. Some women had been trained in basic poultry management. These birds grew to a maturity age with minimum mortality rate.

When Christian Aid stopped its support to the project, the whole program collapsed due to lack of funds.

OBJECTIVES OF THE SURVEY

As came in the terms of reference are: -

1. To identify all institutional and private operators involved in dairy or poultry production
2. To analyse distribution and commercial consumption market, including small markets in all towns.

SCOPE, FOCUS AND METHODOLOGY SUGGESTED FOR THE SURVEY

The survey will be conducted in 19 towns and their surrounding villages. These towns are selected from all the regions of the SPLM controlled areas of the Sudan. Most of the towns selected for the study have relatively better means of accessibility. Tables to identify dairy and poultry consumption, sale, and production have been developed. Each of these forms will be filled by the enumerators or the consultant in each of the propose towns.

METHODOLOGY TO BE APPLIED IN THE EXERCISE: -

➤ Administration of questionnaires.

These questionnaires are organised in form of tables to make them easier for enumerators to fill. One table will be used to identify the dairy and poultry operators each of the selected towns. The other tables will be used to determine the production, consumption and sale of dairy and poultry products in the proposed towns.

The questionnaires will be filled mostly by enumerators who will be trained by the consultant on how to fill the questionnaires. The filling of questionnaires in Narus, kongor, Kauda, and Kurmuk will however be filled by the consultant because it will not be cost effective to train enumerators for these towns.

KEY SOURCES OF INFORMATION AND INFORMANTS TO PARTICIPATE IN THE EXERCISE.

- For consumers, the people living in towns and their surroundings will be the main informants. This will include civil servants, traders, NGOs staff, religious institutions, feeding centres, hospitals, and army and police barracks, training institutions, expatriates and others.
- For information related to sellers, merchants, teashops, groceries milk vendors processors, restaurants, retailers and others will be the key informants.

THE GEOGRAPHICAL AND POLITICAL DISTRIBUTION OF THE TOWNS SUGGESTED FOR THE SURVEY

The survey will be conducted in the towns and the surrounding villages of Nyamleil in Aweil West county, Thiet in Tonj county, Cuiebet in Cuiebet county, Rumbek in Rumbek county, Yirol in Yirol county, Kotobi in Mundri county, Tambura in Tambura county, Yambio in Yambio county, Maridi in Maridi, county, Yei in Yei county, Kajokaji in Kajokaji county, Nimule in Magwi county, Narus in Kapoeta county, Ikotos in Torit county, Panyagor in Bor county and Akobo in Akobo county, Kurmuk in Kurmuk county and Kauda in Rashad county

These places are divided into five categories according to their political and geographical locations

A- TOWNS SUGGESTED IN BAHR EL GHAZAL REGION

These are **Nyamleil, Thiet, Cuiebet, Rumbek and Yirol.**

These places are mainly inhabited by the Dinka ethnic group. There are however some smaller tribes in Tonj County.

Majority of the population in all these places is agro-pastoralists. They derive most of their livelihood from livestock in form of meat, milk, and other products. They obtain cash by selling these products in the above mentioned towns. Besides livestock keeping they also produce a substantial amount of food, both cereals and oil seeds crops, especially groundnuts. In recent years the production is in the increase due to the introduction of ox ploughing.

These areas experience two seasons, the rainy season and the dry season. The rainy season is mostly from May to October. Rains are very erratic, such that in certain years rains are too high that they result into floods. Whereas in others they are too low that they cause droughts.

B. TOWNS SUGGESTED IN EQUATORIA REGION.

These are divided into Western Equatoria and Eastern Equatoria, according to their geographical location and climatic conditions

C. WESTERN EQUATORIA

These are the towns of **Tambura, Yambio, Maridi, Kotobi, Yei, and Kajokaji.**

These towns fall on the Western Bank of the River Nile in Equatoria Region. They lie within the green belt of the high rainfall area of the Sudan. The population is living on agriculture as their main source of livelihood. They grow a variety of cereal crops, such as maize, sorghum, finger millet, and to smaller extent rice. They also grow cassava, sweet potatoes, groundnuts, sesame, beans, and cow peas in large quantities and Soya beans. Yams etc. on a smaller scale. Before the war cash crops especially coffee and tobacco were also grown on a larger scale but now their production has reduced due to lack of market.

In general there are always plenty of surplus food in all these counties to the extent that sometimes they do not find a market.

Cattle are not found in Tambura, Yambio and Maridi. Few sheep and goats are however kept in smaller numbers by few individuals. In Mundri and Kajokaji counties, the Lugware type of cattle are reared in reasonable numbers and it is not uncommon to see fresh milk in the markets of these towns. Few of this type of cattle are also found in Yei especially at the border of Congo, Uganda and the Sudan.

In all these counties chickens are seen scavenging in almost all the households. Few pigs are found in Yei and Kajokaji towns.

D. EASTERN EQUATORIA

These are the towns of **Nimule, Ikotos and Narus.**

These towns fall within Magwi, Torit, and Kapoeta counties respectively. All of them lie on the Eastern Bank of the River Nile in Equatoria Region.

In Nimule agriculture is the main activity. Crops grown are sorghum, millet, cassava, sweet potatoes, sesame and groundnuts. There is hardly any surplus of food in this area as the planting season for every crop is only one as compared with that of Western Equatoria which are two. Fishing is practised on a smaller scale by a small portion of the population. Few individuals of the population keep small ruminants in smaller flocks.

Free-range poultry in form of chickens are seen in almost all the households. Some farmers also keep some Muscovy ducks in few numbers.

Cattle are rarely seen but the vegetation is good for cattle rearing. There is only one person who keeps about two hundred heads of cattle and he is the one supplying the staff of NGOs with milk

Unlike Nimule, many farmers in Ikotos are agro-pastoralists. They keep large herds of cattle, sheep and goats. They also keep chickens as well. Alongside livestock keeping, they grow food crops such as sorghum, millet, groundnuts etc. Majority of the population are transhumans such that dairy products are sold in the market during the rainy season when people have moved to the villages for cultivation

In Narus, the local population lives mainly on pastoralism. They are mainly nomadic but they grow some food crops especially sorghum. They keep large herds of cattle, sheep and goats. They also rear chickens. Milk is sold only in the town during the rainy season. Livestock trade between Narus and Lokichokio in Kenya is in an increase.

E. UPPER NILE REGION

Panyagor and Akobo: - These towns are found in Bor and Akobo counties respectively in Upper Nile Region. They are towns suggested in Upper Nile Region for the survey because of Accessibility. They are the SPLM administrative headquarters of Bor and Akobo Counties respectively. They are where many organisations operating in Bor and Akobo are based.

Many people keep cattle, sheep and goats. Rainfall is fairly high though it is sometimes erratic. There are years of both droughts and floods. People are agro-pastoralists; they grow food crops especially sorghum. There is an increase in production nowadays due to the introduction of ox-ploughs. The people living in towns receive their milk and poultry products from the pastoralists.

F. SOUTHERN KORDOFAN (Nuba mountains)

Kauda: - this is the only town proposed in the Nuba mountains. It is the head quarters of the SPLM controlled areas of the Nuba Mountains. There are a reasonable number of livestock in the surrounding areas of this town. Despite the good numbers of livestock, crop agriculture is the main preoccupation.

G. SOUTHERN BLUE NILE

Kurmuk: - This is the biggest town in Southern Blue Nile. It is the head quarters of the SPLM controlled part of the region. There are few cattle around this town but majority of the population keeps more sheep, goats, pigs and poultry. The area is a high potential area

in crop production. So many varieties of crops are grown. There is a lot of surplus food due to lack of a market.

BELOW ARE THE POPULATION ESTIMATES FOR THE TOWNS AND THEIR RESPECTIVE COUNTIES SUGGESTED FOR THE SURVEY.

A- BAHR EL GHAZAL REGION

	Towns and counties	Population
1- Name of the town	Nyamlel	63435
Name of the county where it is located	Aweil West County	370643
2- Town	Yirol	61558
County	Yirol	341978
3- Town	Theit	82854
County	Tonj	448261
4- Town	Cuiebet	34118
County	Cuiebet	144024
5- Town	Rumbek	44177
County	Rumbek	288049

B. EQUATORIA REGION

6- Town	Kotobi	18760
County	Mundri	199297
7- Town	Yirol	25214
County	Yirol	317996
8- Town	Tambura	40383
County	Tambura	162904
9- Town	Yambio	62470
County	Yambio	198333
10- Town	Maridi	88165
County	Maridi	220617
11- Town	Yei	20601
County	Yei	296954
12- Town	Kajokaji	25788
County	Kajokaji	137788
13- Town	Nimule	43260
County	Magwi	153419
14- Town	Narus	50610
County	Kapoeta	335517
15- Town	Ikotos	67340
County	Torit	204558

C- UPPER NILE

	Towns and county	Population
16- Town	Panyagor	35448
County	Bor	203490
17- Town	Akobo	16776
County	Akobo	65163

SOUTHERN KORDOFAN

	Town and county	Population
18- Town	Kauda	23064
County	Rashad	174550

SOUTHERN BLUE NILE

	Town and county	Population
19- Town	Kurmuk	19450
County	Kurmuk	435124

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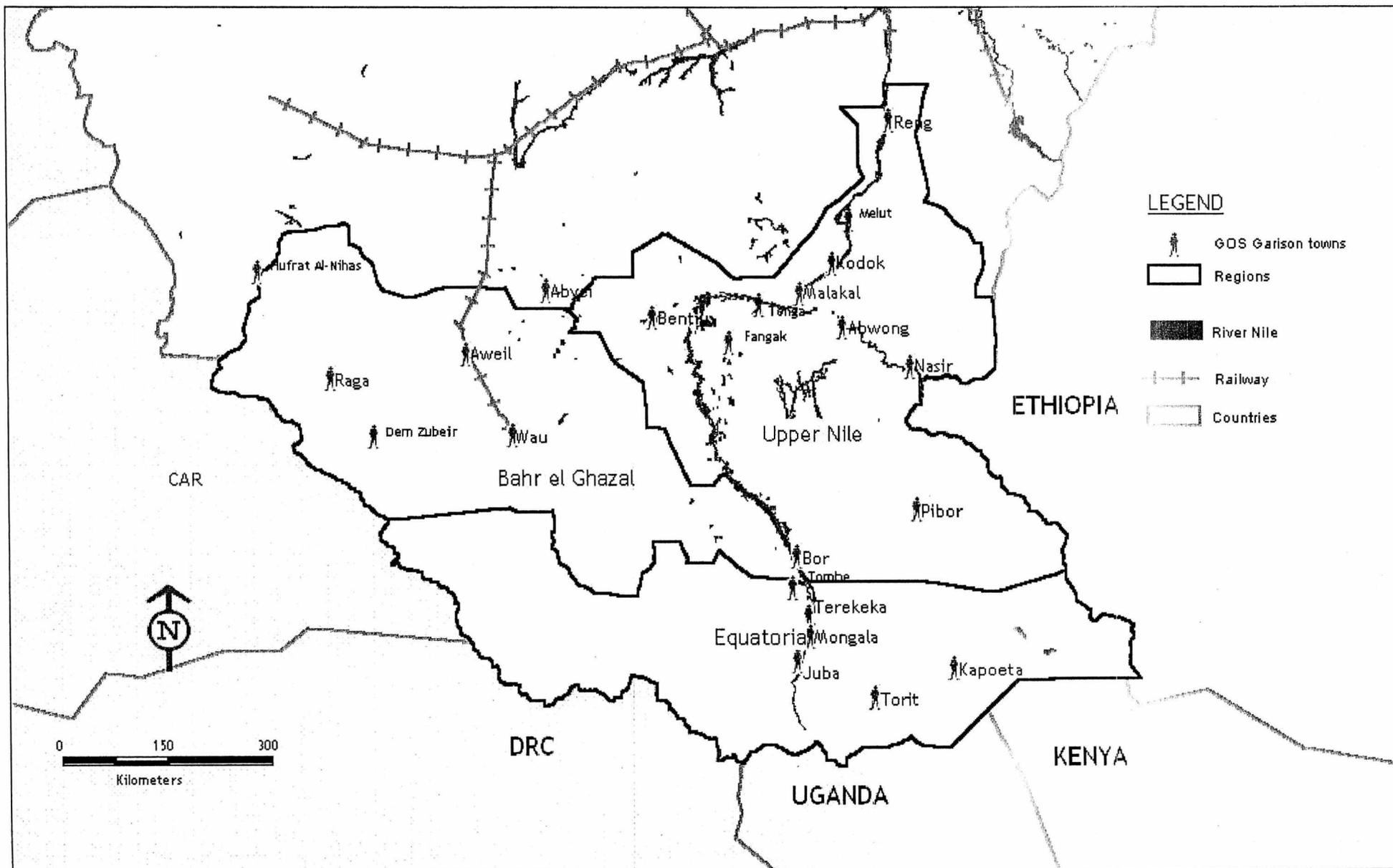
SOUTHERN SUDAN'S MAJOR TRIBES



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FAO/OLS Data Analyst, David Ombagi
Date: 01/04/02

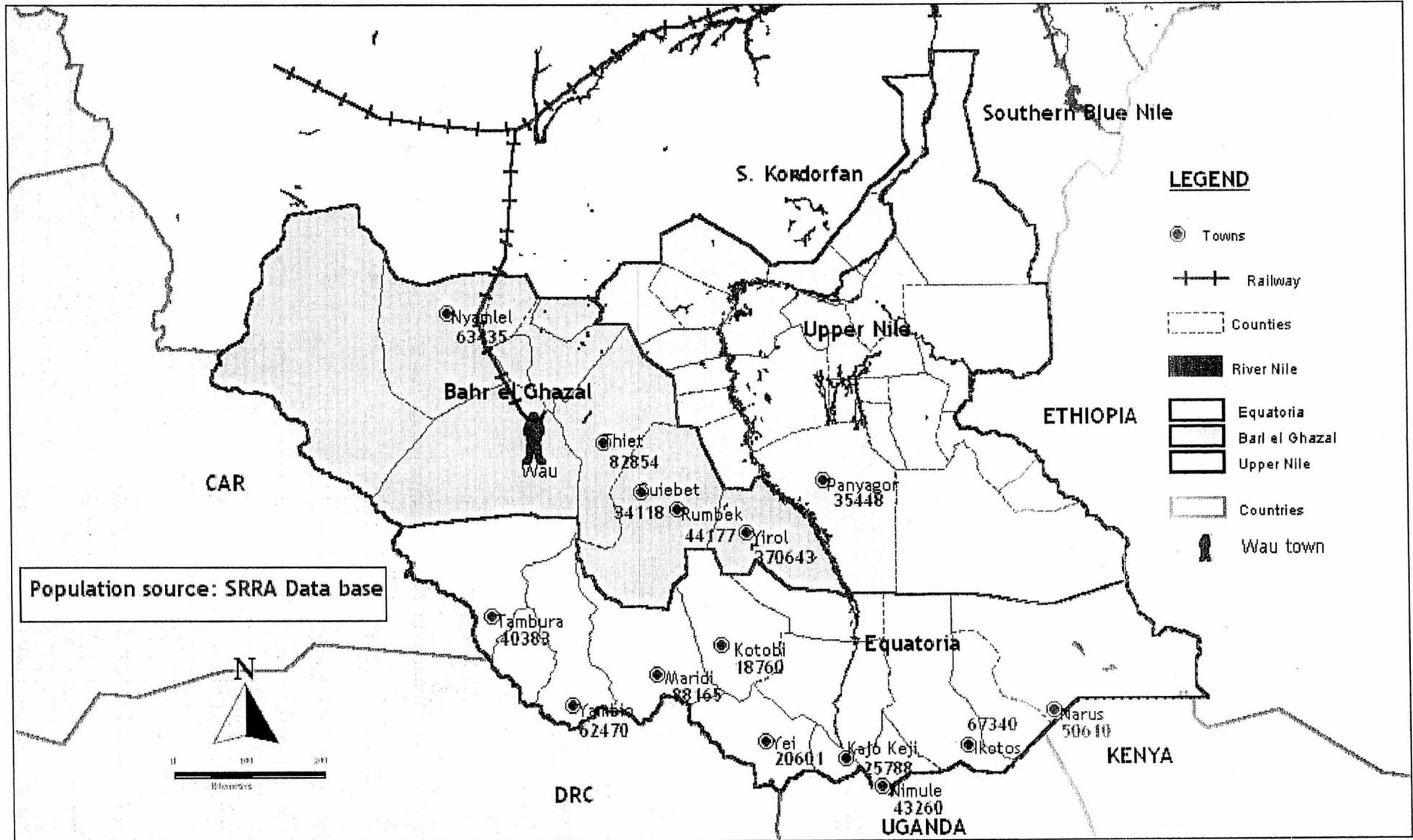
SOUTH SUDAN: GOVERNMENT GARISON TOWNS



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David Ombati

Southern Sudan: Estimated population for towns proposed for survey

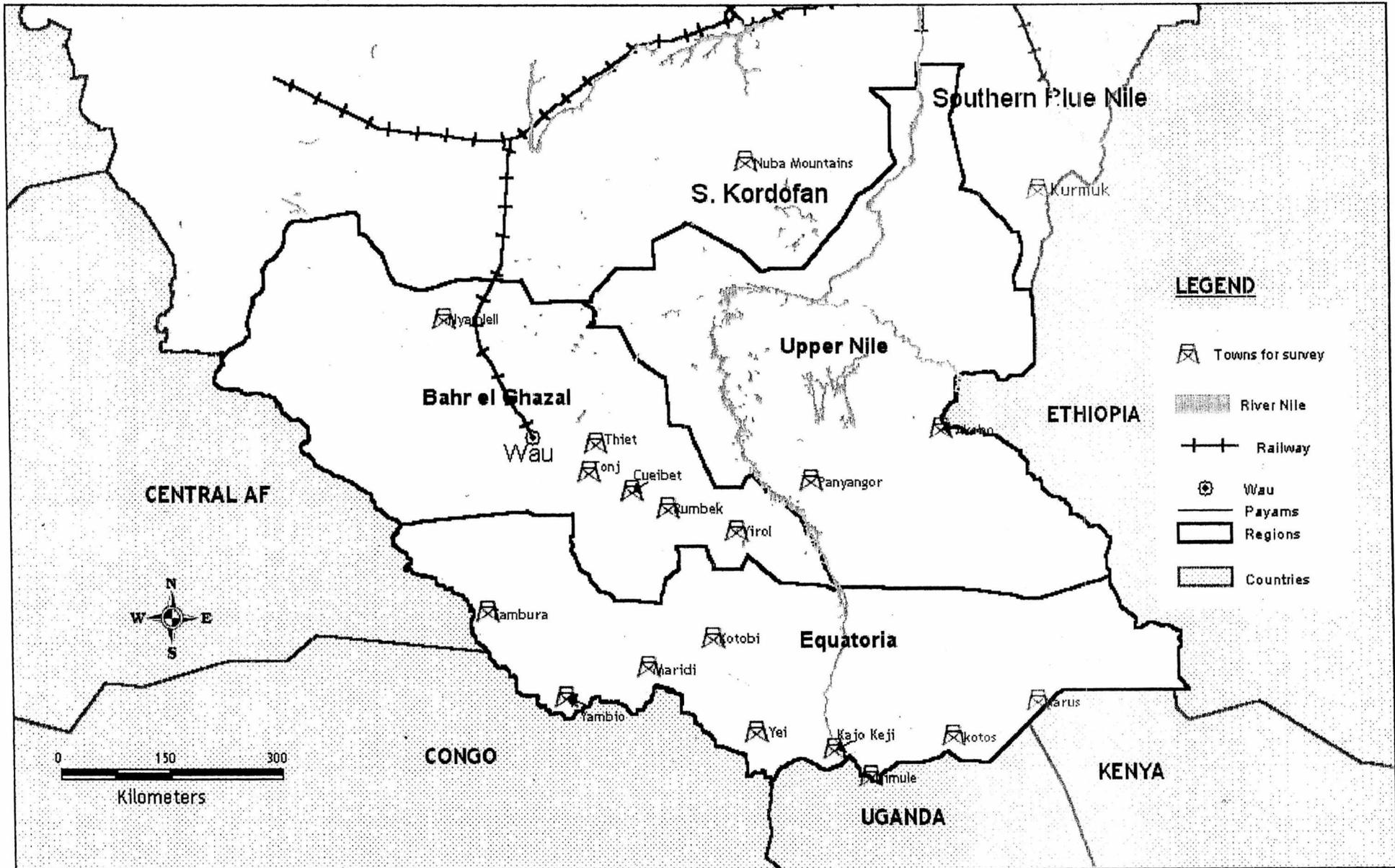


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Date: 01/04/02

SOUTHERN SUDAN: TOWNS PROPOSED FOR THE SURVEY



LEGEND

-  Towns for survey
-  River Nile
-  Railway
-  Wau
-  Payams
-  Regions
-  Countries

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