Report on AnGR for Somaliland & Somalia

Prepared by:
Dr. Ahmed Hashi Nur
NC of AnGR for Somalia
Bsc Animal Production & Marketing
## THE LIST OF ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AI</td>
<td>ARTIFICIAL INSEMINATION</td>
</tr>
<tr>
<td>AnGR</td>
<td>ANIMAL GENETIC RESOURCES</td>
</tr>
<tr>
<td>AU</td>
<td>AFRICAN UNION</td>
</tr>
<tr>
<td>AU-IBAR</td>
<td>INTERNATIONAL BUREAU OF ANIMAL RESOURCES</td>
</tr>
<tr>
<td>CU</td>
<td>CONSERVATION &amp; UTILIZATION</td>
</tr>
<tr>
<td>EU</td>
<td>EUROPEAN UNION</td>
</tr>
<tr>
<td>FAO</td>
<td>FOOD AGRICULTURE ORGANIZATION</td>
</tr>
<tr>
<td>GDP</td>
<td>GROSS DOMESTIC PRODUCTION</td>
</tr>
<tr>
<td>MOL</td>
<td>MINISTRY OF LIVESTOCK</td>
</tr>
<tr>
<td>MOA</td>
<td>MINISTRY OF AGRICULTURE</td>
</tr>
<tr>
<td>PACE</td>
<td>PAN-AFRICAN CONTROL OF EPIZootICS</td>
</tr>
<tr>
<td>SLPF</td>
<td>SOMALI LIVESTOCK PROFESSIONAL FORUM</td>
</tr>
</tbody>
</table>
SUMMARY

The livestock sector is the backbone of the Somali economy since it produces: Employment opportunities 60%, Foreign currency earnings 80% and Gross Domestic Products 40%. However, the decay of key private and public sector institutions following the collapse of the military regime in 1991 resulted in the poor delivery of animal health services to support somali livestock production and trade. Suspicions of the presence of major epizootic diseases of livestock led to the imposition of livestock bans by major importing countries. There is therefore need for rehabilitation and strengthening of institutions to improve delivery and regulation of animal genetic resources and health services in order to adhere the international standards for trade in livestock and livestock products.

In somali at present, only pastoralists and agro-pastoralists are practicing the selection of breeds in their flocks or herds. In every two or three years, the owners or producers make selection of best males preferring to their mothers or grand mothers the production, physical appearance and resistance for disease and draughts to obtain the best quality breeds.

Sheep reproduce offspring once a year because the owner controls the mating period to adjust the rainy season and time of delivery. So in terms of inventory, characterization, labialization and conservation of Animal Genetic
Resources are remaining in the hands of Nomads and agro-pastoralists because they are the sole institutions responsible for keeping the animals. All the other institutions in this sector were collapsed and destroyed during the civil war of 1991.

At present these is no a single farm animal in whole Somalia.

To make use the utilization, management, and conservation of Animal Genetic Resource, it is very essential to establish breeding farms to develop and improve the utilization, management and conservation of Animal Genetic Resources.

The professionals have passed a long period which they were closed from the other parts of the world that is they lack all the modern technology, so trainings and study turns are very important.

The Somali authorities have no the capacity to establish animal farms due to the limited resources and lack of international recognition and support of development programmer.
## CONTENTS:

<table>
<thead>
<tr>
<th>PART 1.</th>
<th>The State of Agriculture Biodiversity in the Farm Animal Sectors.</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>SIZE AND LOCATION</td>
<td>2</td>
</tr>
<tr>
<td>REGIONS</td>
<td>3</td>
</tr>
<tr>
<td>CLIMATE</td>
<td>4</td>
</tr>
<tr>
<td>GEOGRAPHICAL FEATURES</td>
<td>4</td>
</tr>
<tr>
<td>POPULATION</td>
<td>4</td>
</tr>
<tr>
<td>ECONOMIC CONDITIONS</td>
<td>5</td>
</tr>
<tr>
<td>MAIN FARMING SYSTEM</td>
<td>5</td>
</tr>
<tr>
<td>1. ANIMAL PRODUCTION SYSTEM</td>
<td>6</td>
</tr>
<tr>
<td>1.1. Nomadic Pastoralists</td>
<td>6</td>
</tr>
<tr>
<td>1.2. Agro-Pastoralists</td>
<td>7</td>
</tr>
<tr>
<td>2. Description of Breeds and their uses</td>
<td>7</td>
</tr>
<tr>
<td>Camel and Goats</td>
<td>8</td>
</tr>
<tr>
<td>Sheep</td>
<td>9</td>
</tr>
<tr>
<td>Livestock Breeds in Somalia</td>
<td>10</td>
</tr>
<tr>
<td>2.1. Livestock Marketing</td>
<td>19</td>
</tr>
<tr>
<td>2.2. Production System</td>
<td>23</td>
</tr>
<tr>
<td>2.3. Farm Animal Genetic Resources</td>
<td>25</td>
</tr>
<tr>
<td>2.4. Livestock Numbers &amp; Distribution</td>
<td>27</td>
</tr>
<tr>
<td>2.5. Production and Productivity</td>
<td>29</td>
</tr>
<tr>
<td>3. Natural Conditions and Available Resources</td>
<td>31</td>
</tr>
<tr>
<td>4. Traditional Way of Life of the mobile Livestock Keepers</td>
<td>37</td>
</tr>
<tr>
<td>5. Current Programmes</td>
<td>39</td>
</tr>
<tr>
<td>5.1. Regional and Cultural Factors</td>
<td>39</td>
</tr>
</tbody>
</table>
5.2. Information and Communication

PART 2.

2.1. Past Policies
2.2. Future Demands
2.3. Possible Strategies in Conversation and Utilization of AnGR
2.4. Outlining Future National Policy for CU of AnGR

PART 3. State of National Capacities & Future Capacity Building Programmes

PART 4. Identifying National Priorities for the CU of AnGR

4.1. National Priorities for the CU of AnGR
4.2. Technical and Social Aspects
4.3. National Priorities of all Species and Interest Groups
4.4. National Priorities for specific Animal species
   Breeds, Regions and Rural Communities

PART 5. Recommendations for the International Cooperation
   in the field of Farm Diversity

5.1. Recommendations

LIST OF MAPS:
Map 1. Location of the country
Map 2. Regions
Map 3. Seasonal Pattern of Livestock

LIST OF TABLES:
Table 1. Characteristics of Somali Cattle
Table 2. Export of Live Animals at Berbera Port 21
Table 3. Somali’s Livestock Population 28
Table 4. Livestock Population in Various Zones 28
Table 5. Milk Production for Somali Livestock 29

LIST OF FIGURES:
Figure 1. White Somali short ears 10
Figure 2. Long hair & ears Arabian 11
Figure 3. Blackhead Somali sheep 12
Figure 4. Dawara 13
Figure 5. Boran 14
Figure 6. Surqo 15
Figure 7. Sahwal 16
Figure 8. One-humped Camel(female) 17
Figure 9. One-humped Camel(male) 18
THE MINISTER

Ref: mol/1/m/01/106/005

Date: 5/12/005

TO:- Mr. Cardillno Recardo
Head of Animal Production and Animal Genetic Resources
FAO head Office ROMA

Sub: Approval of the Report on AnGR.

This is to certify that, the submission of this report has been approved by the Ministry of Livestock, mandated to all livestock programmes in Somaliland.

As it has been reported all livestock farms, facilities and infrastructures were destroyed and the system was totally collapsed. Basically we have recovered to some extend, but due to the very limited resources and the absence of International Support there are many gaps and constraints.

After the submission of the report, I hope that FAO will seek financial and technical support for the recommendations and the improvement of animal genetic resources.

Best Wishes.

Dr. Idris Ibrahim Abdi
Minister of Livestock

Introduction:

Somaliland was colonized by British, called Somaliland Protectoral and achieved full independence from British UK on 26th June 1960.

Somalia was colonized by Italian (trust ship for 10y) and achieved full independence on 1st July 1960.

The two countries were united unconditionally on 1st July 1960, under the name of Republic of Somalia.

There was a civilian government for the first 9 years (president, parliament and prime minister) For that period the private sector was strong in every sector, and economically well developed.

On 21st Oct 1969 a military revolution was taken place in all the Republic of Somalia.

The new regime became a socialist state and every thing was monopolized by the government, including livestock export. That system was continued for 21 years, within this time many civil wars were took place in Somalia, which resulted the collapse and destruction of all government system in 1991.

The Republic of Somaliland restored its independence after the total collapse of Somalia on 18th May 1991; the decision was made by the congress of council of clan Elders in Burao from 27th April-18th May 1991. Constitutionally Somaliland has a multi-party system, elected local council, Elected president and on 29th September 05 the parliament was elected by the people, established new, Money, Passport and Flag which are different from those of Somalia.
Size

The size of ex-Somalia is 638,000 Km$^2$, in which the size of Somaliland is 137,600 Km$^2$ with coast line of 850 km.

Location

The Ex Somalia location

- The Gulf of Aden at the north
- The Indian Ocean at the east
- Ethiopia at the west
- Kenya at the South
- Djibouti at the north west
Regions

The Ex. Somalia was composed of the following regions:
Somalia 12 regions- Mudug, Nugal, Gal-guduud, Hiran, Middle Shabele, Banadir, Lower Shabele, Bay, Bakool, Gedo, Buale, lower Juba ans upper Juba.
Somaliland 6 regions- Awdal, Hargeisa, Sahil, Tog-dheer, Sool and Sanaag.

MAP 2:
Climate

Climate is arid or semi arid. Very small usually elevated areas have an animal rainfall of 500-600 mm but most of the country has an average rainfall of 100-200 mm. Rain tends to fall in isolated and heavy storms. In the wettest regions there are typically 40-60 rainy days each year with daily rainfall of the order of 5-15mm. open water evaporation usually for exceeds rainfall and is in the range 1.600-2.400 mm/year in the south of the country. Excluding the coastal regions. The country has two rainy seasons called gu’ (April-June) and Dyer (October to November). There seasons occur throughout the country but are less pronounced in the northern mountain region. Droughts occur regularly when there is no rain for one both these two seasons.

The coastal region in the south has an additional rainy season known as the haggai (July-August) during which isolated rain showers occur
Mean monthly temperatures range from 15-25 c in the northern mountains to 25-35 c in the south,

Geographical Features:

The landmass of Somalia is dominated by arid and semi arid rangelands for which pastoralist is the most appropriate form of land use. The land was classified into 55% as rangeland, 19% as other land, 14% as forest and 12% as suitable for cultivation. The whole of Somalia is however, used as pasture for its animals. Land under crops in 1990 was estimated at 8.2 million ha, of which 15% was irrigated. Pastures covered about 45million ha and forests and woodlands about 9.6 million ha.
There are two permanent rivers in the South. Hence, banana and citrate products like orange are the rain export commodities.

Population:

Population was estimated at 8-9 million, in which Somaliland was estimated at 3 million in 1997.
The Somali population consists of nomadic people 55% and urban population 45%. The population distribution was estimated at 22 persons per $\text{Km}^2$. 70% of the population is rural of which about 55% are pastoralists and agro-pastoralists, while 24% are crop farmers.

**Economic Conditions**

The economy of the country depends 70% on livestock and livestock products. Livestock in Somalia are the major repository of individual and national wealth. Thus, the country is an important livestock exporter. The main markets are the oil rich countries of the Arabian Peninsula mainly Saudi Arabia. Sheep and goats were exported in the largest number, before the ban of 2001.

The contribution of livestock sector to the generation of the GNP was about 50%.

Contribution of livestock to the national economy is estimated at 60-65%. About 60% of the Somaliland population rely mainly on the products and by-products of their livestock for daily sustenance.

After the civil war of 1991, the economic of livelihood depended on family remittances which reached about 35%.

**Main Farming System**

Before the war of 1991, there were a number of farm animals in the country.

- Two cattle breeding farms in the Southern part near Mogadisho- called Afgoia and Warmahum.
- Sheep breeding farm and cattle breeding in Las-anood and Hargeisa respectively.
- Three poultry breeding farms in Mogadishu and Hargeisa areas.

There were also experimental farms which were destroyed by the civil war before they reached extension.

Similarly there was a functioning centre of Artificial insemination which was used for cross-breeding cattle in Afgoia.

At present there is no a single farming animal in whole the country.
1. ANIMAL PRODUCTION SYSTEMS

There are several types of livestock production and management systems in Somalia depending on circumstances, area, availability of labour, herd sizes and types of livestock kept, in that, there are two main production systems used such as nomadic pastoralist and agro-pastoral production systems.

1.1. Nomadic pastoralist

Nomadic pastoralist is the system practiced by most of the rural population and involves the movement of people with their animals in search of pasture and water. The movement of these Pastoralists is often organized and follows a regular pattern in which each group has their traditional grazing area, watering points and temporary camps. In some parts of the country pastoralists maintain with farmers for access to crop residues and fallow grazing.

In some places the pastoralists take advantage of heavy rains and floods and plant crops in cleared areas for the production of forage or grains.

The types of animals kept by nomadic families depend on several factors including the area inhabited and the labour available to them. Cattle rearing are predominant in the southern parts of the country that receive relatively more rainfall, while goats and camels are bred mainly in the drier central and northern regions of the country.

Most pastoralists prefer to keep mixed species of animals which has numerous benefits including, the ability to exploit different range lands, produce different products and have different survival and recovery rates during droughts.

When the need for it arise, pastoralists practice a split herding system in which camels and sometimes goats are separately herded away from the main camps where cattle, some milking camels and sheep are kept. There is also a distinct division of labour
among family members in which young men herd camels while cattle and small ruminants are taken care of by women children and the elderly.

1.2. Agro-pastoralist

Agro-pastoralist is a production system which is characterized by the maintenance by a family with permanent home base in a farming area. There are several different types of this system ranging from farmers owning large herds and keeping only few resident animals to small scale farmers owning only few animals.

This production system was initially practiced in the southern and north-western farming regions, but it is now becoming more common even in the drier regions of the country as the pasture land gradually deteriorates.

In this system also split herding based on a division of labour is a common practice, as part of the family moves with most of the herd, while the other part is left in the farm land to cultivate crops; few milking animals are also left behind as well.

2. DESCRIPTION OF BREEDS AND THEIR USES

Cattle

The cattle in Somalia are predominantly of the East African Shorthorn (thoracic-humped) Zebu type among which four different types are recognized as Gassara, Dawara, Surqo and Boran.

There are some cattle that have the characteristics of cross-breed between the East African Short Horn and the cervico-thoracic humped Ethiopian cattle; a Surqa breed is a representative of this cross-bred type.
Table 1: Characteristics of the types of cattle found in Somalia.

<table>
<thead>
<tr>
<th>Type</th>
<th>Colour(s)</th>
<th>Maximum weight (Kg)</th>
<th>Distribution (regions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gasara</td>
<td>Red to dark red, Black</td>
<td>250-300</td>
<td>Hiran, Bakool</td>
</tr>
<tr>
<td>Boran</td>
<td>White, light tan colour</td>
<td></td>
<td>Gedo, Lower Jubba, Middle Jubba, North-western and Eastern</td>
</tr>
<tr>
<td>Dawara</td>
<td>Red, sandy red</td>
<td>280-320</td>
<td>Middle Shabelle, Awdal, Hargeisa and Benadir</td>
</tr>
<tr>
<td>Surqa</td>
<td>Red to white, white speckled with red</td>
<td>Up to 350</td>
<td>Middle, Lower Shabelle, Bay &amp; Lower Jubba</td>
</tr>
</tbody>
</table>

Camels

Camels in Somalia are all of the one-humped Arabian camel (*Camelus dromedarius*).

In this, there are several types identified on the basis of the physical features and colours such as; Horr, Siif-Dacar etc…

The characteristics of each type are dictated by the environment or the ecological characteristics of a particular area; for example, camels in the open grass-lands of Nugal valley are short in height, while those in the southern regions, where bushes predominate are taller and heavier.

Goats

There are two main types of goats in Somalia. These are the short-eared East African type and the Arab type.

The short-eared East African goats are mainly white, although mixed colours such as brown and black also occur. Among this type there are several sub-types that are distinguished and are given the names of the main raring clan or area, such as the Tuni goats.
Sheep

The sheep in Somalia are uniformly the Blackhead Somali type, characterized by a fat rump, black neck and head and white body. It is polled though some males may have horns. The mature adult bodyweight of these animals is generally in the range of 30-45 kilograms.
LIVESTOCK BREEDS IN SOMALIA

Goats:

FIGURE: 1 White Somali goats short ear or Galla
FIGURE: 2 Long hair and ears Arabian goats
SHEEP:

FIGURE: 3 Blackhead Somali sheep – fat-rumped.
CATTLE:

FIGURE: 4. DAWARA
FIGURE 5. Boran
FIGURE: 6. Surqo
FIGURE: 7. Sahwal
CAMEL:

FIGURE: 8. Somali one-humped camel (female)
FIGURE: 9. *Somali one-humped camel (male)*
2.1. Livestock Marketing

Marketing is mainly a private sector affair through dealers and local markets where dealers buy livestock. Livestock are used to supply local requirements, and are shipped to various countries in the Arabian Peninsula.

Somalia used to depend very successfully on livestock and livestock product exports to meet day-to-day needs of its people and to realize its broader development objectives.

The country was indeed, for many years one of the most active livestock export on the African continent until it entered the ranks of the failed states- at the beginning of 1991.

The total collapse of the state resulted in the loss of most animal health services and especially the important function of certification of live animals and products for export.

The animal health care system, marketing and export services were in decline by 1989. the civil war has been total destruction of most production and marketing infrastructure, a breakdown in all service functions and the loss of much of the national livestock wealth, as a result exports came to a halt.

The situation still pertained in Mogadishu and Kismayo, but in Somaliland by the end of 1991, the civil war was cooling down and the export through port of Berbera began to increase.

The ban placed on imports of Somali livestock by the KSA in 1997 due to an outbreak of RVF, had devastating economic impact. Although this ban was lifted in 1999, another ban was imposed in 2000, and is still in effect.
Prior to the Somaliland & Somalia exported 3-3.5 million animals per year, in addition to animal products, hider and skins.

The financial cost of the ban has been estimated at an annual USD 120 million. The reasons that the ban has not been lifted from the point of view of KSA, is the inability of veterinary authorities, in any of the regions of former Somalia to issue a valid certificate assuring that the animals are not caning RVF.

The PACE project has been investigating the prevalence of RVF, but the data are not yet ready for publication. This project has supported also the establishment of four veterinary associations in four zones of Somalia, in which SLPF stands as an umbrella.
Table 2: Export of life animal through Berbera Port: 1999-2004

<table>
<thead>
<tr>
<th>Month</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sheep, goats</td>
<td>2,048,136</td>
<td>1,601,083</td>
<td>51,546</td>
<td>356,594</td>
<td>540,946</td>
<td>2,114,226</td>
</tr>
<tr>
<td>Cattle</td>
<td>89,966</td>
<td>63,263</td>
<td>20,973</td>
<td>37,546</td>
<td>75,845</td>
<td>82,300</td>
</tr>
<tr>
<td>Camel</td>
<td>37,430</td>
<td>16,984</td>
<td>3,473</td>
<td>20,683</td>
<td>21,874</td>
<td>28,345</td>
</tr>
</tbody>
</table>

Annual Export of Sheep and Goats from Berbera Port
2.2. Production Systems

The four main types of livestock production systems found in the Somali areas are nomadic pastoralist, agropastoralism, settled mixed farming and urban stall feeding. There is little or no integration with crops in the first and last systems. The pastoral system is confined to the drier areas of the coastal plains and mountain valleys and the plateaux over most of the country where the principal if not the only feed resources is rangeland grazing and browse; crop residues are also an important component of total feed in some areas. The urban stall feeding system, mainly buys fodder and crop by-products as feed for their livestock.

In the agro pastoral and settled mixed farming systems, there is medium to high integration with crops, particularly in the flood plain areas where fodder can be grown. Some land in these areas in northern Somalia is enclosed –illegally in the traditional context–in order to grow fodder. Some fodder is also grown under irrigation in the river valleys and is based on flooding supplemented by mechanical pumps in some river valleys. There is some small scale irrigation in peri-urban areas based on groundwater extraction is also the case in some coastal areas and in some dry river beds.

Herd and flock sizes vary among the different production systems. These are large to very large in the nomadic pastoral system, medium in the mainly transhumant agro pastoral system and small to very small in the settled mixed crop/livestock farming and urban stall feeding situations.

Flock sizes are smaller for sheep than for goats in the central areas and average 31 head in the range 6-53 head. Flock structures are related mostly to meat production and comprise 76.1 percent females (of which those of breeding age are 55.9 percent of
the total flock) and 23.9 percent males (of which rams of breeding age are 9.8 percent, mature castrates 9.7 percent and young males either entire or castrated 4.5 percent.
2.3. Farm Animal Genetic Resources

Somali livestock are adapted to a nomadic way of life, limited feed resources and intermittent water supply. They are a broad range of species with few breeds. Because Somali people live in several countries other than geographical Somalia, some of their traditional livestock breeds are also found in Djibouti, Ethiopia and Kenya.

Camels are generally assigned to five breeds: Somaliland, Ogaden, Mudugh, Benadir and Hor. The Somaliland is the main camel of the north. It has fine sparse hair if it is from the lowlands but longer and thicker hair in the highlands. The largest Somaliland camels are owned by the Dolbahanta tribe in the southeast of the breed’s range. The Ogaden is the same breed as the one of the neighbouring regions of Ethiopia, and pale to almost white in colour and is large. The Mudugh—also variously known as Mijertein, Galjaal (in Benadir) or Nogal—occurs in the north central areas and is usually tawny in colour often with a black line along the midline of the back and is a good milker. The Benadir, typical of southern Somalia, is the largest of all Somali camels and is usually pale in colour and has a large hump. The Hor of the central and south areas is a small dun or pale grey camel used for both milk and transport.

Almost all Somali goats are short eared. Breeds of this type are classed as “Somali” with a possible four subdivision known as Abgal. Ogaden, Somaliland Protectorate and Kenya (which is usually known as the Galla or Boran). In the traditional Somali descriptive systems the “yeygirr” is smaller than the “deguen” and has short prick ears in contrast to the forward inclined pendent ears of the latter which is bred by the Muruli clan. The goat
is of small to medium size with males weighing 30-50 kg and females 25-40 kg. A further short eared goat is the Arab (which in this context is a Somali clan name) or Somaliland type which corresponds to the sheep breed of the same name. It is the smallest of the Somali goats and is kept by coastal dwellers in the vicinity of towns. The goat is prolific with many twin and not a few triplet births being the rule. Some long eared (‘deguen’) milk goats are kept in villages and towns. These goats are usually known as Benadir and mainly occur in the southern half of Somalia particularly to the north of the Juba River.

The Somali or Black Head Somali is the main sheep breed. This fat-rumped meat breed is found throughout Somalia except in the riverine areas. It is highly appreciated as a meat animal by people in the countries to which Somalia exports livestock. Somali sheep are the immediate ancestor of the Black Head Persian which was developed in South Africa in the late nineteenth and early twentieth centuries and that has been widely used for crossbreeding in many parts of Africa and elsewhere in the tropics. The classic colour, as suggested by the name, is white with a black head. The fat rump is the most characteristic feature. The Arab or Somaliland sheep is a small fat railed breed found mainly along the coast.

The Zebu cattle of Somalia mainly belong to a group designated as “Small Zebus of the Somaliland’s” or Somali Shorthorn Zebu. The main “breeds” are North Somali, Gasara and Garre. Boran cattle similar to those of southern Ethiopia and northern Kenya are found along Somalia’s border with these countries. The Jiddu or Tuni is an Intermediate Sanga/Zebu type with long horns and possibly has a certain degree of tolerance for trypanosomes.
2.4. Livestock Numbers and Distribution

There is little information on national herd distribution and composition in recent years. FAO data (Table 2) indicate about 37.5 million grazing animals, but these show little change over several years other than an unexplained reduction in the number of goats of some 8 million head. If FAO data are used Somalia’s livestock are equivalent to 15.04 million TLU occupying the land at a density of 4.2 ha/TLU. Camels are most important in terms of biomass (41 percent) followed by goats and sheep (combined 35 percent) and then by cattle (24 percent).

Other data gathered by the Food Security Assessment Unit (FSAU) in 1999 place livestock in five zones within geographical Somalia with a total of 38.9 million grazing animals in the country as a whole. If the FSAU data are taken to correspond to a relatively true representation of the actual situation, livestock are distributed in considerable numbers over geographical Somalia. Camels are the most important domestic animal in terms of biomass and are well represented in every zone. Most cattle are in the two southern zones. In contrast sheep are far more numerous in the north and to a lesser extent in the central areas than they are in the south. There are large numbers of goats in the north with substantial numbers in the south but very few in the central areas.

Considerable internal and cross border movement takes place at well defined periods. Stock along the western border of the country move in waves into Ethiopia and Kenya at the beginning of the main rainy season in April and return to Somalia once more at the star of the dry season in December. Animals normally stationed along the coast move inland at the star of the rains and back to the coast again in December. In the northern parts of the country there is limited movement to coastal areas from the mountains at the
time of the winter rains with the return trek taking place as these rains fade. In addition to
the more usual mode of export of camels, sheep and goats by sea in normal times a large
number of trade cattle are usually trekked from central and southern Somalia to the
livestock markets in northern Kenya for onward transfer to Nairobi terminal markets

**Table 3. Somalia’s Livestock Populations**

<table>
<thead>
<tr>
<th>Livestock species</th>
<th>Africa Total number</th>
<th>Somalia Number</th>
<th>% of Africa</th>
<th>Rank in Africa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle</td>
<td>202,596,000</td>
<td>5,200,000</td>
<td>2.6</td>
<td>8</td>
</tr>
<tr>
<td>Sheep</td>
<td>212,674,000</td>
<td>13,500,000</td>
<td>6.3</td>
<td>6</td>
</tr>
<tr>
<td>Goat</td>
<td>180,304,000</td>
<td>12,500,000</td>
<td>6.9</td>
<td>4</td>
</tr>
<tr>
<td>Horse</td>
<td>4,795,000</td>
<td>1,000</td>
<td>0.0</td>
<td>27</td>
</tr>
<tr>
<td>Donkey</td>
<td>13,588,000</td>
<td>24,000</td>
<td>0.2</td>
<td>23</td>
</tr>
<tr>
<td>Mule</td>
<td>1,376,000</td>
<td>21,000</td>
<td>1.5</td>
<td>5</td>
</tr>
<tr>
<td>Camel</td>
<td>14,443,000</td>
<td>6,200,000</td>
<td>42.9</td>
<td>1</td>
</tr>
<tr>
<td>Pig</td>
<td>22,168,000</td>
<td>9,000</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Poultry</td>
<td>1,115,000,000</td>
<td>3,000,000</td>
<td>0.3</td>
<td>39</td>
</tr>
<tr>
<td>Total</td>
<td>629,776,000</td>
<td>37,448,000</td>
<td>5.9</td>
<td></td>
</tr>
</tbody>
</table>

**Table 4. Livestock Populations in Various Zones of Somalia**

<table>
<thead>
<tr>
<th>Zone</th>
<th>Camel</th>
<th>Livestock species and number</th>
<th>Total animal numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Camel</td>
<td>Cattle</td>
</tr>
<tr>
<td>Somaliland</td>
<td>1,508,260</td>
<td>408,960</td>
<td>5,837,320</td>
</tr>
<tr>
<td>Puntland</td>
<td>1,047,700</td>
<td>135,890</td>
<td>3,448,720</td>
</tr>
<tr>
<td>Central</td>
<td>1,003,340</td>
<td>461,860</td>
<td>1,098680</td>
</tr>
<tr>
<td>Southern</td>
<td>1,217,470</td>
<td>1,340,870</td>
<td>707,020</td>
</tr>
<tr>
<td>Juba Valley</td>
<td>1,117,460</td>
<td>2,061,850</td>
<td>741,860</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>6,294,230</strong></td>
<td><strong>4,609,430</strong></td>
<td><strong>11,833,600</strong></td>
</tr>
</tbody>
</table>
2.5. Production and Productivity

There are no recent reliable estimates of overall production and productivity but some comparative data from other countries and from earlier Somali studies are useful for individual species and age classes.

Milk production is of considerable importance not only for subsistence consumption the pastoral sector but also for household use in the urban and peri-urban areas. Camels, goats, cattle and sheep (to a lesser extent in the north and with low output) are used for milk production. Reproduction is timed to coincide with the rainy season and milk is often processed to ‘ghee’ with the remaining skim being used by the household or sold in local markets. FAO data indicate an overall drop in milk output between 1988 and 1998. This appears to be mainly due to a much reduced production by goats (undoubtedly resulting from the presumed smaller numbers) with slightly increased production by cattle and sheep.

**Table 5. Milk Production by Somali Livestock**

<table>
<thead>
<tr>
<th>Year</th>
<th>Camel</th>
<th>Cattle</th>
<th>Goat</th>
<th>Sheep</th>
<th>Total Milk (million litres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1988</td>
<td>864.7</td>
<td>470.8</td>
<td>596.8</td>
<td>337.8</td>
<td>2,270.0</td>
</tr>
<tr>
<td>1998</td>
<td>864.7</td>
<td>540.8</td>
<td>390.2</td>
<td>394.9</td>
<td>2,190.6</td>
</tr>
</tbody>
</table>

There are no reliable recent estimates of total off take but some quoted percentages are 1.6 for camels, 11.3 for cattle, 23.3 for goats and 27.3 for sheep. Camels and goats off take data may be rather low and cattle and sheep some what high. Some 33 percent of total off take is estimated to be consumed by producers; 17 percent by other internal
consumers and 50 percent is exported. Somali sheep weigh averagely 25-35 kg when sold as export animals, goats 25-35 kg, camels about 500-700 kg, and cattle about 250kg. Culled females are estimated to represent 20-25 percent of the off take of sheep and 17-20 percent of goats.

Camels are mainly dairy animals in Somalia although there are no data on production. Camels are also used as pack animals when moving camp and to a limited extent in commercial transport. An annual reproductive rate of 0.78 young per camel in 1984 implies an interval between births of 15.4 months. This interval is shorter than most data for other countries and may at least in part be due to the bimodal rainfall pattern over much of Somalia.

First kidding in Galla type goats is very late at about 30 months in central Somalia where kidding intervals are about 14 months. Multiple births are fairly common with an average litter size of about 1.29 kg. Weights for age in central Somalia during the 1980s were 13.7 kg at 6 months, 19.2 kg at 18 months, 23.5 kg at 39 months, 25.6 at 42 months and 27.7 kg at 54 months. In central Somalia does kidding during the rains yield 85 litres in 6 months of which about 40 percent is used for human consumption. Goats kidding during the rains yield about 50 litres of which 20 percent or 10 litres is taken for family use with the rest being suckled by the young.

Black headed Somali sheep have low reproductive performance. Estimated intervals between lambings in central Somalia are 14 months. Litter sizes are very small with only about 5 percent of births producing twins. Fecundity (=lambs born/ewes present per year) has been estimated at 61 percent in central Somalia. Most sheep are kept for meat production but age at off take is rather advanced at about two years. Some black Head
Somali ewes are used for milk production. The Somaliland Arab sheep yields a small amount of very coarse wool—possibly 1.0-1.5 kg per year—but is kept mainly for milk. All cattle are kept mainly for milk production but there are few even historical data on yields or lactation length. Cattle are also used to a limited extend for draught and as transport animals in some parts of the country. Gasara Zebu has been estimated to produce 2.3 kg per day with a fat content of 5.5 percent. Garre Zebu apparently yield slightly better at 2.7 kg per day at 5.3 percent fat. The intermediate Sanga/Zebu Jiddu has been estimated to yield 2.4 kg/day at 5.3 percent fat in south central Somalia but well managed herds in Kenya once yielded more than 1,800 kg in 300-day lactation.

3. NATURAL CONDITIONS AND AVAILABLE RESOURCES

In physical geographical terms, the Somali peninsula is the eastern spur of the Sahel zone. However, Somalia is by no means a homogeneous region with regard to soil, vegetation and climatic conditions. Although arid and semi-arid climatic conditions prevail on the Somali peninsula, distinct regional differences can be detected within the Horn of Africa with regard to annual variation of temperature and precipitation (cf. Map 1). The causes of this are to be found in the broad meridian extension of the country from approximately 2° south of the equator to about 12° north, and varying geographical conditions, with maximum altitudes of up to 2,416 m in the case of the Surud Cad in the North Somali coastal range and low-lying coastal plains in southern Somalia. The
seasonally varying effects of the northeast trade winds and the southwest monsoon also have to be taken into account.

Looking at the climatic conditions in a precipitation profile, we obtain the following pattern. Measurements of precipitation reach particularly high average annual values on the mountain flanks of the North Somali coastal range. Total precipitation of well over 600 mm is registered to the northeast of Erigaabo and to the northwest of Burao. Immediately adjacent to the north, however, in the narrow coastal zone along the Gulf of Aden, the long-term average values fall to below 100mm. The highly arid, desert-like northeast is linked to a zone of particularly low precipitation with values between 100 and 200mm extending southwest ward across the entire central part of Somalia and the neighbouring Ogaden. Average annual values of over 200 mm are not reached again until as far south as the Galguduud region. Precipitation increases considerably again with greater proximity to the equator, reaching its highest level, in more than 600 mm, in the south-western interfluves and along the lower reaches of the Jubba.

The northeast trade winds play a decisive part in the aridity of northeast and central Somalia, bringing with them hot, dry air from southern Arabia during the northern winter (the major dry season from December to March, the Jiilaal) with great regularity. Even the moisture-laden winds of the southwest monsoon, which affect the eastern coast of Somalia during the northern summer (the minor dry season from July to September, or the xagaa), bring only relatively little rainfall. The xagaa showers, as they are known, have little effect further inland except for in the south of Somalia, where they can be of considerable significance for arable farming and natural grazing during the minor dry season. The lack of prominent topographical elevations in the coastal zone and cold up
welling water in the shelf region causing coastal fog are primarily responsible for the low amounts of precipitation in the coastal zones of central and north-eastern Somalia. Most precipitation occurs in the form of convection rainfall during the main rainy season (April to June, or the Gu’) and the minor rainy season (October to December, or the dayr), when Somalia is under the influence of the inter-tropical convergence zone (ITCZ). The precipitation falling at these times of year is essentially responsible for the condition of the natural pasture and the availability of water in areas away from the rivers.

Recurrent, but usually regionally limited periods of drought are typical of Somalia. They are a consequence of the high variability of the precipitation. Such dry periods constitute a major problem for the farmers and nomads, because they not only lead to production shortfalls but frequently also result in catastrophic losses of crops and livestock.

In much the same way as the prevailing geographical and hygric conditions, distinct regional differences can also be established for the temperatures (cf. Map 1) in northern Somalia the highest values are recorded during the summer months and the lowest values during the winter months. In southern Somalia, however, close to the equator, the maximum temperatures occur in the second half of the main dry period in March, and the minimum temperatures during the minor dry season in July. The highest average annual temperatures measured are 30.6°C at Luuq in southern Somalia and 30.1°C at Berbera on northern Somalia coastal plain. The lowest long-term average annual value is 17.6°C at Erigaabo in the north Somali uplands. Hot and dry weather is typical of the interior of the country where unpleasant hot and humid conditions prevail in the vicinity of the coast.
The nomads respond to high and low temperatures by temporarily moving their location. For example, the northern Somali coastal plain along the Gulf of Aden is virtually uninhabited during the hot summer month. During this time the livestock keepers stay on the cooler elevated tablelands. At the start of the cold winter months, relocation takes place in the opposite direction.

In order to understand the prevailing soil and vegetation conditions it is important to take a brief look at the geological constitution of the Somali peninsula. The wide plateau areas of north, central and the northern part of southern Somalia, sloping down gradually from the Ogaden towards the Indian Ocean in a southerly direction, largely comprise geologically young marine sediments (mainly Upper Jurassic and Middle Eocene limestone, gypsum and anhydrites). Mostly shallow soils of a yellow to orange colour have formed on this source rock. In certain parts of the country where sandstone formations lie on the surface, such as in the Hawd area of East Hiiran, red sandy soils are also widespread.

The south of the country is dominated by extensive lowland plains along the lower reaches of the only two perennial rivers in Somalia (the Shabeelle and the Jubba rivers). Deep alluvial soils and adequate precipitation offer favourable conditions for rain-fed and irrigated agriculture. The fertile lowland plains along the rivers are also the traditional dry pasture regions for the nomads. The luxuriant grass vegetation provides a good basis for fodder, particularly for cattle. On account of the distribution of the tsetse fly, however, there use is restricted to the dry season.

The coastline of Somalia from the Kenyan border in the south to just north of Hobyo is accompanied by a quaternary dune belt. In the south, it is still relatively narrow, reaching
its greatest width, several tens of kilometres, in its northern part, in central Somalia. This quaternary dune region is subject to more intense utilization than the surrounding plateau areas. An agro-pastorally oriented population pursues mobile livestock keeping, in combination with rain-fed farming of sorghum and red beans.

In parallel, with predominant climatic and pedagogical conditions, the vegetation also varies greatly throughout the country. Sparse semi-desert vegetation on the coastal plain along the Gulf of Aden and at the north-eastern tip of the Somali peninsula, tugs especially on the edges of dry river beds (tugs), give way gradually to denser thorny savannas formations to the south and northwest. On the upland plains of the north and in the coastal zone of central Somalia there are extensive grasslands that are of great significance of grazing particularly for raising sheep.

The more humid south of Somalia is characterized by dense thorny savannas vegetation. Tree pasture provides a good basis for browsing camels and goats. Cattle raising is most widely distributed in the south of the country on account of the available grass vegetation. The dense acacia stands in the quaternary dune zone running parallel to the coast in southern Somalia and in large areas of the interfluves have been greatly reduced due to extensive clearing for rain-fed farming and for obtaining charcoal. The increased density of thorny bushes resulting from this episode of grass vegetation and hampers access animals to large areas of grazing. Thus, this makes a negative effect on mobile livestock keeping.
MAP: 3.

SOMALIA: SEASONAL PATTERN OF LIVESTOCK MOVEMENT
4. TRADITIONAL WAY OF LIFE OF THE MOBILE LIVESTOCK KEEPERS

The Somali people remain to this day in the majority a nomadic society, comprising a multiplicity of numerically significant clan families, sub-clans and their subgroups. Each ethnic group formerly possessed precisely delimited grazing lands with the associated watering places. On account of the seasonally changing conditions with regards to the availability of pasture and water, the nomads are still today to a large part reliant on long-range migratory movements often across nation borders with their livestock and households. In the curse of searching for the best pasture-land and the most abundant water sources, armed conflicts were a frequent occurrence; that has been brought under control, after the country gained its independence.

In central and northern Somalia the means of earning a livelihood takes a primarily nomadic form. The south of the country enjoys more favourable vegetation, soil and climatic conditions, and is dominated by a semi-nomadic population. Nonetheless, the neighbouring sedentary, often Negroid population, on either side of the Shabeelle and Jubba rivers are engaged in arable farming. Although rain fed agriculture (the main crop being sorghum) is quite significant in large areas, here, too, mobile livestock keeping is usually the most important constituent of economic value. The division of labour within the (frequently polygamous) families of the semi-nomads is even more greatly differentiated than among the pure nomads because the production conditions for cultivation often demand further seasonal segregation of the working members of the family group.
In numeric terms, the most important herd animals in nomadic livestock keeping are goats, sheep, camels and cattle; these are all to be found throughout Somalia, but in different proportions of the total stock on account of the differing ecological conditions in the various parts of the country. Whereas dromedaries can be observed in considerable numbers even in the very arid northern regions due to their undemanding nature, the distribution of cattle, for example, is particularly dependent on the availability of good pasturage and watering opportunities, as is the case in the south and northwest of the country. Goats and sheep are to be found everywhere in Somalia. Sheep are most widely distributed in the coastal region of central Somali with its predominance of grass vegetation, but also on the flat upland areas of northern Somalia. Goats occur in combination with sheep husbandry, and are clearly the dominant animals in areas of higher relief and in regions with dense thorny savannas vegetation.

In the nomad’s traditional economic system, the keeping of livestock is primarily aimed at supplying the subsistence sector with livestock products, especially with fresh milk and milk products. The animals and this used to apply above all to the large livestock (camel & cattle), represent the pride and wealth of their owners. The animals are not kept merely for the purpose of nutrition but also as a means of payment on all conceivable occasions, for example in response to demands for blood money or for paying a dowry. The overriding production objective is therefore to obtain a numerically large herd, which is often achieved at the expense of the quality of the livestock. Moreover, the owner of a large herd has a better chance that at least a small proportion of his animals will survive in the event of droughts that repeatedly occur. The remaining animals are also used as a foundation for the rapid build-up of a new, large herd.
5. Current Programmes

Due to the Collapse of the Somali government in 1991, all programmes on the genetic improvement of livestock had stopped and the progress made in that regard was reversed. This could be a blessing in digitise, since at present time almost the animal breeds in the country are indigenous and there is no foreseeable threat, that the local Animal Genetic Resources will be lost.

5.1. Religion and Culture Factors

The people of all Somalia are Muslims, living in an Islamic state. The main religious and cultural factors influencing the livestock rearing in Somali people, is the fact that pigs are neither bred nor are their products consumed by Somalis.

5.2. Information/Communication System

Timely reception of information on crucial factors such as security, environmental conditions and marketing are vital for the survival of the nomads. Therefore, the traditional means of oral communication is well developed. The liberalization of the communication system resulting in the introduction of modern equipments such as high frequency radios and mobile phones have made information dissemination one of the most efficient and cheapest in the Horn of Africa.

There are no out breeding structures at all in Somalia at this time.
There are no cross breeding programmes.
PART 2: ANALYSING CHANGING DEMANDS ON NATIONAL LIVESTOCK PRODUCTION

2.1 Past policies

In the early 1960’s, planned national programmes and projects on livestock development have been undertaken. These were more intensified in the 1970’s and during the socialist military regime’s rule.

The various governments, with different capacities, implemented livestock development programmes. These included enhancing the capacities of the animal health programmes, establishing a serum and vaccine institution, forming an artificial insemination centre, and establishing cattle and sheep breeding centres, at various locations, to improve the reproduction and production of the local breeds.

In Afgoi, a well-equipped artificial insemination centre, with its semen providing Friesian bulls, was established. Similarly, a dairy farm, in which Friesian and Sahiwal breeds were kept, was formed in the neighbourhood of the artificial insemination centre. Also, in the nearby area of Warmahan, a dairy farm in which local breeds were crossed over with Sahiwal was established. Those mentioned projects were all in Somalia proper.

In Geed-deeble and Asura, in Somaliland (former northern Somalia), cattle breeding and sheep centres were established, respectively. In Geed-deeble, local cattle breeds were crossed over with Sahiwal (Indian) breed. In Asura However, black-headed Somali sheep were crossed over with Marino (Australian) breed.
The objectives of those animal health and animal husbandry projects were to safeguard the animal health, improve the cattle and sheep production and productivity, contribute to improved animal genetic resource, and finally to the national economy of the country. In all those farms certain achievements were obtained. In fact, the Afgoi dairy farm reached a status of providing fresh milk with the neighbouring community.

Sadly, all the above institutions and projects collapsed during and after the civil war in Somalia as a whole.

2.2 Future demands

Presently, any public sector sponsored development trends for livestock production are non-existent. In Somalia proper, what can be retrieved from the achievements of the previous projects is a matter of speculation as chaos and leadership rivalry is still active. In the case of Somaliland, re-starting those projects is captive to the lack of financial funds and the dearth of international aid. In fact, the country is hostage to the crises prevailing Somalia proper and thus still remains an internationally unrecognised state.

In general however, the roles that can AnGR play in the improvement of local breeds of livestock in future food security and agricultural developments are obvious. For example, presently, in Somaliland, eggs and chicken meat are purchased from the Emirates and Yemen. So, increasing the reproduction and production qualities of the country’s poultry will surely mean more meat and eggs for the community. Moreover, it will increase the confidence of the community and country in being less dependent on outside imports.
2.3 Possible strategies in the conservation and utilization of AnGR

In considering the present situation of the country, with the exception of Somaliland, any discussion about the development and maintenance of possible strategies in the conservation and utilization of AnGR seems remote. In Somaliland however, this will mainly depend on the availability of funds and in re-establishing those livestock projects or programmes.

For centuries, the Somali traditional breeds had a great outside market. In the colonial times, when the port of Aden was a re-fuelling station, the Somali sheep and goats were the main source of meat for the British military garrisons stationed there. Similarly, during the oil boom in the Gulf States, the Somali livestock became a main meat import for those countries, particularly Saudi Arabia in the Hajj pilgrimage.

The Somalis, in general, rear their animals in an accepted gender-oriented system. In this, the camels are reared by the un-married male and in most the cases this lot move away from the rest of the encampment; the cattle are similarly so, though these don’t go far away from their encampments. The females, the elderly and young boys and girls care the sheep and goats as it is always reared near the rural encampments.

Those gender groups play a great role in the improvement and reproduction strategies of those animals under their care and maintenance. So, in AnGR conservation programmes, gender-specific projects will enhance interest and beneficial participation.
2.4 Outlining future national policy for conservation and utilization of AnGR

In this country, livestock and livestock products are an important source of income for the rural pastoralists, and agro-pastoralists. Thus, any expansion in livestock and livestock products enhances the economic base of those communities.

On the other hand, improved livestock marketing strategy plays a great role in the national development trend by increasing both rural incomes and foreign exchanges.

In this context, by considering this country’s tragic collapse as a functioning state coupled with a wide international neglect, any future livestock programmes and projects have to start from the base. Thus, it will need the establishment of functioning institutions, equipment and facilities, technical support and services, human resources, and properly formulated AnGR legislation.
PART 3: STATE OF NATIONAL CAPACITIES AND FUTURE CAPACITY BUILDING PROGRAMMES

In the present status of this country as a whole, institution, equipment, facilities, and support mechanism is non-existent. However, due to the availability of limited professional human resources, technical support and data collection mechanisms can be re-established in the peaceful areas of the country, particularly in Somaliland and Puntland. Moreover, in using these professionals as the nucleus, future capacity building programmes can be developed.

In this, to start with a good foundation, programmes and projects accompanied by AnGR legislations are to be formulated on sound grounds. Moreover, the breeding policy should develop strategy, and guidelines for the undertaking establishments whether public or private. Similarly, this should include rules and regulations for the import and export of any genetic or genetically modified materials.

In short, soundly formulating and undertaking those programmes and projects will play a very important role in the improvement of any AnGR work. Sadly however, in this country, lack of local funds and wide international neglect are greatly crippling any interest and future prospectus.
PART 4: IDENTIFYING NATIONAL PRIORITIES FOR THE
CONSERVATION AND UTILIZATION OF AnGR

4.1. National priorities for the utilization and conservation of AnGR

⇒ To import highly milk, meat and egg production exotic breeds

⇒ To establish cross-breeding farms and national Artificial Insemination Centre

⇒ To train both professionals and farmers towards the utilization and conservation of AnGR.

4.2. Technical and social aspects:

For the last 15 years there were no new professional graduation from University or Veterinary schools since all infrastructures were destroyed by the civil war of 1991. The concept of AnGR is very new to all livestock stakeholders in Somalia, so more trainings and workshops are needed.

4.3. National priorities for all species and interest groups

In this country, the indigenous and traditional knowledge safeguarded by the pastoralists and agro-pastoralists in the selection and breeding of their animals could form the basis for the use and development of AnGR.

Moreover, the ability of local breeds of camels, sheep, goats, donkeys, and chicken to survive under harsh conditions, disease prevalence, and poor nutrition is another important opportunity to consider in the enhancement and development of AnGR.
In general, it is the public sector that is mostly involved in the AnGR programmes as it governs the project/programme implementing institutions and research centres. This renders insignificant the involvement of livestock stakeholder, particularly the pastoralists and agro-pastoralists.

In re-starting an AnGr programme, in this country, considerations should be given to the national priorities of the different animal species. In the past, most of the AnGR and animal development programmes were aimed at the cattle, sheep and chicken breeds. Nonetheless, in considering its prestige status, economical value, and surviving talents in this environment, the camel is the most highly valued animal among the Somali animal species. Similarly, the goat breed are important species due to their hardiness, and ability to both graze and browse whatever fodder is available in their rural area.

In this context, re-vitalising the camel research programmes, with the involvement of the pastoral stakeholders, will be one step in the right direction.

The obstacles facing this country in the conservation and development of animal genetic resources (AnGR) are mostly lack of research institutions, funds, modern technologies, facilities, and above all skilled manpower. This doesn’t mean that Somalia is very far behind but because, as mentioned earlier, most of the institutions, facilities, and research data has been destroyed during the civil war that pledged the country into its present status.
4.4. National priorities for specific animal species, breeds, regions, and rural communities

The various animal species, in this country, have their traditional status and values. In this, the camel is highly valued all over the country. The cattle come next, and it mostly highly valued in Southern Somalia, particularly in the areas around the Shabelle and Jubba rivers. The goats and sheep are mostly reared in the central and northern parts of the country. And, in fact, these animals are mainly the source of meat and milk in most of the regions.

So, in the development of future AnGR programmes, the national priorities (for example, in the case of the camel), and the interest of the various regions and rural communities need to be considered.
PART 5: RECOMMENDATIONS FOR INTERNATIONAL CO-OPERATION IN THE FIELD OF FARM ANIMAL DIVERSITY

In Somalia, presently, there are no on-going animal developments or AnGR programmes due to the civil war and instability situations mentioned earlier. This however, doesn’t mean that the country is in a hopeless situation.

In the stable areas of the country, Somaliland and Puntland, the establishments can over various opportunities. Among these are the provisions of locations and sites for the researches to make a start. Similarly, the professional manpower (though limited) and security will be there.

In regard to undertaking research and animal development programmes, this country needs genuine and sincere assistance as the civil and its subsequent instability destroyed most of the infrastructure and institutions. In this context, it needs the establishment of institutions, equipment, and facilities. Moreover, it needs financial support and trained manpower to manage the establishments.

In this context, it is paramount to develop the country’s research centres, skilled manpower, and finally national treaties and AnGR legislation that conform to international strategies on animal development and AnGR programmes.
RECOMMENDATIONS AND THE WAY FORWARD.

Somalia is far behind in animal genetic resources in comparing to its neighbouring countries. Moreover, what have been established earlier, such as the public institutions and research centres, have been destroyed during the civil war. Thus, the need of this country in regard to international assistances and support is, among others, as follows:

1. Establish an autonomous national animal genetic resource centre that should be responsible for animal breed documentation, live animals and cryo-preservations of endangered species, and the development of national AnGR legislation and treaties.

1. Establish institution and research infrastructures in the most suitable areas and locations where the animals under consideration are mostly situated

2. Establish semen collection and artificial insemination research centres at accessible areas of the country

3. Establish breeding farms for the various animal species, particularly the camels, cattle, goats, sheep, and poultry

4. Develop policies and legislation for involving communities in the conservation of animal genetic resources, particularly the pastoralists and agro-pastoralists

5. Establish reliable funds in order to develop sustainable activities for the conservation of animal genetic resources (AnGR)

6. Provide skilled manpower and develop the professional skills of the nationals so as to guarantee the continuity of the conservation programmes

7. Provision of various levels of training to all stakeholders that are directly or indirectly involved in the use, development and conservation of AnGR
8 Arranging short-term consultants to assist in the use, development and conservation of AnGR

9 Setting up a well-equipped modern laboratory use, development and conservation of AnGR

10 Creation of institutional arrangements which could effectively mobilise all stakeholders involved in AnGR activities.

11 Awareness of farmers, general public and decision-makers on the strategic relevance of AnGR should be raised. To do so, establishment of a strong national database on AnGR and use of mass media are required. To increase awareness on the importance of AnGR, FAO and professional associations should lobby governments and policy makers.

12 Dissemination of indigenous knowledge in animal production and management of AnGR is highly important. To appreciate and develop the knowledge, strong extension service, commitment of stakeholders and finance are required.

13 The government, the private sector, communities, NGOs, FAO, bi-lateral and multi-lateral donors, World Association of Animal Production and other donors are potential sources of finance to activities geared towards better utilization and conservation of AnGR.

15. Policies favouring the promotion of use, development and conservation of farm AnGR should be developed in collaboration with the stakeholders.

16. It is important to create and develop partnerships with national, regional and international institutions that are directly or indirectly involved in the utilization and conservation of AnGR.

17. Projects/proposals should be developed in the area of utilization and conservation of AnGR by stakeholders for funding