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## The Promotion of the Livestock Industry for Food Security in Africa and Arab countries

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## Executive Summary

Africa and the Arab world have been linked for at least 12 centuries through economic, cultural and geographic connections. At least 11 Arab League's members' countries are located in Africa. Within the framework of their two organizations the Arab league and the Africa Union, Arab and African have formalized their relations by creating the Joint Afro-Arab Summit and the Joint Council of Ministers to ensure the realization of the Afro-Arab Cooperation. Within the framework of this cooperation, a paper on the promotion of the livestock industry for Food security is being presented taking into account the importance of the livestock industry, the demand of food for animal origin, the constraints in livestock production including tsetse and Trypanosomiasis, transboundary animal diseases (TAD), trade and investments in the subsector in Africa and in the Arab World.

The needs of livestock and livestock products such as meat, milk, eggs, poultry, etc. in Africa will increase due to the increasing number of people in the two regions by 2025 and the middle class, which have adopted a new feeding habits based principally on animal proteins. With the volatility of food prices, and Africa having the capacity to satisfy its own need as well as that of the Arab countries, if, few challenges such as tsetse and trypanosomiasis, the production of fodders in tsetse free areas, etc., that could facilitate investments in Livestock and Livestock products are resolved. Africa and the Arab World have through their close relationship; the same food preference, consumptions patterns among others to increase their trading exchanges in the field of livestock and livestock products, which has remained for a long time unexploited. Few main constraints in livestock and livestock products such as the low level of animal production and productivity, the lack of harmonization of trade regulations (SPS, trade barriers, etc. have hindered the expansion of trade between the two regions for the benefits of their economies.

Few recommendations on the promotion of the livestock industry have been proposed. They can help in the collaboration and investments in the subsector based on possible programmes in the different sub-regions (East Africa, Central Southern and West) agreed upon, which will lead to in-depth technical discussions on the best investments in the livestock industry. Specific technical reports could be prepared for each area of intervention (Animal Health, Food and Pastures, processing ...) and by sub-region for an indicative assessment of funding needs. Within a specific framework to be agreed on, the financing of the proposed studies that will kick start the process of investments in the livestock sector would be an added advantage.

# 1. Introduction

## Afro-Arab relationship

Africa and the Arab world have been linked by a fluctuating pattern of economic and cultural connections for at least 12 centuries. In the secular field the Arabs have up to this time played major roles in black Africa among others; as allies in African liberation in the twentieth century. In the past several years, they have built this alliance into a comprehensive political partnership, aimed at maintaining a solid front, particularly with regard to the Middle East and Southern Africa (Mazrui, A.A. 1975).

With the creation of the Arab leagues (1945) and the Organisation of African Unity (OAU) / African Union (AU) in 1963, the Arabs and Africans within the framework of their two organizations formalized their relations and created the following bodies; the Joint Afro-Arab Summit and Joint Council of Ministers in 1977, where the first Summit was held in Cairo, Egypt, to ensure the realization of Afro-Arab Co-operation as defined in the Declaration and Programme of Action on Afro-Arab Co-operation to enhance their ties, which have continued to thrive driven by socio-cultural, political and economic factors. The Working Groups and Specialized Panels established in accordance with the Declaration and Programme of Action on Afro-Arab Co-operation.

The paper to be presented will focus on the Mutual Arab-African Cooperation in Food Security, with special emphasis on promotion of the Livestock Industry in Arab and African Countries, which falls in the field of Agriculture, Forestry; Fisheries and Animal Husbandry within the declaration and Programme of Specialized Afro-Arab Cooperation.

Map of African Countries and Arab League Member States



Figure 1: Maps of Africa and Arab leagues members' countries

## **2. The importance of the Livestock Industry**

### **2.1. In the developing world**

According to the World Bank, the economic role of the livestock subsector in developing countries is estimated to be more than 25% of the value of agricultural production. This calculation only includes the output of priced commodities such as milk and meat; it ignores other benefits livestock is providing, such as capital formations, risk insurance, draft power, manure and weeding. Including the estimated value of these benefits would increase the livestock sector's contribution to the agriculture product of developing countries to over 30%. This ratio is bound to increase with rising incomes, continuing urbanization, and correspondingly changing food consumption and agricultural production patterns.

In recent years, livestock production in developing regions has been viewed rather critically. It also has been associated with the economic force behind expansion of grazing lands into closed forests in Latin America, the Caribbean, and sub-Saharan Africa, with negative consequences for climate, agriculture and biological diversity, though in fact the primary cause of deforestation has been land policies that favor granting of land rights to cleared rather than forested land. This perspective has somewhat obscured public perception of the essential role of livestock for agricultural and economic development, as well as for nutrition.

Livestock allows millions of small farmers to transit from subsistence to a market economy. In India and many other countries, dairy development based on small farms providing fresh milk supplies to cities and offers cash income to farmers. In Africa, cattle on the hoof is the traditional form of capital formation; hides and meat are cash commodities, and taxes are often based on numbers of livestock and paid in heads of cattle. Introducing animal traction in some parts of African agriculture has had a stimulating effect on crop production similar to mechanization.

For the millions of landless poor and small farmers whose numbers are rapidly increasing due to population growth and limited land availability, small-scale livestock and poultry production often offer the only way of ensuring viability of the household and economic survival. Small ruminants and poultry provide gainful work to women and children.

### **2.2. In Africa**

The livestock sub-sector is estimated to provide between 30 – 50 % of the total Agricultural GDP in some African countries and plays important key roles as livelihoods assets (human, capital, social, natural and financial capital). The subsector provides employment and income for rural communities including women as well as urban dwellers, who own livestock kept in their rural homes and/or regions, thus, providing the means to education and health. It also provides essential proteins required for food security by millions of people in urban and rural areas and micro-nutrients for children in various forms. Others livestock by-products such as wools, hides and skins add more economic value to the subsector, which is valued to contribute US \$ 14 Billion per year to the agricultural output. About US\$ 9 billion of this amount is in the form of meat, milk and leather while US\$ 5 billion is in the form of natural fertilizer and draft power. It is estimated that over 350 million people in Africa are directly dependent on livestock for their income and livelihoods. However, majority of the livestock dependent communities have high levels of poverty and food insecurity.

Despite the precarious situation of livestock dependent communities, In many countries this sub-sector is the overall ingredient of the agricultural development and constitutes an

important source of cash income that is used to purchase inputs for crop production and to provide outlet for surplus grain.

With about 300 million heads of cattle, more than 630 million sheep and goats, 140 million camels and more than 1.8 billion chicken and birds, the livestock subsector plays an important role in the life of rural communities in Africa. Its significant in rural poverty reduction demands a sustained increase in healthy livestock production as an essential tool to poverty alleviation and enhancement of food security in sub-Saharan Africa. At a recent Heads of States Summit, under the auspices of the “New Partnership for Africa’s Development” (NEPAD) initiative, African leaders acknowledged the importance of animal resources for the economic development in this sector.

**Table 1: Total Livestock production (Live animals) in Africa. Source FAO, 2010**

Country	Cattle and Buffaloes (heads)	Sheep and Goats (heads)	Camels (heads)	Poultry + Birds (1000 heads)
Total livestock production in Africa	280160982	625995671	22576063	1817587
Total from African Countries members of the Arab League	50797800	190071170	13959755	628184
% African Countries members of the Arab League	18.13	30.36	61.83	34.56

Table 1 showed that from the total of livestock production in Africa, 18.3, 30.36, 61.83 and 34.56% of cattle and buffaloes, sheep and goats, Camels and Poultry and birds respectively are produced in African Countries members of the Arab League. With exception of Camel production, those countries do not cover 35% of the need of ruminants and poultry/birds.

In Sub-Saharan Africa livestock farming includes keeping of cattle, sheep, goats and camels, which depend largely on natural grazing and browse, account for more than 90%, by weight, of the livestock population in sub-Saharan Africa. The numbers of all livestock species are increasing, although the growth rates for pigs and chicken populations are higher than for ruminants or the human population. The stocking density of livestock is substantially higher in South Asia compared to sub-Saharan Africa, especially on rangeland. In sub-Saharan Africa between 2000 and 2010, total production of nearly all livestock commodities increased by more than 3% per year. Increased production was influenced more by increasing animal number than productivity gains. Productivity is low by international standards and there is considerable potential for improvement. Nearly 80% of the rural poor in sub-Saharan Africa are engaged in rain-fed mixed crop-livestock farming and a further 14% in arid grassland systems. Production of animal source foods in sub-Saharan Africa is generally failing to keep pace with growing demand, with the shortfall being made up of imports. In West Africa, twice as much, milk is imported as produced domestically. Except for Zambia, all sub-Saharan African countries are net importers of cereals, which have implications for intensive production of pigs, poultry and dairy that are dependent on compound feeds. The opportunity to increase production depends on Africa’s relative competitive advantage compared to other livestock producing countries.

Sub-Saharan Africa is a net exporter of live animals, due mostly to exports of cattle, camels, sheep and goats from East Africa to the Middle East. In West Africa, trade in live cattle within the region is important. Sub-Saharan Africa is also a net exporter of hides, skins and wool, with Ethiopia and South Africa benefiting most.

Draft power, provided by cattle, donkeys, horses or camels depending on the agro-ecological zone, still plays a role in sub-Saharan Africa although it is difficult to place an estimate on its

value. Changing practices, such as the spread of minimal tillage conservation agriculture, are expected to impact on the use of draft power.

Livestock manure has the potential to improve soil fertility, although its use is lower in sub-Saharan Africa than other regions. Competing uses for manure, such as a fuel or for use in biogas digesters, limit amounts available for application to land. In peri-urban areas, manure can be a potential hazard contributing to pollution of air and water sources.

Income and food supply from systems that combine livestock and crop production tends to be more stable than from either component alone. The mobility of livestock in the event of shocks is also an important factor. Livestock represent a form of savings and investment which is especially important to the poor who lack access to formal financial or insurance services.

Livestock also serve a range of social and cultural functions. Livestock ownership is an indicator of social status and wealth, and is associated with benefits such as enhanced ability to obtain credit.

### 3.2. In Arab countries in the Middle East

Historically, in Arab countries in the Middle East, sheep and goats dominate. In the recent years there are some changes taking place and there is a sharp increase in the number of livestock, which are causing grazing pressures on steppe land to exceed their sustainable capacity. Consequently, Livestock owners in the region are responding by adopting more intensive systems of production that is expensive despite the fact that for example, barley grain is being increasingly fed to sheep, because grain is cheap and the meat and milk products are in high demand. As the source of forage legumes, fodder shrubs, etc. in the region is getting smaller and smaller due to the increase on people living in the region (estimated at 300 million Arabs in the Africa and the Middle East), the speed of its industrialization and urbanization, the newly adopted strategy seems unsustainable in the future.

**Table 2: Total Livestock production of Arab countries members of the Arab League - Live Animals. (Source FAO 2011)**

	Cattle and Buffaloes (heads)	Sheep and Goats (heads)	Camels (heads)	Poultry + Birds (1000 heads)
<b>Total of Arab League's countries</b>	<b>56547240</b>	<b>259359378</b>	<b>15303955</b>	<b>1036991</b>
<b>Total from African countries' members of the Arab League</b>	<b>50797800</b>	<b>190071170</b>	<b>13959755</b>	<b>628184</b>
<b>% African countries' members of the Arab League</b>	<b>89.83</b>	<b>73.29</b>	<b>91.22</b>	<b>60.58</b>

According to FAO (2011), Table 2, the livestock production of the 22 countries members of the Arab League is estimated at a total of 56547240 cattle and buffaloes, 259359378 sheep and goats; 13959755 Camels as well as 1036991000 poultry and birds that includes 89.83, 73.29, 91.22 and 60.58 % respectively cattle and buffaloes, sheep and goats, camels as well as poultry and birds from 10 Arab league members countries including Morocco, which are located in Africa. Arab countries' meat production include Africa's members states for beef and buffaloes, pigs, sheep and goats and poultry is 2973000, 2000, 1798000 and 3500000

tons respectively. T is very low. Without the production of African countries' members of the Arab League, the production of Livestock in the Arab countries in the Middle East

The total production in the Arab League members' countries of other livestock products, which are important for food security, such as: eggs, milks, butter and ghee, cheese, evaporated and condensed milk as well as skim milk and buttermilk as shown in Table 3. is revealing of the need of these products by the population.

With regards to process meat and other animal products such as milk and eggs, Arab countries including those in Africa are producing a total respectively, 2,067,740, 297,614, 1,677,047 and 3,575,825.2 tons of beef and buffaloes, camels, sheep and goats and poultry and birds meat respectively. When, these numbers are compared with the production of African countries non-members of the Arab Leagues for processed meat, it revealing that the requirements of those countries stand at 4,093,733,79 tons of beef and buffaloes, 854,959,2 tons of camels, 1,676,848,74 sheep and goats and 2,777,165,19 poultry and birds 'meat. These data showed that Arab countries in general produce less meat. With regards to Milk and eggs, based on the total production of Arab league's members' countries and African countries nonmembers of the Arab League, it is noted that the total production of Milk<sup>1</sup> stood at 25,771,423 Tons for Countries members of the Arab League and 396,393,427 for countries nonmembers of the Arab League in Africa. As for eggs, it is revealing that Arab League's Countries produced 1,646,201 tons of eggs compared to African countries nonmembers of the Arab league, which produced a total of only 180,388,21 tons of eggs. This showed that Arab League countries in general produced more milk. And eggs compared to other livestock' products than African countries nonmembers of the Arab League

#### **4. Demand for food and products of animal origin**

Demand for food and animal products is growing exponentially owing to increase of human population and middle income earners and urbanization. The world population which is estimated at around 7 billion is expected to increase to 9.2 billion by the Year 2050. At least more than 1 billion of this increase will occur in the Arab and Africa countries, which are urbanizing at a rapid rate and whose numbers of middle income earners in also growing rapidly. These factors combined will significantly influence the need for meats, milk and eggs in the everyday diet of the population. Thus affecting the global demand for livestock products and also increase the importance of the sector in the economies of livestock producers' countries

##### **4.1. The demand of Arab countries**

The combined population of the Arab countries totaled around 367 million this month, nearly 5.2 per cent of the world's population, official data showed. The population in the region has recorded one of the world's highest growth rates, ranging from 2.5 to 2.7 per cent during 1975 and 2000 and maintaining its rapid rise over the previous decade, the Cairo-based Arab League said (Emirates 24/7, October 2011). With this increasing population, Arab countries present a tremendous market for food and agriculture commodities. According to projections by the United Nation's Food and Agriculture Organization (FAO), the population of the Middle East region will increase by 130 million people per decade to reach 870 million people includes Pakistani, Turks, Iranians, etc. in 2025. This increase will have strong implications

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<sup>1</sup> Milk, butter, ghee, cheese, evaporated and condensed milk, skim milk and buttermilk

on food security in terms of products of both animal and crop origin and there could be serious food imbalances if not timely addressed.

In the Arab world as in most of the developing countries the 2008 food crisis put food security very high on the agenda of Arab Governments. The food insecurity that resulted contributed to the Arab awakening and the opportunity for change for sustainability in food production and diversification. Nevertheless, import for livestock and livestock products remain very high and is one of the most lucrative trade commodities with Arab countries benefiting countries such as Australia, New Zealand, Brazil, Argentina, among others.

**Table 3: 2011 Arab League members' countries Livestock Import quantity and total US D import value**

Country	Cattles	Sheep and Goats	Camels	Poultry Birds (1000 Heads)
<b>Total of Arab League's countries</b>	1009134	12819783	255626	29539
<b>Total from African countries' members of the Arab League</b>	<b>450719</b>	<b>151410</b>	<b>85808</b>	<b>17830</b>
<b>% African countries' members of the Arab League</b>	<b>44.66</b>	<b>1.18</b>	<b>33.57</b>	<b>6.04</b>

From Table 4 above, it can be noted that most imports for sheep and goat, camels and beef and buffaloes are from Arab league members' countries in the Middle East. It is worth mentioning that Arab countries in the Middle East have well developed Poultry/birds industries. Based on the above, the explanation of concept of food security by the Arab Organization for Agricultural Development as follows: "to provide the quantity and quality of food required to keep, at all times, all community individuals active and healthy, based, first, on domestic production and the comparative advantage each country has in the production of food commodities; and making it available to people at prices commensurate with their incomes and financial means" is very important for the future of the livestock industry in the Arab league members' countries.

#### 4.2. The demand of Africa

The 1992 Windhoek International Study on Assessment of Animal Agriculture in Sub-Saharan Africa observed that in order for Africa to achieve food security, the rate of increase in food production should be at least 4% per annum. The study projected that Sub-Sahara Africa's human population will increase from 800 million to 1.3 billion by the year 2025 and an estimated 19 million tons of meat and 43 million tons of milk will be required to feed this population. This will entail increasing meat and milk demand by 2% and 4% or more, respectively, every year. The implication therefore is that the productivity of the livestock sub-sector in Africa has to expand by a much higher than the projected margins in order to meet both the domestic and export market requirements. Most of African import of livestock (on hoof) is plays an important part of the inter-African trade between countries with higher number of livestock and those, which have fewer.

Africa' Arab League members' countries imported 26.84 % cattle, 5.97% Sheep and goats, 100% Camels and 39.32% Poultry/birds from the total imported by African countries nonmembers of the Arab Leagues. Table 5 showed, consequently those African countries members of the Arab league are affected by the imbalance in livestock production.

**Table 4: Actual import of livestock (Live animals) in Africa and total value of import in USD in 2011 (Source FAO)**

Country	Cattle	Sheep and Goats	Camels	Poultry Birds (1000 Heads)
<b>Total livestock production in Africa</b>	<b>1678980</b>	<b>2537048</b>	<b>85808</b>	<b>45342</b>
<b>Total from African Countries members of the Arab League</b>	<b>450719</b>	<b>151410</b>	<b>85808</b>	<b>17830</b>
<b>% African Countries members of the Arab League</b>	<b>26.84</b>	<b>5.97</b>	<b>100.00</b>	<b>39.32</b>

Remark: Equatorial Guinea, data are not available

To address the food imbalances in Sub-Saharan African countries therefore focus therefore should be on investments to boost household food security, to raise and stabilize the incomes of poor rural people so that they can improve their food security and also to strengthen household-level nutrition; increasing sustainable and resilient production by building on best local practices while exploiting the latest research and technology and nurturing innovation. Focus should be not only on developing and making available improved technologies, but also on building the capabilities of poor rural people as producers and managers of increasingly scarce natural resources.

There is a need also to strengthen the market integration of livestock farmers by promoting the integration of the latter in livestock value chains – from input and service provision to production, processing and marketing supporting improved post-production handling, processing and storage facilities to address sanitary requirements and better interaction among livestock farmers, service providers, traders and agribusiness firms. In addition, there should be initiative to improve risk management by strengthening the capacity of smallholder farmers to withstand risks related to supply or price shocks through more-resilient production practices, better linkages among value chain actors and improved rural infrastructure and support improved risk management through organization of producers and through innovative financial mechanisms to reduce investment risks, such as weather index insurance and supply chain financing.

Arab league's members' countries, most of which relied on the highest food import dependency in the world that is closely linked with the global market, have witnessed, how volatile the stability of food price can be affected. These have lately contributed to the increasing level of food insecurity and malnutrition levels. The large inequalities between rural and urban areas, the lack of timely and reliable data on poverty, hunger, malnutrition, etc. and food self-sufficiency as promoted by some countries in the region is not a sustainable solution are known problems, which need to be looked at seriously in order to avert unrests due to access for food as it has happened in some countries in the 90's. On major problem facing affluent Arab countries is the rise on triple burden of malnutrition (malnutrition, obesity, micronutrient deficiency) due to lack of sufficient food and imported poor quality feeding habits.

## 5. Livestock Trade

The live export industry is an important part of vibrant and growing livestock industry in Australia, New-Zeeland, Brazil, Botswana, and Argentina among others. The live export sector is estimated to be more than US D 5 billion and underpinned the employment of thousand people in countries benefiting from it in rural and regional areas. The livestock trade should respect the Animal welfare practices as recommended by the World Animal Health Organization (OIE). This legislation was an important step to overhaul the livestock export trade. Arrangements to ensure exported animals are well treated during road and sea transportation are an important part of the standards. Ships must comply with strict rules about ventilation, drainage and provision of water and food. Each animal must have access to food and water on demand and enough space to lie down, and there must be special pens for sick animals to receive veterinary care. Most live animal exporting countries have Quarantine and Inspection Services and Standard for Export of Livestock.

According to FAO, 2011, the total values of livestock's import in the Arab league countries from exporting countries is estimated at US D 2 189 113 000, where that of African countries nonmembers of the Arab League stood at US D 614 605 000 only. The above data showed, African countries nonmembers of the Arab League import less livestock than Arab League's members. Within, African countries, there is an intra-African trade, whereas most import of the Arab league countries if from outside the region and Africa, with exception of camels.

As mentioned the export of livestock from Arab League countries remains minimal and exist mainly between Arab League's members' countries. The Export value of livestock in Africa is much higher but it is mainly localized and exchanges exist between Africa and Arab League's members' countries. The total export value of livestock is estimated at US D 4 347 178 000 and there is potential for it to growth.

On import of processed meat to Arab League's members' countries, it is important and obligatory to observe certain rituals, without which no processed meat can be accepted. For slaughter animals, import to Arab countries should follow Islamic dietary laws or prescriptions, and how these are translated into production and processing standards using a HACCP-like approach, are discussed. Current halal quality coordination is strongly based on civic and domestic logics in which Muslim consumers prefer transacting with Muslim butchers, that is, individuals of known reputation with similar moral and religious obligations. The HACCP-like approach with identification of critical halal control points fits with the industrial quality convention mechanism and ideally yields guaranteed and trustworthy halal credence quality, eventually marked by a halal meat label.

In 2011, Arab league's countries have imported processed meat valued at US D 7 500 666 000 and milk for US D 5 019 568 000. This is enormous amount compared to the import values for the same commodities for African countries nonmembers of the Arab League that stood at US D 2 599 739 000 for meat and US D 1 665 994 000 for milk. These value that Africa has a great potential of producing its livestock requirement and exporting the excess, if it gets the necessary investments.

### **Challenges for livestock promotion of Livestock products**

Agriculture is the most important sector of the economies of sub-Saharan African countries. It contributes significantly to the Gross Domestic Product (GDP) of these countries and helps to sustain livelihoods by providing employment to the majority of the rural population. The livestock sub-sector of Agriculture is estimated to contribute more than 30% of the total Agriculture GDP in some African countries. In many countries this sub-sector is the overall

ingredient of the agricultural development and constitutes an important source of cash income that is used to purchase inputs for crop production and to provide outlet for surplus grain. In countries such as Niger, Burkina Faso, Chad, Mali, Somalia, Mauritania and large parts of Kenya, Sudan, and Ethiopia, livestock is the one of the main driving force of the economy despite the fact that some of these countries are now oil producing.

With reference to the data in Tables 2 and 3 the majority of Arab countries members of the Arab leagues with 5.2% of the world population need to make great efforts to achieve food security in the near future. These countries will have to consider Animal agriculture as a positive factor in long-term, sustainable agriculture by incorporating adequate economic returns to livestock farmers; through maintenance of natural resources and productivity; minimal adverse environmental effects; optimal production with minimal external inputs; and satisfaction of food, income and social needs. Can, this be possible with the rate of industrialization of these countries?

Livestock constitutes a vital element of food security requirements through provision of meat, milk and eggs. Furthermore animals provide income from sales of live animals and/or their derived commodities (e.g. milk, meat, eggs, wool, hides and skins). Livestock manure presents a useful source of soil and environment-friendly fertilizer, a crucial ingredient in intensified agriculture. In some countries the utilization of livestock traction power in land tillage is crucial for the resource poor rural farmer. It is estimated that in Sub-Saharan Africa livestock contribute approximately US\$ 14 billion per year to the agricultural output. About US\$ 9 billion of this amount is in the form of meat, milk and leather while US\$ 5 billion is in the form of natural fertilizer and draft power. In addition, livestock provide clothing and shelter. Livestock also provides opportunities for gainful employment to many people either directly or indirectly in livestock dependent industries. It represents the sole source of employment for over 12 million pastoralists from the 160 million people, who own livestock in Africa. Domestic livestock play important roles in socio-cultural values and practices in pastoral communities. Animals also provide opportunities for the utilization of damaged or surplus crops that would otherwise be wasted.

The significant role played by livestock farming in rural poverty reduction demands a sustained increase in healthy livestock production as an essential tool to poverty alleviation and enhancement of food security in sub-Saharan Africa. At a recent Heads of States Summit, under the auspices of the “New Partnership for Africa’s Development” (NEPAD) initiative, African leaders acknowledged the importance of animal resources for the economic development in this sector.

The total global demand for meat is expected to grow by 56% from 209 million tons in 1997 to 327 million tons (equivalent of 720 million zebu cattle) in 2020. Milk demand is also expected to grow by 54% from about 422 million tons to 648 million tons. This growth will concern mostly the developing countries because, for the lower income classes, meat and milk have high-income elasticity. From 1997 to 2020, estimation of per capita meat consumption in the developing countries is projected to increase from 25 kilograms to 35 kilograms, compared to an increase from 75 kilograms to 84 kilograms in the developed countries. On the other hand milk consumption shows an increase of 43 kilograms to 61 kilograms per capita in the developing countries and of 194 kilograms to 203 kilograms in the developed countries.

These figures indicate that 80% of the growths in total demand for meat and 95% of the growth in milk demand are expected to occur in the developing world. They also imply that the developing countries share of total global meat consumption would increase from the current 53% to about 65% in 2020. The comparable figures for milk would be 43 to 57%. The

1992 Windhoek International Study on Assessment of Animal Agriculture in Sub-Saharan Africa observed that in order for Africa to achieve food security, the rate of increase in food production should be at least 4% per annum. The study projected that Sub-Saharan Africa's human population will increase from 800 million to 1.3 billion by the year 2025 and an estimated 19 million tons of meat and 43 million tons of milk will be required to feed this population. This will entail increasing meat and milk demand by 2% and 4% respectively every year. The implication therefore is that the productivity of the livestock sub-sector in Africa has to expand by at least the same or higher than the projected margins in order to meet demand.

## **5.2. Specific challenges in Arab League's countries**

The total area of the Arab Region is about 14.2 million km<sup>2</sup>, 90% of it lies within arid, semi-arid and dry sub-humid areas. The area is characterized by harsh environment, fragile ecosystems and limited water resources and arable lands. Throughout its long history these lands were the main source of grain and animal production. By the end of this century and in spite of the national, regional and international efforts to combat desertification and mitigate the effect of drought and desiccation, desertification is still one of the major environmental problems in the Arab Region. The rapid increase in population by some 3% annually, considered among the highest worldwide, along with the changing of consumption patterns and life styles, resulting in increasing food demand, have hastened land degradation in this arid environment ( Abahussain et al., 2002)

Mubarak, J.A (1998) reported that to preserve or make efficient use of a narrow agricultural natural resource base, countries in the Middle East and North Africa (MENA) region feel an urgent need to develop an integrated strategy that includes strong demand management policies, especially with regard to water resources. If such policies take root, however, the agricultural sector will shrink and trigger profound socioeconomic changes in over half of the MENA countries — most of which happen to be the poorest in the region. The consequences include increased rural poverty, rural urban migration, rising food prices, and a worsening of balance-of-payments situation. Hence, each country must assess the full impact of its own natural resources policies, and coordinate the consequences they bring about with other macroeconomic policies and targets

## **6. Major constraints for the promotion of livestock in Africa and Arab Leagues countries**

### **6.1. Availability of land and fodder crops**

Most areas of Arab countries as reported earlier are 90% arid, semi-arid and dry sub-humid and are not suitable for Livestock production. In Africa, Livestock production is limited to High lands, where exotic grade animal are kept as well as in the Sahel and Soudano-Sahelian areas, where the largest numbers of autochthone breeds are kept. The most suitable areas for livestock production are infested by Tsetse and Trypanosomiasis, a scourge that is hampering Africa's agricultural development as well as a major cause of food insecurity and poverty. Due to Tsetse and Trypanosomiasis, Livestock production in Africa is extensive, as the areas; where it is practiced do not have enough grasses throughout the year. Pastoralists tend to constantly move in search for food for their animals. The pastoral system of livestock production has led to conflicts that caused untold suffering to both agricultural and pastoral communities as well as to the economies of the affected regions.

## **6.2. Production and productivity**

The potential impact of these trends on Africa's low input, low output livestock systems and the resource-poor people who depend on will be considerable and should be well anticipated for effective mitigation.

In terms of value, the market for animal-sourced foods, in 2005/07 was estimated at US\$ 51 billion. Using FAOSTAT farm-gate prices, this value is anticipated to almost triple by 2050 when African citizens are projected to consume livestock products valued at more than US\$ 151 billion. However, African producers are not expected to satisfy the growing demand for livestock products. Imports are expected to grow far faster than exports, with the net trade for all livestock products becoming increasingly negative. Between 2030 and 2050, 10-20% of the beef, pig meat, poultry and milk consumed in Africa will come from outside, reaching about 16% for beef, pig meat and milk, and 21% for poultry. The same scenario will also affect the remaining Arab league members' countries that are not in Africa.

## **6.3. Tsetse and Trypanosomiasis problem**

Trypanosomiasis is a severe disease of man and livestock, which is transmitted by tsetse flies. The Tsetse fly belt covers around 10 million Km<sup>2</sup> of the most arable and suitable land for agriculture, livestock and horticultural production among others in the continent. The tsetse flies are found in 38 African countries where they threaten the health and productivity of humans and livestock by transmitting the disease; Trypanosomiasis. Trypanosomiasis causes sleeping sickness in human and Nagana in cattle as well as animal Trypanosomiasis in other livestock. It affects the production and productivity of Human and their Livestock.

Trypanosomiasis is responsible for massive economic losses and severely constrains the continent's socio-economic development. Trypanosomiasis is a neglected trans-boundary disease, which needs a concerted coordinated action to be effectively addressed.

The African Heads of State and Government in their Summit in Lome, Togo in July 2000 adopted a decision (AGH/Dec.156 (XXXVI) urging all Member States of the African Union to embark on a Pan African Tsetse and Trypanosomiasis Eradication Campaign (PATTEC). The PATTEC Initiative is ongoing and its main aim is to create tsetse and Trypanosomiasis free areas in affected countries by integrating suppression, control, and eradication approaches of tsetse, the human and animal transmitted diseases, while ensuring that the reclaimed areas are sustainably, equitably and economically developed. Non tsetse transmitted Trypanosomiasis are also taken into account in the PATTEC Initiative.

## **6.4. Trans-boundary Animal Diseases (TAD)**

Development of the livestock sector in Africa is still seriously constrained by the burden of infectious animal diseases such as Contagious Bovine Pleuropneumonia (CBPP), Rift Valley Fever (RVF), African Swine Fever (ASF), Peste des Petits Ruminants (PPR), Newcastle Disease (ND) and Foot and Mouth Disease (FMD) and Tsetse and Non-Tsetse transmitted Trypanosomiasis. These diseases constantly reduce Africa's capacity to achieve self-sufficiency in food proteins, to assure livestock owners' welfare and continue to pose significant impediments to national, regional and international trade in livestock and livestock products. In Africa these diseases alone cause annual losses estimated at over US\$ 4 billion either directly (e.g. through mortality and abortions) or indirectly as a result of depression of growth rates, diminished productivity, lowered fertility, loss of manure and decreased work

capability as well as through resources that have to be put into disease control interventions. For example direct and indirect losses from tsetse transmitted trypanosomiasis amount to 1.2 billion and 4.75 billion USD annually per year, respectively.

The Rinderpest epidemic in the early 1980's in Africa is estimated to have caused direct losses amounting to US\$400-500 million while the economies of the affected countries suffered indirect losses equivalent to more than US\$ 1 billion. Similarly, the CBPP outbreak in Botswana in 1995 is estimated to have caused US\$ 100 million and US\$400 million in direct and indirect losses respectively. 250,000 cattle died during the recent CBPP outbreak in Tanzania with the losses estimated at over US\$50 million. The actual economic value of PPR is undetermined, but millions of USD are lost yearly due to this preventable disease.

## **6.5. SPS measures**

All these diseases are highly contagious and trans-boundary in nature and are thus categorized and included in the OIE list a, meaning that they have negative implications on regional and international trade in animal and animal products. They therefore constitute an important set back in livestock economies by preventing the majority of African countries from getting access to highly profitable markets due to the imposition of non-tariff trade barriers by importing countries.

In the current era of globalization of trade and the introduction of Technical Barriers to Trade, such as the Sanitary and Phyto-Sanitary (SPS) measures within the World Trading System, it has become imperative that due attention be given to eradicate those livestock diseases that threaten Africa's livestock development potential for high quality products to satisfy domestic need and for export. The effective control of these diseases would therefore facilitate access to world markets by those African countries that have major livestock industries. As one country in Africa, Botswana has been able to export beef to the European Commission, others countries in dealing with Africa's partners from the Arab World should also apply the same international standards. For live animals, quarantine measures should be reinforced before exportation to avert the exportation of diseased animals to Arab countries in the Middle East.

## **7. Prospects for Investing in the Livestock Sector**

### **7.1. Prospects for investments in Livestock Agriculture in Arab countries**

HH Sheikh Hamdan bin Rashid Al Maktoum, Deputy Ruler of Dubai and UAE Minister of Finance pointed out during an Annual Meeting of Arab Financial Institutions that food security tops the list of main challenges facing Arab countries, taking into account that Arab agricultural projects did not achieve the targeted increase in productivity to meet the growing demand for food for several reasons, including poor infrastructure, investment environment, financial resources and scientific research in addition to agricultural services which led to widening food gap to reach \$41 billion in 2010 and is expected to reach about \$89 billion in 2020.

Arab countries have a considerable potential for contributing to their Food needs and requirements.

The Strategy for Sustainable Arab Agricultural Development of the Arab Organization for Agricultural Development for the Upcoming decades 2005-2025 is the main blue print to implement the Agricultural development vision.

### 7.3. Prospects for investment in Livestock-Agriculture in African countries

To address the imbalances in foods products of animal origin and poverty, Sub-Saharan African countries should therefore focus on:

- *inter alia* investments to boost household food security, to raise and stabilize the incomes of poor rural people so that they can improve their food security and also to strengthen household-level nutrition;
- increasing sustainable and resilient production by building on best local practices while exploiting the latest research and technology and nurturing innovation to control diseases and vectors; and improve production;
- not only on developing and making available infrastructure and improved technologies, but also on building the capabilities of poor rural people as producers and managers of increasingly scarce natural resources;
- strengthening the market integration of livestock farmers by promoting the integration of the latter in livestock value chains – from input and service provision to production, processing and marketing supporting improved post-production handling, processing and storage facilities to address sanitary requirements and better interaction among livestock farmers, service providers, traders and agribusiness firms;
- Countries in Africa should ensure a value chain addition to their livestock and livestock products
- improving risk management by strengthening the capacity of smallholder farmers to withstand risks related to supply or price shocks through more-resilient production practices, better linkages among value chain actors and improved rural infrastructure and support improved risk management through organization of producers and through innovative financial mechanisms to reduce investment risks, such as weather index insurance and supply chain financing.
- The recently concluded High Level meeting For Africa on Zero Hunger: “Toward African Renaissance: Renewed Partnership for Unified Approach on to End Hunger in Africa by 2025 within the CAADP Framework held in Addis Ababa, Ethiopia, 1 July 2013 made specific recommendation on the support of the creation and implementation of comprehensive food security and social development plans at national, sub-national and regional scopes.

An alternative solution can be found in the following World Bank statement: “Increasingly, global strategies for livestock development must consider the environmental impact and the inter-regional economics of production and marketing. Improved livestock productivity supporting economic development and sustainable natural resource management are not incompatible goals. Inter-regional trade and market development must consider differences in comparative and competitive advantage, which often do not coincide. Subsidies, price controls, trade barriers and other factors can neutralize comparative advantage of developing countries for low-cost livestock production”.

## 8. Conclusion

From the present paper, it is evident that the livestock industry is essential for the attainment of food security and the livelihood of people in Africa and the Arab world. It has a great potential for increasing production of livestock and livestock products that exists and can be adapted in African and Arab countries. Area freed from Tsetse Flies and Trypanosomiasis

can be effectively used for ranching among other in order to promote the Livestock sector if the necessary investments followed. With increased investment, it is expected that the livestock subsector will have a profound outcome in the development of the industry and the economy as whole in Africa and Arab countries. Despite the fact, that in Africa and the Arab World positive production trends of livestock and livestock products is being observed, the performance of Livestock sub sector has continued to remain low (exception in poultry and eggs), as the industry continues to be faced with many challenges. The recommendation below can offer a way forward to stimulate Afro-Arab cooperation in the promotion of the Livestock subsector for food security and socioeconomic development.

## Recommendations:

Due to the multiplicity of constraints in the promotion of the livestock industry for food security in Africa and Arab League's members' countries and the fact that African countries have great potential to satisfy their own demand as well as that of Arab League's members' countries, following a thorough analysis of the livestock subsector, it is recommended that within the framework of the Afro-Arab Cooperation, the following points should be noted as urgent to start collaboration in the livestock subsector:

1. Improvement of the production and productivity of livestock and to open more pasture in Africa in Tsetse and Trypanosomiasis infested areas as the common mode of animal production in type of pastoralism associated with movements of pastoralists with their herds in search for pastures and fodders;
2. Ensuring regularly the availability of fodders and pastures by improving natural pastures, developing fodder cultivation, improvement of residues from crops and agro-industrial products to complement their contribution to natural pastures and mitigate climate effect on their performance;
3. Improvement of livestock health by combatting diseases such as animal tsetse and non-tsetse transmitted animal trypanosomiasis, which affect a wide range of livestock and by ensuring that epizooties such as the Pest des Petits Ruminants (PPR), Contagious Bovine Peri-Pneumonia ( CBPP) and other diseases of economic importance such Rift Valley Fever, Brucellosis, Foot and Mouth Disease (FMD) ;
4. Promote the creation of local processing units to reduce live export of livestock and diversification of exportable products (to reduce losses and improve the quality of the products such as honey products (which did not make a subject of the research in this study and to create jobs);
5. Harmonize SPS technical and commercial standards in both areas taking Coptic the epidemiological situation and the necessity to agree procedures for animal health certification and quarantine adapted if necessary with the support of the OIE, FAO, AOAD, IBAR, PANVAC, etc.. The harmonisation of SPS and other standards will streamline commercial exchanges between the two regions;
6. To establish a pool of experts to work on the technicality of the implementation of the recommendations in the Central, East, Southern and West Africa) and to propose the best options for investments in the livestock subsector in Africa and the Arab league's members' countries;
7. The studies to be carried under recommendation 6 will require an amount estimated between US D 2 – 3 million to be carried out by involving ongoing PATTEC programmes in Africa, whose aim is to increase livestock production and productivity.

## References

1. Abahussain Asma A., Abdu A. Sh., Al-Zubari W. K., El-Deen N. A. and Abdul-Raheem M. 2002: Desertification in the Arab Region: analysis of current status and trends. *Journal of Arid Environments*, Volume 51, Issue 4, pp. 521–545
2. African Union – Arab League 2010: Africa – Arab Partnership Strategy: Second Africa – Arab Summit, 10 October 2013, Sirte, Lybia
3. African Union Pan African tsetse and Trypanosomiasis eradication Campaign (AU-PATTEC). 2012: How PATTEC can be supported. Addis Ababa, Ethiopia
4. Arab Organisation for Agricultural Development: 2012 Annual report
5. Australian Government Department of Agriculture: <http://www.daff.gov.au/animal-plant-health/welfare/export-trade>
6. Emirates 24/7: Oct. 30, 2011. Arab population hits 367 million.
7. FAO. Jan. 2003: Livestock Dynamics in the Arabian Peninsula,
8. FAO.2010: Livestock in changing landscape: Experience and regional perspectives. Volume 2. Edited by Gerber P., Mooney H.A., Dijkman J., Tarawali S. and De Haan Cees. Publ. by Island Press.
9. FAO. (2013\_Report). *World food and agriculture (2013\_Report)\_production[1]*
10. FAO: 2011: Working Paper. Mapping supply and demand for animal-source foods to 2030
11. [http://en.wikipedia.org/wiki/Member\\_states\\_of\\_the\\_Arab\\_League](http://en.wikipedia.org/wiki/Member_states_of_the_Arab_League)
12. [http://en.wikipedia.org/wiki/Economy\\_of\\_the\\_Arab\\_League](http://en.wikipedia.org/wiki/Economy_of_the_Arab_League)
13. <http://faostat.fao.org/site/573/DesktopDefault.aspx?PageID=573#ancor>
14. <http://fsaw2012.ifpri.info/2012/02/24/forward-looking-priorities-strong-participation-and-wide-media-coverage-mark-end-of-food-security-arab-world-conference>
15. [http://news.bbc.co.uk/2/hi/middle\\_east/country\\_profiles/1550797.stm#issues](http://news.bbc.co.uk/2/hi/middle_east/country_profiles/1550797.stm#issues)
16. Inter-African Bureau for Animal Resources (IBAR), Nairobi, Kenya
17. Jamil A. Mubarak; May 1998. . *World Development* Volume 26, Issue 5, pp. 877–895;
18. Karijn Bonne and Wim Verbeke, 2008: Religious values informing halal meat production and the control and delivery of halal credence quality. *Agriculture and Human Values*, Vol. 25, Issue 1, pp. 35-47
19. Mazrui A.A. 1975: Black Africa and the Arabs. *Foreign Affairs*. Vol. 53, Number 4
20. Njombe, A. P. and Msanga, Y. N.: Livestock and dairy industry development in Tanzania
21. Pan African Vaccines Center (PANVAC)
22. Stevens Christopher and Jane Kennan. February 2005. Botswana Beef Exports and Trade Policy. Institute of Development Studies. University of Sussex, Brighton, BN1 9RE, UK TED Case Studies: Botswana Cattle Ranches and Trade
23. The World Bank: 25 years of improvement. Part IV. Livestock Research
24. World Economic Forum: The Africa Competitiveness Report 2011
25. [www.arabnews.com](http://www.arabnews.com)
26. [www.thebeefsite.com](http://www.thebeefsite.com). 10 November 2008: Bright Future Ahead for Botswana Beef . MSD
27. [www.zawya.com](http://www.zawya.com). 2. April 2013: Arab world needs USD80bn investment to close food gap