

ECONOMIC IMPORTANCE OF CAMELS' CONTRIBUTION IN THE RED MEAT PRODUCTION AND ALGERIAN FOOD SECURITY

IMELHAYENE M.^{1,2}, ADAMOU A.^{1,2}, BECILA S.^{2,3}

¹Department of Agricultural Sciences, Faculty of Natural and Life Sciences, Laboratory of Research «Bio Resources Sahariennes», Kasdi Merbah University, Ouargla, ALGERIA

²CAMEL SHIELD (PRIMA) project

³Institut of Nutrition, Food and Agro-Technologies, Biotechnology and Food Quality Research Laboratory, Mentouri Constantine University, ALGERIA

Abstract:

This study was aimed to identifying the economic dimension of the breeding and production of camel meat in Algeria. In achieving its objectives, the study relied on standard economic analysis and, in particular, the partial adjustment model was used to estimate camel meat production and consumption in 2021. The study showed an increase in the number of camels from 381.882 in 2017 to 438.752 in 2020, where women account for 39% of the total number of herds

Camel meat production in Algeria increased by 2 per cent from 2017, but it remains a very limited amount in view of the high production of other domesticated animals, especially sheep and cows. This is due to several problems in production and consumer systems and policies applied in the organization of the camel division. Through its findings, the study recommends that camel husbandry projects should be expanded as an important source of red meat through a regional rebalancing of the distribution of loans to camel husbandry projects in various areas of Algerian soil

Keywords: Economic, camel, *camelus dromedarius*, meat production, food security, Algeria

L'IMPORTANCE ECONOMIQUE DE LA CONTRIBUTION DES CAMELIDES DANS LA PRODUCTION DES VIANDES ROUGES ET LA SECURITE ALIMENTAIRE EN ALGERIE

Résumé :

Cette étude avait pour but d'identifier la dimension économique de l'élevage et de la production de viande cameline en Algérie. Pour atteindre ses objectifs, l'étude s'est appuyée sur l'analyse économique standard et, en particulier, le modèle d'ajustement partiel a été utilisé pour estimer la production et la consommation de la viande cameline en 2021. L'étude a montré une augmentation du nombre des dromadaires de 381.882 en 2017 à 438.752 en 2020, où les femelles représentent 39% du nombre total de troupeaux.

La production de viande cameline en Algérie a augmenté de 2 % par rapport à 2017, mais elle reste une quantité très limitée au vu de la production élevée d'autres animaux d'élevage, notamment les viandes ovines et bovine. Ceci est dû à plusieurs problèmes dans les systèmes de production et de consommation de ce type de viande et les politiques appliquées dans l'organisation de la filière cameline.

A travers ses résultats, l'étude recommande de développer les projets d'élevage camelin en tant que source importante de viande rouge à travers un rééquilibrage régional de la distribution des crédits aux projets d'élevage dans les différentes zones du territoire algérien

Mots-clés : Économie, dromadaire, *camelus dromedarius*, production de viande, sécurité alimentaire, Algérie.

Introduction

Wars have been known throughout history on four basic levels:

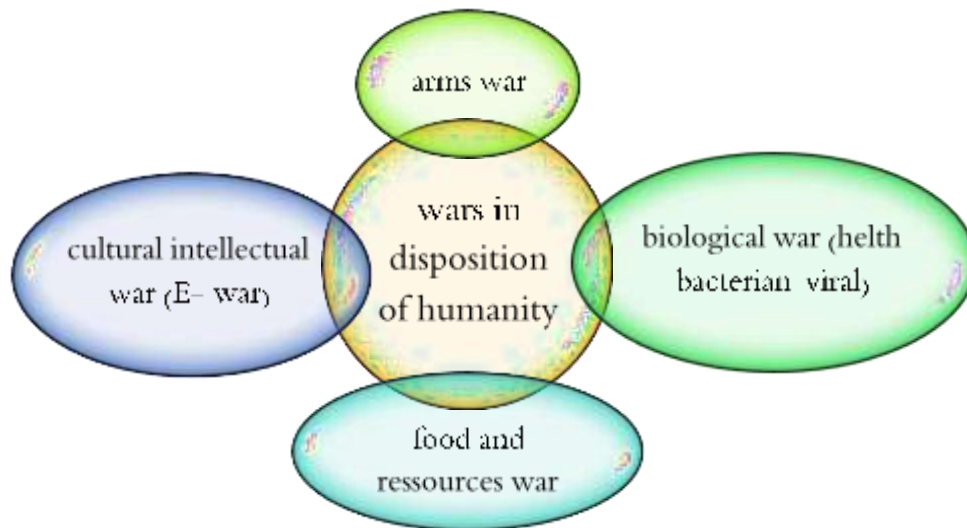


Figure1 -Global conception of the world wars

Food war came in the form of famines can destroys nations and drupe entire civilizations because of the loss of the human factor as a result of its severity

Today, livestock husbandry and the valuation of breeding products are a vital and renewed economic resource for many countries, especially in view of the policies developed to provide national and national food security in order to counter any kind of food war expected in the future and maintain its longterm stability.

Of course, camels constitute one of the most important renewable biological resources in arid and semi-arid regions, as they are the most adapted animals to these regions, both in terms of their tolerance of extreme climatic conditions under extreme heat and of positive interaction with any diet even poor nutrients, prevailing in dry areas.[1];[2]. According to ADAMOUC (2011)

[3], dromedarian camel is known as a

multifunctional animal on several levels:

- Social level... The fact that camels are a partner of educators' social life in these areas makes them unique and qualitative for mobility, farming and various cultural events like camel racing...

- Either on the ecological side: ecological role of dromedary on its desert ecosystem in maintaining the floristic cover by the dissemination of seeds by endozoochoria. It can be considered as one of the main elements contributing to the regeneration of the Saharan floristic cover[4].

Due to its feeding behavior. It has a positive impact on the valorization, rational exploitation, preservation, distribution and proliferation of the thin floristic cover of its Saharan ecosystem.

This may place it at the top of the list in relation to other breeding species, respectively. Finally economic level through its most important products such as milk, meat that has an important role at food security of countries.

Camel can be a considerable source of meat which has his role at economic development of dry and semi- dry areas when climatic conditions decreases the production potential of other livestock[6].

Slaughtering generally touch male more than female for many reasons like keeping female for reproduction and milk production, also male carcasses can weight more than 400 Kg

sheep and goats [5].

whereas the female weighs between 250 and 350 kg[7].

Camel slaughtering rates is inversely commensurate with its worldwide numbers especially in the dry and semi-dry areas in the Middle East and north of Africa whichit called old camel world and new world in Europe especially French, Spain and Holland. When Africa take the leads in the number of camel heads, statistics shows that it represent the lowest slaughtering percentage in the world by 5.7% than in Asia (7.6%) and Europe with maximum productivity of camel meat estimated by 11%[8].

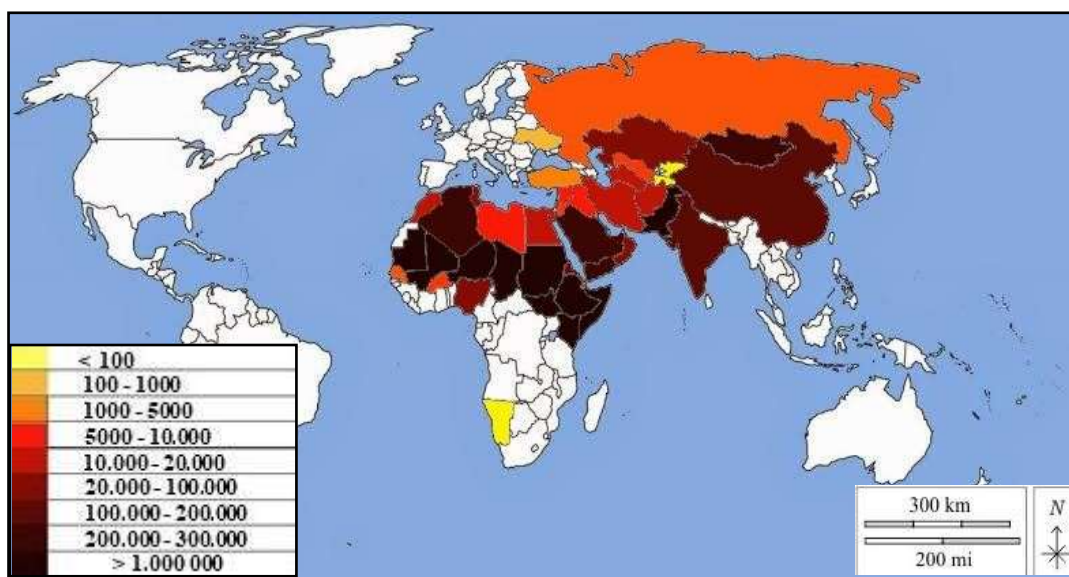


Figure 2- Distribution and Number of Great Camelids in the old World [8].

An increasing number of dromedaries regularly around the world, with an annual growth rate of 6 %. Since 1961 (first statistics of the United Nations Food and Agriculture Organization). The date and number of

dromedaries in the world has more than tripled in 2021

Five types of trends are observed in the growth of camel around the world.

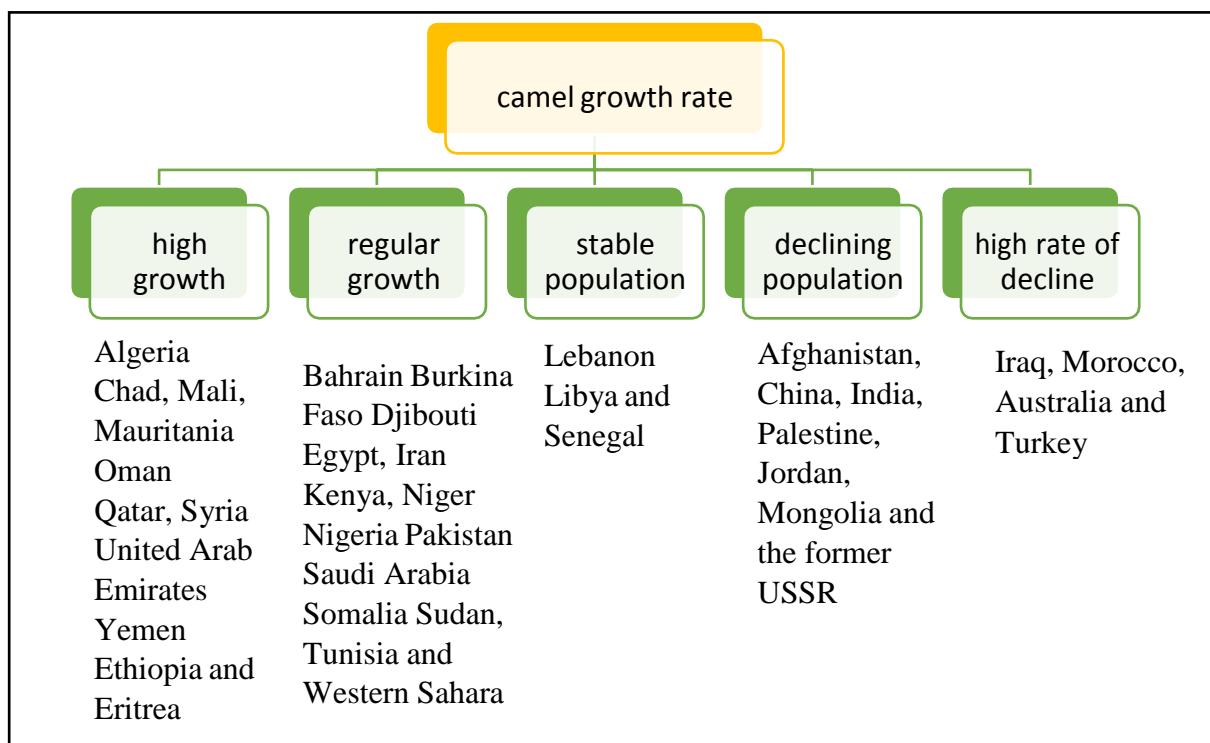


Figure 3 - Representation of camel growth rates[1].

The increase in the number of camelids in some countries is due to state policies related to the development process of this animal species. As well as cultural causes associated with the daily life of arid and semi-arid areas, especially since the camel species is defined as the animal accompanying the life of the camel driver (consumption in the Daily Diet, therapeutic virtues etc)

Areas with declining numbers of camels are experiencing extreme poverty and continuous famine (Mongolia, India) or prolonged wars (Palestine and Iraq);also, some politics of countries can be a direct cause of this diminution

Like Australia, par exemple:According to estimates of the Australian Government-

supported Feral Scan site, which monitors biological species from overseas that have been settled in Australia, it has 1.2 million heads of camel in 2020. In addition, the reports indicate that this number doubles every eight or nine years[9].

The origins of Australian camels descended from European migration in the 19th century, what is means that it is endemic and not native animals in the area [10].

In 2020, The Australian authorities decided to execute camels in its territory for damage to the environment. Due to its depletion of South Australia's drought-stricken water resources[9].

1 -Situation of the camel sector in Algeria

1- 1/Dynamics of the camel herd

In recent years, camel numbers in Algeria have undergone a very clear evolution. Although we cannot judge the reliability of

the data at our disposal, it can give us a vision on the growth of the camel population in Algeria. This evolution in number is the result of the development programs of the camel breeding set up by the Algerian State(Figure 4).

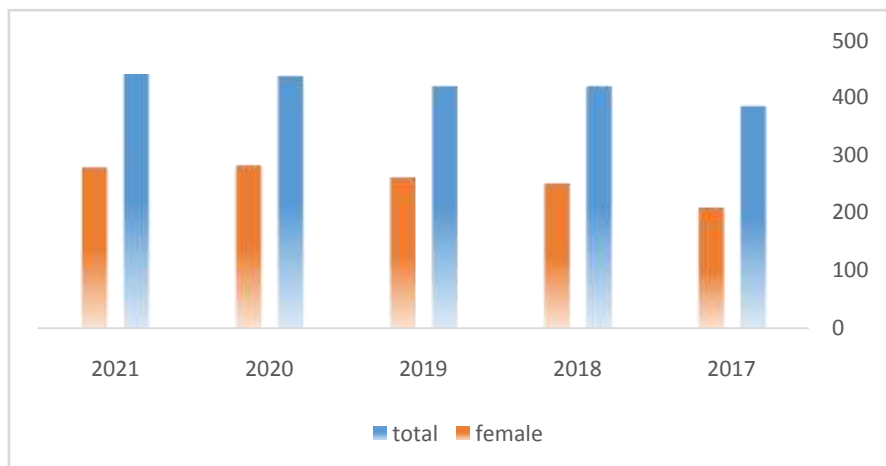


Figure 4 - Evolution of camel numbers in Algeria. [8]; [11].

The camel population recorded under the campaign 2020/2021 is 402,755 heads including 250,040 female heads (represents 39% of the total effective)(Figure 5), distributed mainly in:

-The Saharan region represent 92% of the national workforce, in the wilayas are:

Tamanrasset- Tindouf- Adrar- El-Oued- Ouargla- Illizi- Bechar- Ghardaia.

-and the steppe region, that is 8% of the national workforce, in El-Bayadh-Djelfa- Biskra-Laghouat-M'sila-Tébessa-Naâma- Khenchela[11],

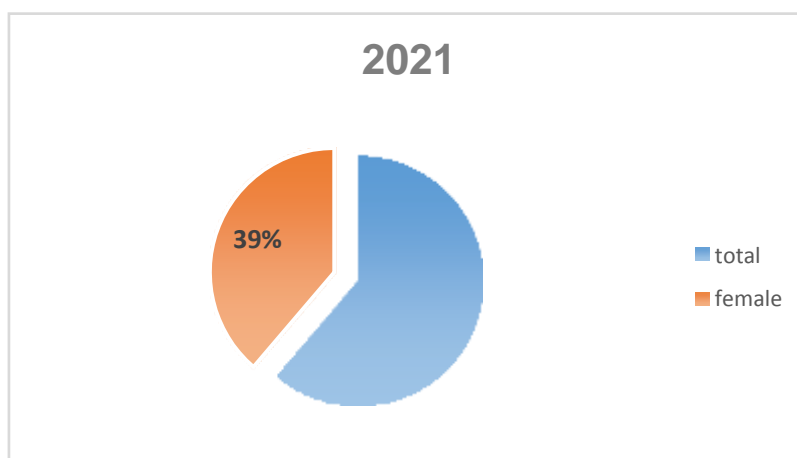


Figure 5 - Rate of females in 2021[11].

Today the greatest concentration is in the border wilayas of the central Sahara (Figure 6) and during the seventies and eighties, the greatest concentration was observed in the

eastern part of the northern Sahara. This situation obliges us to reinforce the controls at the borders, and the practice of quarantine for the animals that return to the country.

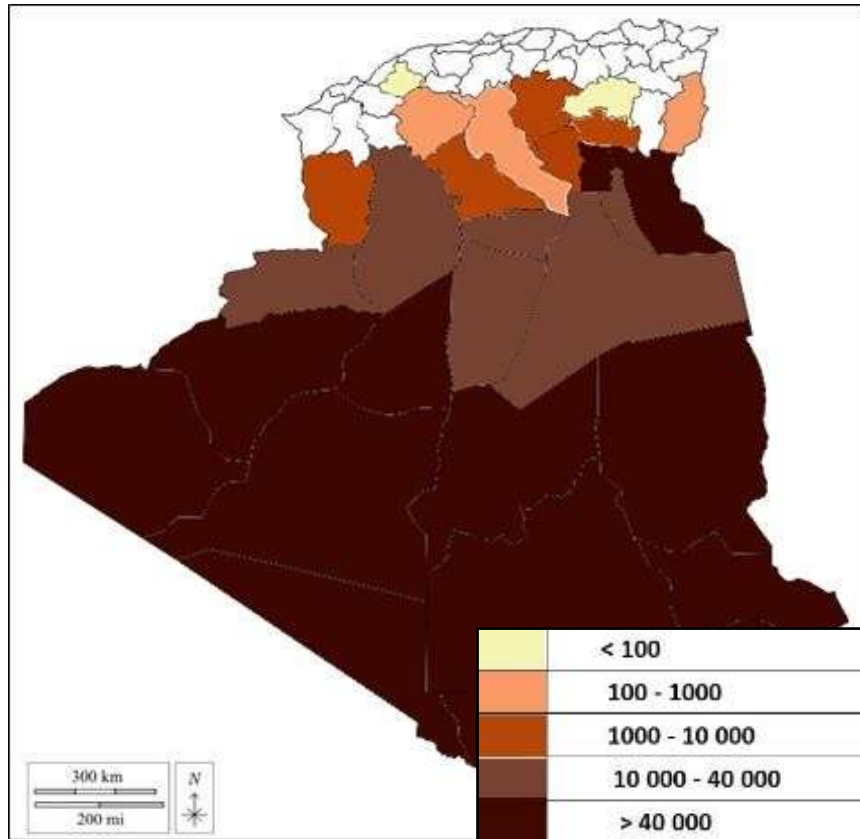


Figure 6- Distribution and Number of dromedaries in Algeria [11].

1- 2/Dynamics of camel meat industry

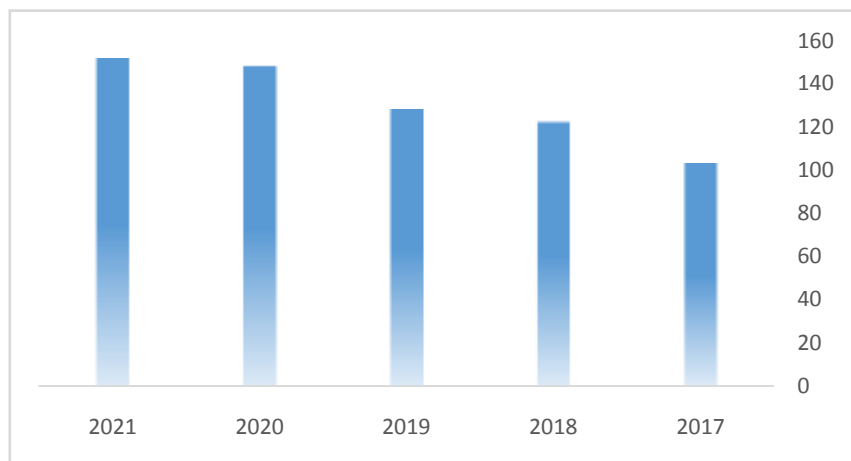


Figure 7- Camel meat production in Algeria (qnx/ year)[11].

In terms of production, camel meat production recorded for the 2020/2021 marketing year is

151,255 quintals (Figure 7), which represents a rate of 3% compared to total red meat production (all species combined); (Figure 8), Statistics for the year 2019 mark a rate of camel meat production of 2%. Although the increase is small on average by 1% per year, it remains important in view of the conditions that control camel meat sector by comparing with other types of animal meat. Some studies on camel economics indicate that there are extensive investment opportunities for camel

projects after slaughter, including meat, processed meat, leather, slaughterhouse residues and special products. Some mini-production units have had limited experiences in marketing camel meat, but they remain in the eyes of much of the hoped-for rate given the animal's association with the environment of the southern regions and its ability to cope with the region's harsh natural conditions, which are characterized by a dry climate.

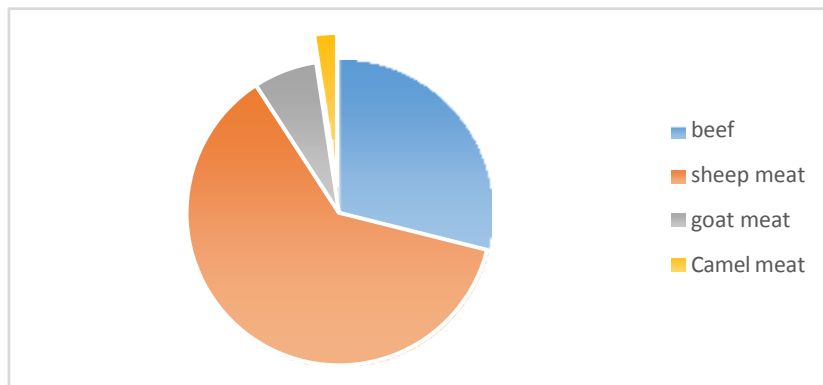


Figure 8- Positioning of camel meat production in 2020 [11].

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2-Situation of the camel meat production in the wilayas

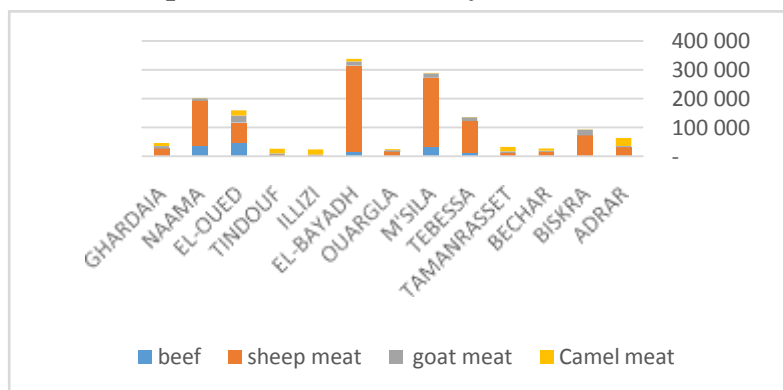


Figure 9- Positioning of camel meat production in 2020 according to the wilayas [11].

In recent years, we have seen a pivotal development in both the preparation of camel and the production of meat, but this percentage is still very small compared to the production of other livestock. This is due to social and marketing factors, most likely related to the lack of a culture of consumption of this type of meat or its disadvantage by different social groups.

The proportion of meat production at the wilayas level in Saharan regions (Figure 9), occupies the wilaya of Adrar the largest meat production in 2021. According to the latest survey, the interest of local bodies as well as social groups in the production and valuation of camels as vital resources can be widely utilized. The state of Tebessa, Msila and Biskra occupies the last percentage because of the subordination of meat production to the massacres of neighbouring states, also because of limited camel effective in this wilayas.

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3-Fishbone plan:

3- 1/ Definition

Ishikawa plan, cause- effect plan... is a tool for analyzing a problem by identifying possible causes for the purpose of finding a set of complementary solutions to the problem.

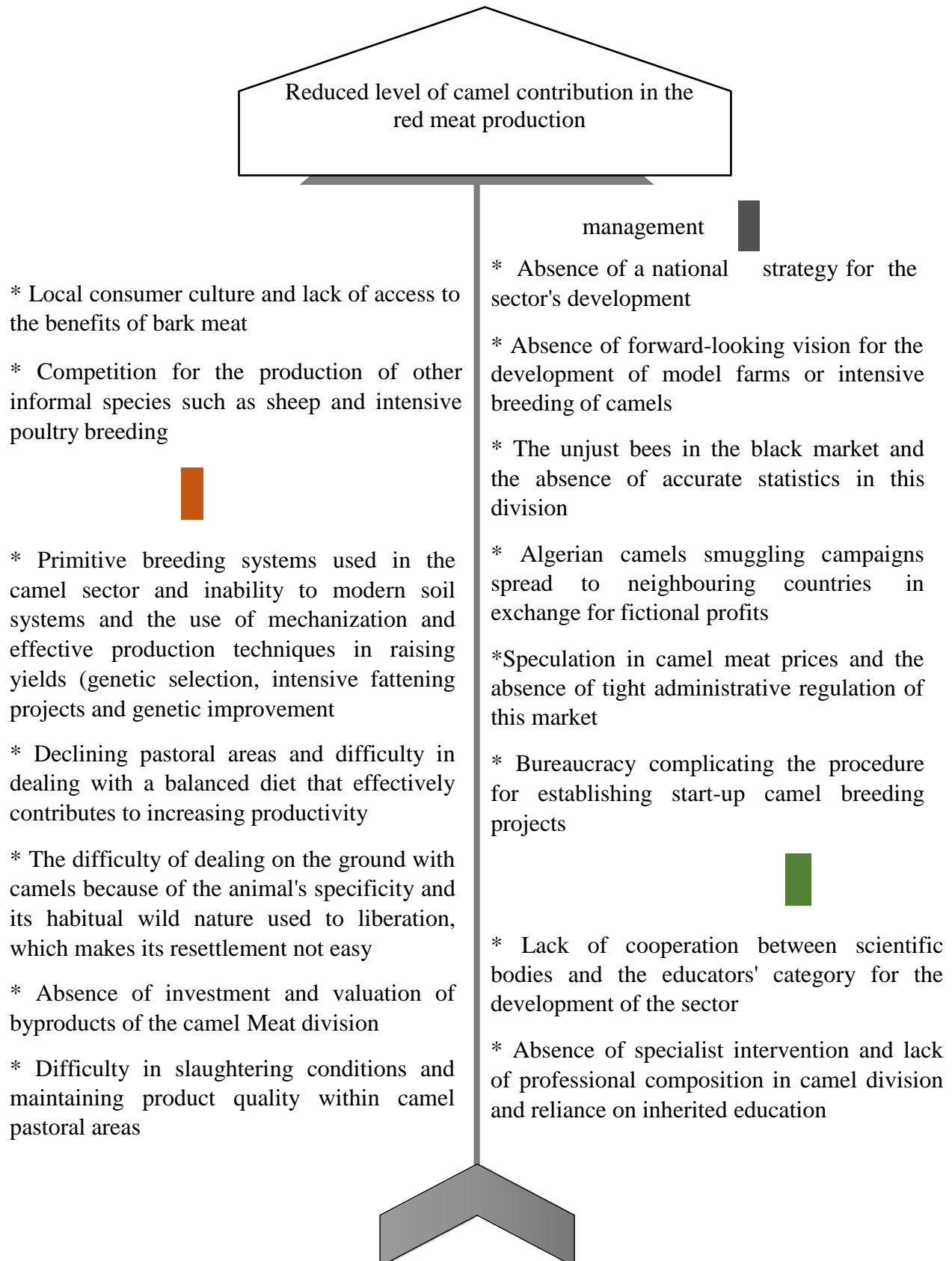
It is a planning technique from Japanese statistician Karo Ishikawa at the University of Tokyo that can be used to distinguish and order the causes of an incident, problem or result. It also depicts the relationship arranged in a planning manner between the causes according to their level of importance or detail and as a given result.

The reason it is called a fish structure scheme is that the final form of the scheme is similar to the fish's skeleton after it has been removed from the meat, as the fish head is the primary problem and each subbone of the spine is the main elements of the problem [12].

Fish bone tool is a great problem analysis tool, with the participation of those responsible for this problem or those responsible for the main elements that may be the cause of this problem. Whether this problem is personal or at the level of companies' and organizations' problems, Small or large. This planning helps to analyze and find all factors and causes no matter how great, Small or trivial, which may be the main

influential and leading cause of the big problem[13].

3- 2/ Camel meat sector analysis by ISHIKAWA diagram(cause- effect plan)



Conclusion and recommendations

Most economic thinkers emphasize the close relationship between the individual monetary and financial system and the food economic system. The evolution of either must necessarily be reflected in the second.

Algeria is one of the areas of permanent food deficits, which compensates for importing basic food commodities from abroad, mainly meat (camel meat in special).

The small-scale camels contribution to red meat productivity and food security is due to marketing, technical, cultural and human management problems for camel meat sector although it is an important vital material that can contribute genuinely and effectively to the development of the foodeconomy of Algeria in general and the regions of the South in particular. It is necessary to seek radical solutions to these problems and to guide the leadership vision of state institutions and scientific and academic research teams as well as the basic bodies of various civil society groups to promote this sector.

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The following are our suggestions for a range of solutions.

- The establishment of a far-sighted strategy for the development of the sector guarantees animals five freedoms for well-being and guarantees producers comfortable work
- Effective financial support for scientific research in the areas of barb meat production and work to link academic groups with breeders and camel-producing groups
- Encourage investment and provide seamless solutions to facilitate administrative actions in this area
- Raising the field of formation in the intensive breeding of camels
- Encourage work within nature reserves, mobile slaughter centers and model production farms
- tighten effective monitoring of the development of camels through electronic chips, work on the tight regulation of the camels market and slaughtering processes.

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