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Opinion

Sustainability of the Dairy Sector in Developing Countries: The Case of North Africa Region

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Opinion

Demographic increase and greater consumption of animal products have led to an increase of dairy products demand in the region. North Africa region covers the five countries, members of the United Maghreb Arab (UMA) plus Egypt. Their population is more than 200 million, half of them are in Egypt. Annual growth in demand per capita in milk equivalent per year for the region reaches 2% [1]. Faced with the poor productivity level of existing native cattle due to the absence of coherent breeding improvement strategies, policy makers, since 50 years ago, chose to import milk (fresh and powder) and live exotic dairy animals to satisfy a massive local demand for milk and milk derivatives. Distinct political strategies to provide milk in the market were followed since the seventies. Countries that witnessed high incomes from fossil energy, in addition of cattle imports, chose to rely on milk powder importation. Algeria is the country that chose importing powder milk as a national strategic option to provide milk to its people. It became among the top second in the world that relies on powder milk imports after China [2]. After the world economic crisis (Wikipedia, 2008), Algeria started again investing and encouraging local milk production through integrated large farms, milk collecting centres and heifers nurseries [2]. Egypt, Morocco and Tunisia chose to produce locally their milk by importing exotic dairy bovine and proven semen with the upgrading of native cattle with a variety of exotic specialized dairy breeds. Mauritania, even though it has more livestock animals than the number of people, it is still dominated by a pastoralist livestock production system and it remains the only country of the region that did not import massive exotic breeds. Such an option allowed Mauritania to keep the integrity of its native cattle population. In the seventies, exotic dairy cows represented less than 10% of the total cattle population in Tunisia, Algeria and Morocco. They represent in 2019 more than 56% in Tunisia, 57% in Morocco, more than 50% in Egypt and 17% in Algeria [3]. These figures translate the shift from native genotypes to exotic ones. The importation of exotic breeds is also causing a genetic erosion at the native cattle population level due to an uncontrolled indiscriminate crossbreeding. The use of Artificial Insemination has helped speed up the upgrading process and the gene flow from exotics to native cattle. Upgrading native cattle by the use of Artificial Insemination has been difficult to manage and has led to a replacement trend of native cattle by imported exotic breeds and their crosses [3,4].

When examining the two distinct policy decisions of importing milk powder or importing live animals and semen, the result is similar because in both cases providing milk is very much linked to imports. This situation could be changed and improved if countries of the region exploit better the imported dairy cattle to produce heifers and semen locally through suitable national or regional breeding programs. The lack of coherent complete breeding strategies based on animal identification, performance recording and genetic evaluation for the specialized dairy breeds mainly Holsteins and the use of AI in random crossing of native cattle with exotics, has been a major constraint for the dairy sector sustainability in North Africa region [5]. When the option of producing milk locally was chosen by policy makers in the seventies, prices of the two essential ingredients Soya and Corn were affordable by dairy farmers. This situation encouraged small farmers to raise dairy cows sometimes with no land. One of the major characteristics of the dairy sector in North Africa is the high percent of small dairy farms with less than 5 cows, representing 90% [6]. They used to make a decent living by producing milk and selling calves. It is not the case anymore especially after the economic crisis of 2008 when feed prices increased. The example of Tunisia's bovine milk chain is a concrete one. The government usually fixes a minimum sale price of milk at the farmer level on a periodical cycle. Farmers can sell more than the minimum fixed price if their milk has a better quality. Incentives, however, were given to milk collecting centers for collecting milk and milk processing units for transformation and stocking milk. In March, 2020 the government changed the minimum fixed price at the producer level from 0.945 TD/liter to 1.040/liter (1TD and 40 millimes) knowing that one US dollar is 2.78 TD. In March 2021, the price of concentrates increased six times compared to their value in March 2020 to be 1.135 TD/kg of concentrate while milk remained with 0.95 TD increase fixed in March 2020. The ratio of the price of concentrate/milk price became 1.135/1.040 (110%) [7]. The last figure shows that landless farmers, unable to reduce feed costs by producing it, are losing money and quit at the end. The sustainability of the dairy sector is fragile in North Africa for two major reasons: 1) the continuous imports of heifers and semen and 2) the imports of two major ingredients mainly soya and corn. To overcome such a situation and increase the resilience of the dairy sector in the region, two major pathways needed to be explored: 1) Establish a coherent breeding program at the national or regional level. This measure will enable the region to produce heifers and semen and; 2) encourage the dairy farming activities and limit them to areas where pasture or fodder can be produced while encouraging the use of by-products feed at the farm level.

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