

C19. Urban and peri-urban milk development in Greater Cairo (Egypt) What future for the traditional milk sector?

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Dairy animals are embedded in the ancestral culture of Egypt. The cow was firstly the symbol of fertility and maternity in the antic period and well represented in all the temples of the Nile valley through the divinity Hathor. And the first manufacture of cheese was depicted in murals in Egyptian tombs from 2000 BC. The introduction of buffalo into Egypt from India, Iran and Iraq would date approximately from the middle of the 7th Century. At present, it is the most important and popular native livestock for milk production in Egypt. The most famous cheeses from mixed cow and buffalo milk are Domiati, Karish, Mish, and Rahss. The Egyptian cheeses have thus a long history, and cheese remains an important part of the modern Egyptian diet. While the majority of rural families still make their own cheese, notably the fermented *mish* (fermenting salty cheese), a growing quantity is nowadays produced in modern state-owned or private processing plants. Cheese is included in many traditional main course dishes, mainly breakfast dishes.

In 2009, FAO statistics showed that total cow and buffalo milk produced in Egypt was 3,200 and 2,307 ton (FAOSTAT 2011). 23% is used on the farm for local consumption, 38% to make cheese and yoghurt, and 39% to produce liquid milk. From of the liquid milk sold, 20% is industrialized milk (packaged milk) and 80% is considered as "loose" milk (non-conventional milk sector dominated by smallholders). In addition, the industrial units involved in dairy processing have to import dried skim milk (770,000 Mt of non-fat dried milk in 2007) to maintain the quality of milk products.

Consequently, the Egyptian milk sector is still traditional with a majority of the population consuming unpasteurized milk often delivered straight home in glass bottles or aluminum cans or plastic bags. This traditional sector is estimated to represent 80% of Egyptian milk consumption (average around 50 kg/cap/year). This traditional sector includes a diversity of farming systems from the mixed farming systems in the rural and peri-urban areas to landless systems in the intra-urban zones. The mixed farming systems are crop-livestock integrated systems: generally mixed herds including cattle and buffaloes and a cropping system including forages, berseem (*Trifolium alexandrinum*) in winter and maize in summer to cover basic requirements of animals. The landless systems depend

mainly on feed supplements and use of a variety of leftovers from human consumption (like biscuits from school, bread).

What is the future of this traditional sector in an emerging country such as Egypt where there is the development of a rapid middle social class that “aspires” to modernity? A research study has been conducted over the last two years (2012-2013) to characterize and understand the functioning and dynamics of this sector around Greater Cairo and assess its future development. This research was based on a farm survey of nearly 73 families in 6 zones of Cairo and Greater Cairo, a follow up of 3 villages with their milk collection centers (MCC) that supply Cairo, and a rapid appraisal survey of 74 milk shops situated in three social districts of Cairo (Subra, Tilba and Zeibna).

The first results show that this traditional sector is based on a multitude of social networks in order to satisfy two factors: valorization of the milk at the best price and limit the loss due to problem of milk quality. In the urban zones of Greater Cairo, dairy farmers sell milk directly to milk shops or consumers, rarely using a trader as intermediary. In the peri-urban zones (a strip of about 20-30 km around Cairo), dairy farmers sell their milk to a trader generally originated from the same village or peri-urban area. Around 55% of the milk shops in Cairo are supplied by a relative and 23% have a contract with the trader. The trader can also be the driver or owners of milk shops in Cairo. The follow up of milk collection centers based at more than 80-100 km from Cairo shows a more complex milk strategy: the fresh milk is directly delivered every day to milk shops in Cairo to maximize their margin (with a buffalo milk price of 6-7 EGP/liter); fresh milk remaining after selling to the milk shops can be sold to milk processing units, mainly in summer to face problem of cooling milk (electricity cut) or in winter if there were surplus. Some MCC have diversified their distribution by selling hand-made cheese to supermarkets. However, this sub-sector is not completely disconnected from the modern sector. One of the owners of the followed up MCC started to collect fresh milk from a big farm to supply one of the biggest milk processing units in Egypt.

What is the future of this sector? The rapid survey over the 74 milk shops in Cairo shows a very high demand of fresh buffalo milk that is not met by the modern sector. The follow-up of MCC up to 80-100 km from Cairo reveals a high attractiveness of this business mainly based on family social networks that guarantee the observance of milk quality criteria. However, the huge campaign of the modern sector supported by Egyptian authorities to promote the consumption of packaged milk could affect the consumption pattern of the middle social class in Cairo. But all the interviews confirm the special status of buffalo milk in Egypt and do not consider the modern sector as an endangering rival to the traditional system. Moreover, this traditional sector connects thousands of small dairy farms at the urban demand and thus constitutes an added value chain in terms of employment, distribution of income in view of the multitude of intermediaries that manipulate small volume (around 160 liters/day per milk shop), and the opportunities related to the dense social networks.