

Innovation platform, farmers' organization and market to empower small farmers benefit from an autochthonous meat sheep value chain under low input production systems

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Abstract. Regional development in Tunisian livestock has been based mainly on segments rather than on an integrated system approach and a value chains concept. Even though efforts were made to improve production, livestock productivity is still low (.7 lamb/ewe/year). International cooperation through the Consortium Research Program-Dry land system led by ICARDA and INRAT launched an innovation platform in 2013 in Sidi Bouzid region to find suitable pathways to develop livestock in the region. The objectives of this study were 1) to describe farming systems in Zoghmar community at Sidi Bouzid site; 2) analyze the existing lamb production chain and 3) develop potential technical and organizational pathways to better respond to farmers and consumers needs. A total of 120 surveys was conducted in Sidi Bouzid region including sheep owners, butchers and consumers. The main results showed that beside the breeding operations, fattening activities (breeding-fattening or fattening) are becoming more and more important. While breeders and consumers still prefer, in their majority, the Barbarine fat tail lambs, butchers tend to favour thin tailed sheep because of the difficulty of selling the fat of the tail that represents up to 15% of the carcass weight. To meet the butchers' demand, farmers are shifting to thin tail breeds and crosses and in the studied areas, market changes towards thin tailed breeds were dictated by butchers' and not consumers' preference. The project initiated the formation of a farmers association at Zoghmar community to establish a transparent lamb production chain. The association was taken as a framework to rehabilitate the rangeland with the cooperation of the Ministry of agriculture (OEP-CRDA). More coordination is now put on place to bring all stakeholders together in a lamb value chain concept (lamb production-Allouch Sidi Bouzid label and market).

Keywords. Sheep – value chain – innovation – Barbarine.

Plateforme d'innovation, organisation des éleveurs et marché pour renforcer les petits éleveurs à partir de la chaîne de valeur mouton sous un système de production à faibles intrants

Résumé. Aujourd'hui, les 274 000 éleveurs ovins en Tunisie et en particulier les "petits éleveurs" (64% avec moins de 10 brebis) ne sont plus capables d'assurer un niveau de vie décent. La faible productivité de leur cheptel et l'absence d'organisation professionnelle ont favorisé la collaboration INRAT et ICARDA dans le cadre du programme CRP-DS afin de leur redonner la place qu'ils méritent. Les objectifs de ce programme étaient de 1) décrire le système de production dans la communauté de Zoghmar à Sidi-Bouzid; 2) d'analyser la chaîne de valeur mouton et 3) développer les scénarios techniques et organisationnels pour mieux répondre aux besoins des éleveurs et des consommateurs. Un total de 120 enquêtes réalisées à Sidi-Bouzid qui ont montré l'émergence des activités d'engraissement de courte et de longue durée. Au moment où les éleveurs et les consommateurs préfèrent la race Barbarine, les bouchers s'orientent aux races à queue fine pour éviter le dépôt de gras difficile à commercialiser. Le projet en collaboration avec le CRDA de Sidi-Bouzid et l'OEP à initier la formation d'une association d'éleveurs de la communauté pour mettre en place et promouvoir la chaîne de valeur de mouton de Sidi-Bouzid.

Mots-clés. Mouton – chaîne de valeur – innovation – Barbarine.

I – Introduction

Raising small ruminant represents the main activity of the rural population in the center of Tunisia. This sector plays an important socio-economic role at local and national levels. In 2014, Sidi-Bouzyd produced 325000 lambs for Aid which represents 38% of the total national lamb production. Approximately, 65% of a total of 274000 sheep owners are small holders with less than 10 ewes. These small farmers are facing various constraints (due to low lamb prices at the production level (due to intermediaries), inappropriate market channels and lack of a traceability system of sheep meat, high feeding costs and a lack of farmers association) and do not have a decent life as they used to have and are not gaining their living by producing lambs. Therefore, an integrated approach was needed, taking into consideration genetics, nutrition, health, input supply and services, and markets in order to improve productivity and to raise smallholders' incomes. This approach has recently stimulated global interest is a community-based flock management strategy which is designed in close integration with the rangeland activity and the post-harvest and market access in particular with regards marketing of "Sidi-Bouzyd lamb".

II – Material and methods

A total of 120 Surveys were conducted in two major small ruminants' locations in Sidi Bouzid Governorate: The Zoghmar community and the Jelma market. Zoghmar community is in the center of Tunisia and in the northern side of Sidi Bouzid governorate and it is limited by M'ghilla Mountain chain (North). The community is in the upper arid with an average annual rainfall of 290 mm. Three surveys were undertaken: One survey for livestock owners, a second one for butchers and a third one for consumers. All surveys aimed to identify reasons and trends concerning the farming system, the types of animals preferred by these three groups and the lamb value chain performance. Surveys were conducted from April 2014 to November 2015, just before Aid El-kebir which is a religious Holiday when a large number of lambs are sacrificed. This survey included information related breeds raised, flock size, ram origin, feeding, genetic, health practices, fattening, marketing, period of sale, age at lamb sale, Selling price, breed preferences, reasons for raising the breed and animal body condition scores. After editing the gathered information, a statistical analysis was made using the recorded scores. All data were analyzed by SAS (SAS 9.1.3, 2003).

III – Results and discussion

1. Innovation platform

Based on the community development plan (Nefzaoui et al., 2007), the first innovation platform took place in 2013 in Zoghmar community (Bedhiac et al., 2013). Mostly farmers, breeders, development agencies, extension services, research centers, international organizations (ICARDA, FAO) attended this platform. An enabling environment was created with a Community-implementers' relationship, complementary interventions, services and capacity development, a Government support and links with other projects/ CRP's activities. Different participatory approaches were used to describe community based flock management through surveys, personal interviews and workshops (focus group discussions). Group discussions by gender (Women, men and youth)

identified social, agricultural, economical and environmental constraints faced by Zoghmar community. In this platform, livestock and cactus were prioritized as the most important commodities for household livelihoods in Zoghmar, also tourism based livelihoods and handicraft production (carpet, klim) generate incomes for households. Concerns and challenges discussed included a lack of effective farm organizations for representing livestock farmers, weak economic ties across the sheep value chain. According to sheep value chain actors involved, the core problem was a poor performance of the VC. In the learning alliance held in 2014, key Constraints and opportunities in the whole value chain (Inputs and services, Production, Processing, Marketing and Consumption) were identified. Also, main sheep market channels were described (Dhraief et al., 2014).

2. Sheep activities

The characterization of production systems for the purpose of the flock management program was concentrated on current breeding practices in small ruminants' flocks, on marketing channels and opportunities for marketing animals and animal products and on institutional settings that affect animal management. Based on surveys, three dominant sheep activities were identified in Zoghmar community under agro-pastoral livelihood systems. In 2014, a total of 21% are mainly breeders while 55% were breeder-fatteners and 23% were fatteners. Compared to 2004, in Sidi-Bouزيد, livestock owners, who had been mainly breeders, represented 47% while 33% were breeder-fatteners and 20% were fatteners (Bedhief et al., 2008). Livestock practices have changed from breeders to breeder-fatteners and to only fatteners with less dependency on degraded rangeland and more toward zero grazing relying on external purchased feeds. Even though raising sheep is still as an activity by itself, fattening activities (breeding-fattening or only fattening) are becoming more and more dominant. The fattening operation is mainly practiced to satisfy the massive demand for lambs during the religious Holliday (Aid), where lambs are sacrificed. The breeding-fattening operation, on the other hand, serves more than one purpose, besides producing lambs for the Aid, lambs are also sold to meet the family financial needs (income) during the year round.

3. Livestock systems

Main results showed that farmers are shifting their practices from a totally rangeland based to a mixed system based on 56% rangeland (the traditional sheep system) and 44% indoor (semi-intensive or intensive) with feeding concentrates for fattening lambs. Lambs are now produced from three genotypes: the Barbarine, the Algerian thin tail and their crosses. Also, sheep farmers in Sidi Bouزيد have shifted (more than 50%) from the Barbarine fat tail to the Algerian thin tail breed to satisfy mainly butchers. The Barbarine breed known as a unique breed raised in the region is now equally with Thin tailed breed. The practices of indiscriminate crossbreeding of the local Barbarine breed with introduced ones (mainly with the thin tail breed) have led to many populations and to genetic erosion of the adapted indigenous populations, which represents a threat to the integrity of the local breed. In zoghmar community, breeders surveyed owned 57% the Barbarine breed, 32% the Algerian thin tail and 11% crosses genotype.

4. Sheep activity benefits

Animal feeding costs were estimated at 362 TND/head/year and 265 TND/head/year for the Algerian thin tail and the Barbarine breed, respectively. Benefits from breeding animals are different according to the type of breeder. According to a survey conducted at the market of Jelma at the period of Eid El Adha in 2014, there are three types of sellers: breeders, breeders-fatteners of less than three months and breeders-fatteners of more than three months. The profits generated from the sale of a lamb vary between 40 and 50 TND for the first and second group and 100 TND for the

third group. In Jelma market, the sellers shape just before the day of El Aid, was represented by 10% of breeders, 20% breeders-fatteners for a short period and 70% breeders-fatteners for a long period. The main genotypes sold were mainly (80%) thin tailed breed and crosses genotypes, this high flow of Algerian breed animals is due to informal cross border trade. The benefit ranges were between 40 and 0 TND/head, 50 and 10 TND/head and 100 and 0 TND/head for breeders, breeders-fatteners for a short period and breeders-fatteners for a long period, respectively.

IV – Conclusions

Regarding to the historical and emotional attachment of livestock owners for raising Barbarine fat tail sheep, a breed which is ostensibly indigenous to Sidi-Bouزيد and to the massive crossing of fat-tailed and thin-tailed breeds, there is an urgent need to establish an appropriate flock management matching animal genotypes to improve small flocks productivity, increase farmers revenue and protect the Barbarine from the genetic erosion threats. The formation of the local community based organization (CBO) will be a way to empower small farmers of Zoghmar to produce better lambs and sell lambs at better price. This understanding could provide important clues for research and policy makers to devise better strategies for the conservation and management of genetic resources, while helping rural farmers targeting their opportunities for a better income.

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References

- Bedhief-Romdhani S., M. Djemali, M. Zaklouta and L. Iniguez, 2008.** Monitoring crossbreeding trends in native Tunisian sheep breeds. *Small Ruminant Research* (vol 74/1-3 pp 274-278).
- Dhraief M. Z., Oueslati M., Daly H., Abassi S., Baazaoui I., Bedhief S., Dhehibi B., Kassam S., Aw-Hassan A., 2014.** Analysis of the Sheep value chain in Zoghmar community, Governorate of Sidi Bouزيد. *INRAT-ICARDA-Annual Report*.
- Kassam S. N., Z. Dhraief, M. Oueslati, B. Dhehibi, H. Daly, S. Bedhief, 2015.** A comparative analysis of the value chains for Barbarine and Algerian sheep breeds in Sidi-Bouزيد. *FAO-CIHEAM Seminar on Sheep and Goats, Montpellier (France), 16-18 June 2015*.
- Nefzaoui, A., El Mourid, M., Saadani, Y., Jallouli, H., Raggad, N., and Lazarev, G. 2007.** A Field Manual for the Preparation of a Participatory Community Development Plan. *ICARDA Aleppo, Syria, 116pp*.
- SAS, 2003.** Procedures guide, version 9. SAS Institute Inc. Cary, NC, USA.