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Sheep shepherds in the Algerian agro-pastoral steppes: Which reading?

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Abstract. The shepherd remains one of the essential professions in the small ruminant breeding sector. His work plays a major role in feeding grazing animals and is an additional guarantee for food security. However, the transformation of the Algerian steppes under the joint influence of economic, territorial, agricultural and environmental policies has made it difficult to recruit shepherd by the herders. This communication presents the difficulties and challenges faced by herders in hiring a competent shepherd. Hence our questioning on the situation of shepherds and the consequences of changes in livestock farming on the future of this profession. To this end, group interviews and surveys of 100 herders were carried out in the municipality of El-Guedid-Algeria. Our analyses made it possible to obtain information characterizing the shepherd's profession. Our results confirm the decisive role of the shepherd in herd management. Indeed, 73% of the herders surveyed used the shepherd service. Their salaries are based on the size of the herd and the farming system. They vary from 15,000 to 70,000 dinars/month (100 to 466€). Mobile shepherds receive a higher salary than sedentary shepherds. However, they considered that these salaries did not reflect the work done throughout the year (herding, night-time animal surveillance, animal care, feed distribution, etc.). It is noted that an essential prospective aspect to revalue this profession: 65% of the children of shepherds surveyed are not in favor of doing this job.

Keywords. Shepherd – Issues – Profession – Livestock systems – Salaries, agropastoralism.

Les bergers ovins en steppes algériennes agropastorales : Quelle lecture ?

Résumé. Le berger reste un des métiers incontournables du secteur de l'élevage de petits ruminants. Son travail joue un rôle majeur pour l'alimentation des animaux au pâturage et constitue ainsi une garantie supplémentaire pour la sécurité alimentaire. Cependant, la transformation des steppes algériennes sous l'influence conjointe des politiques économiques, territoriales, agricoles et environnementales a rendu difficile le recrutement des bergers. Cette communication présente les difficultés et les enjeux auxquels sont confrontés les éleveurs pour acquérir un berger compétent. D'où notre questionnement sur la situation des bergers et les conséquences des mutations de l'élevage sur l'avenir de ce métier. Pour se faire, des entretiens de groupes et des enquêtes auprès de 100 éleveurs ont été réalisées dans la commune d'El-Guedid-Algérie. Nos analyses ont permis d'obtenir des informations caractérisant le métier de berger. Nos résultats confirment le rôle déterminant du berger dans la conduite des troupeaux. En effet, 73 % des éleveurs enquêtés ont eu recours au service des bergers. Leurs salaires sont fonctions de la taille du troupeau et du système d'élevage. Ils varient de 15.000 à 70.000 dinars/mois (100 à 466€). Les bergers mobiles perçoivent un salaire supérieur à ceux des sédentaires. Cependant, ils considèrent que ces salaires ne reflètent pas le travail accompli durant toute l'année (gardennages des troupeaux, surveillance de nuit des animaux, soins apportés aux animaux, distribution des aliments, etc.). A noter un aspect prospectif essentiel pour revaloriser ce métier : 65 % des enfants de bergers interrogés ne sont pas favorables à exercer ce métier.

Mots-clés. Berger – Enjeux – Métier – Systèmes d'élevage – Salaires – Agropastoralisme.

I – Introduction

Sheep rearing is a socio-economic activity of major importance. On the economic front, populations in steppe areas depend on it as a source of food and income (Kanoun, 2016). At the national level, livestock contributes on average to 50% of agricultural GDP (Benidir, 2015). Numerically, the steppe region has up to 80% of the national sheep population (DSASI, 2016).

Despite the importance of the various actors in the sheep sector in steppe, the shepherd remains one of the pillars of the small ruminant livestock sector. His expertise in animal husbandry plays a major role in feeding and guarding animals on pasture. His work is therefore of paramount importance for animal protein production and food security.

However, the transformation of the Algerian steppes under the joint influence of economic, territorial, agricultural and environmental policies has made it difficult to recruit shepherds. Indeed, this difficulty is the complex result of many factors and variables. The main forces at stake are changes in herd ownership, employment opportunities in non-pastoral sectors (agriculture, industry), rural depopulation, rapid urbanization, population growth and the deterioration of climate since the 70s and 80s.

The consequences of these various factors for agropastoral farming are numerous (Bessaoud, 2013). First of all, they result in a modification and the emergence of new multidimensional relationships between the different actors in the sector, in particular shepherds and animal owners that consider that the high requirements of the shepherds are not profitable for their investments. Shepherds consider that the working conditions are not encouraging and do not guarantee the maintenance and the sustainable evolution of their careers. This context has led us to question the situation of shepherds and the consequences of changes in herding on the future of this occupation: What is the future of the profession of the shepherd with sociodemographic and territorial changes in the steppe?

Although there is a lack of local references to the profession of shepherd, the text that follows will attempt to present a set of indicators that reflect the evolution of the profession of shepherd and the complexity of the new challenges facing this activity. Therefore, it is interesting to understand the evolution of employability of the small ruminant sector including decent work, quality of life and human resources.

II – Methodology

The El-Guedid area, located northwest of the Djelfa Wilaya between 2.36 ° and 2.79 ° longitude and 34.45 ° and 34.88 ° latitude, is an ideal site to treat the problematic of the study. It is representative of the agro-pastoral steppe territories and has a relevant breeders' potential to study the new issues of the animal production sector, particularly the problems of the availability of shepherds. The number of breeders in the El-Guedid area belonging to the "Ouled Mhani" tribe amounts to 751, or 11% of all the breeders in the Djelfa Wilaya (DSA, 2016). Seven fractions share the territory of this tribe: Ouled Cheikh, Ouled Beidha, Ouled Laouar, Ouled Meriem, Ouled Hana, Ouled Sidi Belgacem, Ouled Ahmed Benbrahim. Each fraction has a space recognized and respected by all right holders. The area covers 115,226 hectares, 90% of which are degraded to very degraded (Kanoun, 2016).

To achieve our objectives, the study favored a qualitative and quantitative method by adopting a participatory process that is based on a systemic approach. This method is based on an exchange and interview process that draws on the disciplinary fields of socio-anthropology and ethnology (Darré *et al.*, 2004; Cialdella *et al.*, 2010).

To better understand the diversity of relationships between the actors (shepherd and animal owner) and the determinants of these relationships, the study sample was constructed on the basis of ethnicity. All the fractions of the tribe "Ouled Mhani" were the subject of this research. Therefore, this choice, which aims at carrying out a study on the current situation on the profession of

shepherds, can only be determined through the combined use of participatory methods and formal surveys. The latter, which concerned 100 observations, were randomly selected at the workplace (farms, pastures and livestock watering). The six individual and group interviews conducted in a semi-directive (with interview guide) and iterative way, targeted resource persons such as young people and breeders belonging to different farming systems (sedentary, semi-transhumant and transhumant). Focus groups and classification matrices are the main techniques used to collect and evaluate qualitative data (Chevalier *et al.*, 2008).

III – Results

1. The shepherd of the steppe: a job to encourage

The ambition of our work is to help inform public policies on the issues that weigh on the maintenance of one of the indispensable pastoral activities including the job of shepherd. Indeed, the figures indicate that 73% of livestock farms use the service of shepherds for the management of their sheep flocks. The results showed that transhumant and semi-transhumant herdsmen are most concerned with shepherds. They represent respectively 46% and 33% of the owners. Analyzes also highlighted that sedentary people are concerned by the need to resort to shepherds. They represent 21% of the total number of farms surveyed.

A typology of shepherds was established based on the duration of the guarding of animals. The seasonal shepherds represent 36% of the total shepherds and their age varies between 15 and 70 years. They are mainly recruited by semi-transhumant and sedentary respectively 62% and 47% (Table 1). These herders use this type of shepherd mainly during the school period when the family labor is unavailable. It is the Ouled Beidha and Sidi Belgacem who are recruiting this category of shepherds. The second type is represented by annual shepherds and are on average 47 years old. This type is mainly recruited by sedentary and transhumant pastoralists. These shepherds constitute respectively 47% and 36% of the total shepherds. The last case corresponds to multi-year shepherds. They are between 29 and 63 years old and mainly support transhumant herds. However, the results show that the seasonal type dominates (36%). According to the statements of resource persons, this trend can also be explained by the employment opportunities that have appeared in fattening farms for young rams intended for religious holidays, in particular Aid ElKebir. Indeed, Fig. 1 emphasizes that the seasonal shepherds are recruited by breeders-fatteners and fatteners respectively 45% and 63%. The average length of recruitment rarely exceeds three months / year.

Table 1. Typology of shepherds (%)

Farming systems	Types of shepherds			Total
	Seasonal	Annual	Perennial	
Transhumant	12	36	52	100
Semi-transhumant	62	17	21	100
Sedentary	47	47	7	100
Total	36	32	32	100

Source: 2018 surveys + our calculations.

However, information from group interviews and surveys revealed that recruiting shepherds is not an easy task for herd owners. Indeed, the results show that 71% of herd owners had difficulty finding a shepherd who meets the requirements of the profession's plurality, particularly a large household size, i.e. the household must be composed of several active members. Data collected on herders' labor indicate three factors that seem to contribute to this scarcity of herders: the inability to accumulate productive capital, the monetarization of fodder resources and the contract (salary).

However, the results showed that shepherds are more demotivated by the low level of their sheep capital endowment during their working period and by wages that do not correspond to the nature of the work performed. These two factors account for nearly 83% of the shepherds' responses. On the other hand, it can be seen that factors related to quality of life and the difficulty of the tasks are not raised by the interviewed shepherds. However, an analysis of the information gathered from young people from sheep herding environments reveals other issues related to this profession. The evaluation of these concerns through a scoring and classification matrix points to other key elements such as social recognition, annual leave, the disappearance of owners' generosity and the difficulty of tasks, etc. (Table 2). However, it should be noted that the respondents (shepherds and young people) unanimously affirm that the accumulation of an animal population and the level of wages are the main attractive opportunities that encourage young people to continue in this profession.

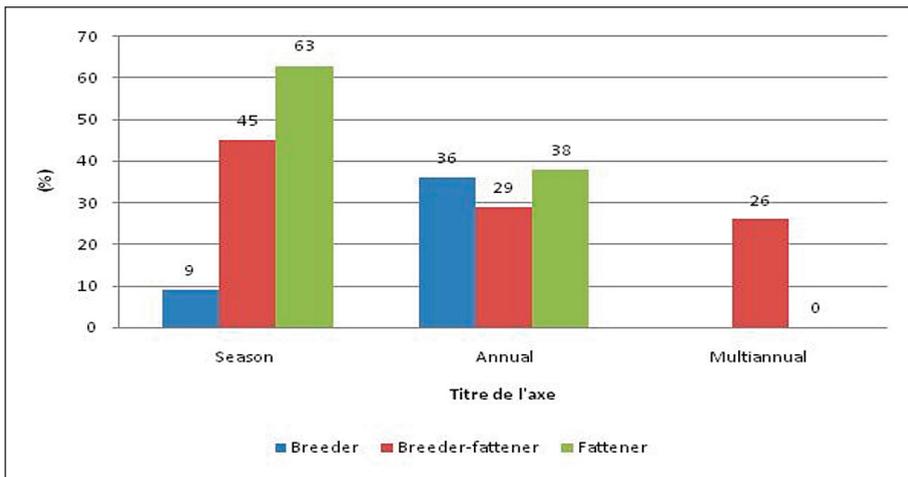


Fig. 1. Recruitment of seasonal shepherds by sheep fatteners.

Table 2. Binding factors cited by young people from different farming systems

Farming systems	Difficulty of tasks	Social recognition	Salary	Annual leave	Disappearance of the generosity of the owners	Accumulation of animals
Transhumant	10	6	9	6	8	10
Semi-transhumant	8	7	9	7	9	10
Sedentary	6	8	10	6	10	10
Total score	24	21	28	19	27	30
Validation by the actors	25/30	20/30	28/30	12/30	26/30	30/30
Rank	4	5	2	6	3	1

Source. 2018 Group Interviews. Comments. The number 10 is considered to be the highest score. The total number of actors is 30 at a rate of 10 per group. Each group corresponds to a breeding system. Rank is established on the basis of validation and not on scores.

2. Remuneration preferences. Salaries that do not reflect the plurality of the profession of shepherd

The analysis of survey's data highlighted the current trend in the remuneration of herders. Salary remuneration seems to be the preference of owner-herders. Indeed, 67% of farmers prefer this option. This form of remuneration is used by sedentary and transhumant livestock herders (Fig. 2). The rest of the farmers opt for remuneration in kind (5 to 7 lambs/10 ewes kept/year); i.e. 25% and only 8% agree on a profit sharing (Table 3). It is the semi-transhumant and transhumant breeders who favor this type of remuneration. Finally, it should be noted that it is the owners who insist on the method of remuneration. The salaries granted vary between 15,000 and 70,000 dinars/month (100 to 466€) and depend on the farming systems and the size of the workforce. Mobile shepherds receive a higher salary than sedentary ones. According to the shepherds' statements, wages do not reflect the plurality of the work done. Especially since an average of 2.5 people are present to help the shepherd carry out the various daily tasks (guarding on the pasture, supplementing animals, night surveillance, watering, cleaning sheepfolds, monitoring of lambing, etc.). This unpaid contribution requires public authorities to take this category of people into account in the design of development programmes in order to motivate them to perpetuate this ancestral profession. Moreover, there is currently no national agreement in Algeria defining the conditions of employment and remuneration of shepherds, unlike most other professions. Indeed, surveys indicate that the dissatisfied are rather relatively young shepherds (20-30 years old).

Table 3. Types of remuneration for animal owners (%)

Types of remuneration	Salary	Kind	Profit
	67	25	8

Source: 2018 surveys + our calculations.

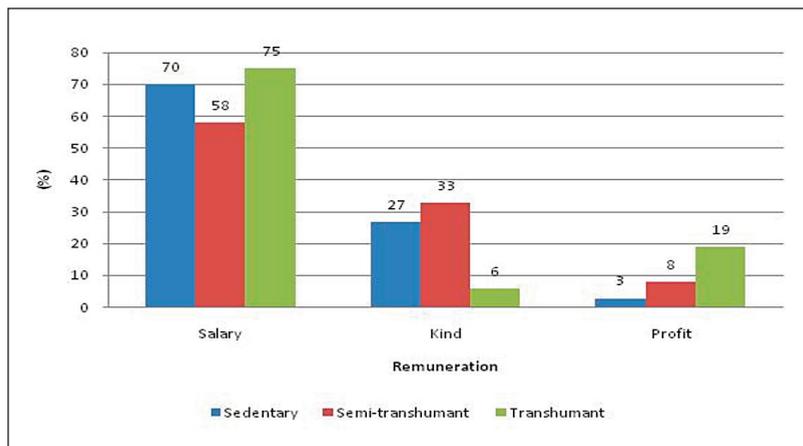


Fig. 2. Types of remuneration of shepherds by livestock system.

IV – Discussion

This work has provided valuable information on a subject for which data are notoriously insufficient. Although the concerns are different, shepherds and their practices are at the crossroads of different issues that contribute to the development and transmission of ancestral knowledge related to sheep herding: the rural exodus to cities that offer employment opportunities and better lives, age-

ing herders, relational problems and generational conflicts. In addition, the deprivation of constituting a number of ewes to generate additional income tends to make shepherds scarce. The monetarization of fodder resources and socio-demographic changes seem to encourage herd owners to adopt contracts that aim to reduce the opportunities for shepherds to change their status. According to Leroy and Gaubert (2000), the disappearance of landless pastoralists is linked to the costs of purchasing land. Indeed, the question of the competent shepherd and the feeling of his rarity are nowadays more and more stated by many steppe herders. This observation is not specific to our study region. Indeed, this phenomenon of a shortage of experienced shepherds is highlighted in the South of France (Lebaudy, 2016).

V – Conclusion

Sustainable development of livestock systems in steppe areas cannot be satisfied with a technical response based essentially on improving herd productivity. The few elements we have gathered from the steppe shepherd reveal that maintaining this trade is essential. Because it is one of the pillars of the sheep sector in steppe environments. Nevertheless, the initial results showed that the issues raised in this study are mainly related to the evolution of contracts that could not allow shepherds to experience a trend towards improving their social and financial conditions. The vast majority of contracts are based on salary remuneration. However, the wages received do not reflect the nature of the work done and limit the accumulation of productive capital (ewe population). These demotivating factors have unfortunately influenced the behaviour of the new generation towards the profession of shepherd. We do not claim to have covered all the aspects related to this profession. To this end, other results will be published on topics covering the work accomplished during the 365 days, the shepherds' knowledge, the shepherds' visions for the development of this profession, training, etc.

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