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The impact of public regulations on local production systems. Why institutions matter? †

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Abstract: This paper examines how the livestock systems of a mountain municipality in South-East Albania are undergoing some pastures pressure demand due to the recent decentralization process of the management of state and communal pastures. By using a mixed approach combining qualitative and quantitative data through interviews with national and local stakeholders, documents and field observation the discussion is done by comparing different parameters of the livestock systems related to the pastures access. According to the results, the government regulation of pastures increased the competition for their availability and access. Securing use rights for the local farmers will be crucial for sustainable pasture management in the long run period.

Keywords: Livestock systems; Pasture pressure; Farm economic performance; Albania

1. Introduction

In different cases, local societies have gradually been constrained to establish rules to access their pastures, firstly when there were not enough (c.f. the tragedy of the commons) and more recently with new environmental challenges [1]. Due to unsuitable environmental conditions and unsustainable management, nowadays most of these pastures are highly degraded [2]. Recent research shows that the pastoral system is best conceptualized as an open system, in which a combination of individual decision-making and coordination of movements leads to an ideal free type of distribution of transhumance [3]. Furthermore, results show that pastoral communities derive positive utility in connected systems that enable reciprocal access to pastures [4]. However, recent research shows interest in sustainable management of pastoral resources in the face of conflict between local actors and new arrivals who weaken and complicate the common management of these resources.

Albania is one particular country that has experienced enormous changes in its pastoral resources in recent years. It is a mountainous country with more than 45% of its total area located above 1000m. Its mountains are mostly covered by forests and pastures. On the national level, pastures represent 18% of the total area and are affected by economic challenges (cattle grazing), environmental challenges (open landscape preservation) and social challenges (common management of pastures). As a former communist country, the historical dynamics of pasture management have been characterized by important reforms (such as collectivization in 1945 and de-collectivization in 1991), which constitute discontinuities in pasture management [5]. Aiming at balancing the fragmentation of Albania's current territorial units, the 2016 territorial reform has centralized the current pasture management responsibilities to larger units of governance and established new rules, like demanding that local farmers pay for a resource which was previously free [6]. The purpose of this paper is to analyze how the allocation of pastures by local and national institutions impacts the farming systems in the municipality of Vithkuq, south-east

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Albania and to identify the systems that are the most economically efficient today. Recent governmental changes regulating pasture access have not created transitional institutions capable of properly applying these changes. The institutional vacuum means that local farmers will be competing for access to pastures with farmers from other regions. If locally adapted rules are not well-established, this could result in overgrazing. The discussion involves comparing different parameters of the livestock systems related to pasture access.

2. Materials and Methods

Our overall methodology is based on a collection of qualitative and quantitative, primary and secondary data. At the national level, interviews were done and documents were consulted to analyze the evolution of decentralization of pastures. After data on the general context had been collected, a case study approach was used: documents, grey literature, and interviews for gathering primary data were done in the municipality of Vithkuq. As source of information on the local context, a comparative agriculture approach was used and has identified pastures as the main resource for the local production systems [7]. Five villages located around the mountain of Rrungaja were identified. A total of 298 farmers were found in the villages using the pastures. All farmers do livestock production, mostly sheep production, and they do agriculture for their own consumption. The farmers can be classified in three categories. Non transhumants (NT): local small farmers with small herds mainly using the communal pastures that are near the villages and located at lower altitudes. Most of these farmers have 10 to 30 sheep or three cows. Local transhumants (TL): medium-sized farmers with big herds. They use both communal pastures and State pastures located at higher altitudes than the communal pastures. Most of these farmers have 150-200 sheep or 10 to 15 cows. Communal and State pastures are historically and locally divided into several parcels. External great transhumants (GT) are the third category of farmers. They mostly use the private pastures which are summer pastures. These farmers have on average 500 to 1,500 sheep. Today, livestock systems are highly dependent on access to pastoral resources.

3. Results and Discussion

The economic results, (Net Added Value - NAV) are presented by family asset (Active Work Unit - AWU) and according to the flock or herd (sheep, cattle and goats), converted into livestock unit (LUs) per AWU. It was more relevant to represent the results according to the herd because a farm's capital is measured primarily by herd size and many farmers do not perform agriculture and their system is essentially based on pastoral resources. The allocation of pastures has a different impact on livestock systems in the territory. Specifically, in the village of Vithkuq (village and administrative center of the municipality of Vithkuq), the predominant systems, such as NT1 and NT5, are associated with a small herd and they use communal pastures. Their Net Added Value (NAV) per Active Work Unit (AWU) based on the number of Livestock Units (LUs) per AWU is very low compared to other types of pastures such as State and private pastures and the growing problem of under-grazing is prominent (Table 1). Other systems such as NT3 and NT6 using communal pastures are located in Rehove (NT3) and Lubonje (NT6). These are non-transhumance systems with big herds but their access to communal and State pastures is limited. Their NAV/AWU based on the number of LUs per AWU is higher and their increasing dynamics make the problem of overgrazing a prominent one as all State pasture parcels are already rented. In Leshnje, the pressure on communal pastures is less evident than in Lubonje and Rehove, because many farmers with NT1 and NT5 systems have small herds and practise other agriculture activities. In Shtylle, the NT2 system cannot evolve, the winter is too long and for over sixty sheep, the purchase of winter food considerably diminishes the added value created. In order to increase its added value, this system must have access to State pastures which in fact are used by the TL1 and GT

systems. The TL1 and GT systems have the highest NAV/AWU based on the number of Livestock Units (LUs) per AWU of all the systems (Figure 1).

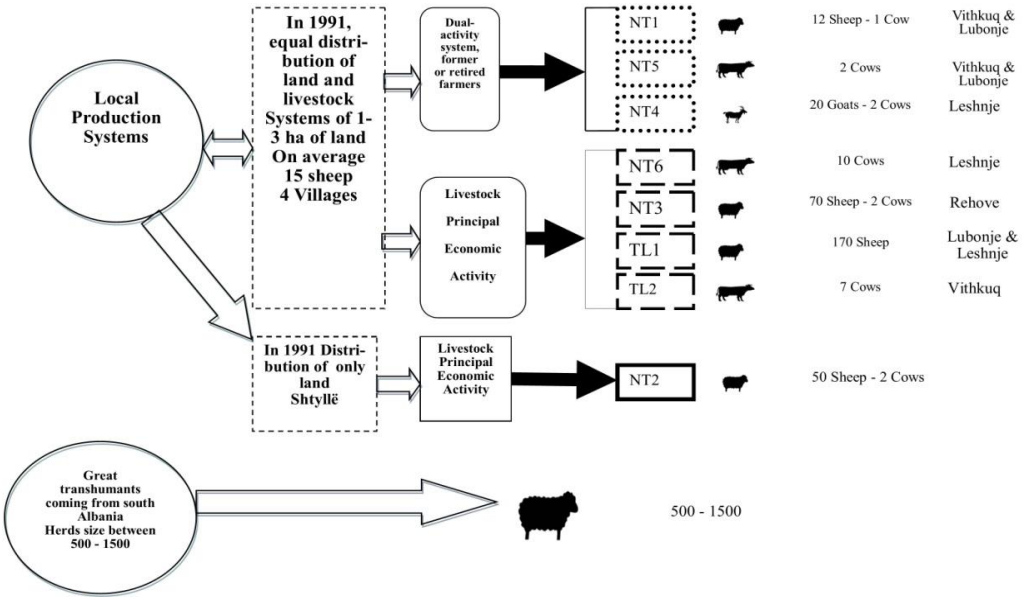

Figure 1. Livestock systems in the case study.

	Communal, Private or State pastures	Economic results €/year	Pressures on demand	Risk of overgrazing
NT1	Communal	3 440	Low	Low
NT2	Communal	5 763	High	High
NT3	Communal	7 955	High	High
NT4	Communal	3 940	Low	Low
NT5	Communal	2 661	Low	Low
NT6	Communal	10 181	High	High
TL1	Communal & State	14 581	High	High
TL2	Communal & State	7 267	High	High
GT1	Private	18 033	High	High
GT2	Private	61 167	High	High

Table 1. Economic results and pressures on demand for pastures of each livestock system

According to our data, the NT1, NT4 and NT5 systems are essentially maintained by other sources of income such as the remittances and retirement pension that are crucial for their livestock systems. Many farmers de-capitalize as they get older. Their livestock systems are decreasing because they are not able to increase their livestock. The other systems such as NT2 and NT3 have some animal fodder problems. In particular the NT2 system in the village of Shtyllë cannot evolve because the winter is too long. Farmers having livestock systems with over sixty sheep, have to make a high outlay to purchase winter fodder for animals, which reduces their added value. The Livestock numbers are a limiting factor for agricultural activities, which is why farmers often prefer not to have flocks of more than 70 sheep. The livestock system NT3 shows some important overgrazing issues. Farmers have difficulty in starting transhumance because the pressure on the State pastures is already significant.

The livestock systems that are unable to increase their herds are the NT3 and TL1. If, due to the high demand for State pastures, they cannot access these pastures, they are obliged to use communal pastures. The breeders of the NT3 system cannot evolve towards the TL1 system. The specialized systems NT6 and TL2 are quite dynamic. They demand a higher labor force but the incomes are comparable to those of other systems. If the family labor force is available, their dynamics could be more positive. They can increase their herds and cultivate more animal fodder for winter if the summer pastures are ensured in advance. These systems have raised pressure on the demand for both communal and State pastures. The TL1 and GT1 systems (transhumant local and non-local sheep) are quite similar. Their NAV/AWU based on the number of LUs per AWU is very high compared to non-transhumant systems. The evolution of the TL1 and GT1 systems is linked to access to state pastures. If the plot they manage to rent is at its maximum load, they cannot increase their herd and their dynamics are slowed down. The TL1 and GT1 generate higher incomes than the others. They could continue to increase as long as they continue to find State pastures. The GT1 and GT2 systems have higher purchasing power to rent private pastures, the prices of which are constantly increasing. The most efficient system is GT2, which seems to create higher added value than the other systems. For the GT2 system, access to private pastures during summer is crucial.

4. Conclusions

The results show, as in previous research [8], that the regulation of pastures has increased the competition for their availability and access. Since on the same mountain different governance modalities exist, it becomes crucial for public institutions to regulate the use of public pastures in order to prevent competition and conflict among farmers [9]. Our results, as in previous research [10], show that local non transhumant breeders especially are not able to adapt to the new context and still remain vulnerable. Public pastures will not be attributed to the farmers who will rent them for long-term periods; consequently, they will have no incentives to improve the pastures' condition. Therefore, as in other cases, secure use rights for local breeders will be crucial for sustainable pasture management in the long term. The particular context of the Albanian case shows that local agro farming systems have gradually adapted to the new political and economic context after the fall of the communist regime in 1991. The land fragmentation that occurred in that period persists even today, resulting in subsistence farms not being able to capitalize and expand their activity. Subsistence farms tend to diversify their production by diversifying their sources of income. Furthermore, the fragmented agricultural land and the small size of the farms make it impossible to reach economies of scale. Territorial reform raises the question of the ideal territorial unit of management of public pastures. By analyzing the use of communal pastures before 2016, it seems that the village as management unit was not suitable because it created strong disparities between villages owing to the difference in the dynamics of their production systems [11]. Currently, the management unit of public pastures, such as is found at the district level, seems to be big in size. Local farmers lack confidence in this way of managing public pastureland. They are reluctant to accept big transhumants demanding public pastures near their previously communal pastures. Local farmers think that the district pastures administration is unaware of the problems of pastoral massifs, sometimes located several hours away.

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