

Research Article



A Study of Transhumance Pastoralism in Village Utla, District Swabi, Khyber Pakhtunkhwa

Muhammad Jamal Nasir*, Anwar Saeed Khan, Said Alam and Riyasat Sultan

Department of Geography, University of Peshawar, Khyber Pakhtunkhwa, Pakistan.

Abstract | Utla Village possesses a great deal of variations in the physiography of different parts of the village and therefore transhumance has been a common and traditional practice. The present research aims to study the causes and mechanisms of seasonal migration, to find out the causes responsible for its decline and to bring in light the effects of modernization on transhumance in Village Utla, district Swabi. The study is based on questionnaire survey. In Utla only 40 households practice transhumance, and the present study covers all the households who practice transhumance. Land use data were collected from revenue office Topi. Patterns of transhumance in Utla reflected the distinctive environmental and socio-economic conditions. The system and schedule devised by the local population is based on indigenous knowledge and is for the better management of forests, grasses and agriculture resources. According to field survey, availability of fodder (grasses) at the pastures, ban on cutting of grasses and grazing in the village, management of land at pastures, refuge from scorching heat of summer are the major causes of seasonal migration. There used to be a time when almost every household use to move to pasture before the onsets of summers, but today in Utla out of total 745 households, only 40 households practice seasonal migrations. Though seasonal migration in village Utla is as old as the village by itself, it is on decline. The field survey suggested that Decrease in the number of Livestock, increasing Employment opportunities, availability of dairy products in the market etc. are the most important causes contributing to the decline of seasonal migration. A very interesting cause referred by the majority of respondent responsible for the decline of seasonal migration is increased number of marriages (trans-cultural) between Utla males to the females from down country. Transhumance pastoralists are very productive yet socially neglected population group of society. They remain a resource, a system of producing meat and milk etc. This resource need to upheld and managed effectively by understanding the mechanism of transhumance and pastoral society as widely as possible, making both policy and the effective management of natural resources.

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***Correspondence** | Muhammad Jamal Nasir, Department of Geography, University of Peshawar Pakhtunkhwa, Pakistan; **Email:** drjamal_n@yahoo.com

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Introduction

Extensive pastoral production accounts for 25% of the world's land area and produces about 10% of the meat used for human consumption, while

supporting some 20 million pastoral households (Nori et al., 2008). Pastoralism evolved as a response to increase in human population, and the presence of extensive grazing land, in semi-arid regions of the world. Though pastoralism is strongly associated

with the presence of grasslands, there are numerous grasslands without pastoralists (Blench, 2001). Transhumance is the periodic annual movement of herders along with their livestock from their permanent settlement to their summer or winter pastures. Generally, a few members of the family move to their seasonal settlement and come back to their village with in a specific time. It is still an important form of land management in many parts of the world, in particular in mountainous regions of Africa, Europe, southern Europe; Norway, South America, Argentina, Near East Iran, Pakistan and Tibet (Glatzer, 1982; Rao and Michael, 1982; Bartosiewicz and Greenfield, 1999; Ehlers and Kreutzmann, 2000; Coppolillo, 2000; Dangwal, 2010). In Pakistan it is an old practice in several areas of mountainous north (Akhtar, 2009). The term transhumance is used to describe the seasonal movement of livestock to regions of different climates. Movement of livestock between pastures and permanent settlements, aims to follow the seasonal growth of grasses (often at different altitudes) and maximize efficiency of their grazing use (Valentine, 2001). Transhumance is a very specialized way of life which allows the use of seasonally productive land. They survive on their livestock characterized by constant mobility in search of grazing grounds (Lopez, 2016).

Movements of livestock by herders are timed to take advantage of the seasonal availability of grasses for livestock. Transhumance pastoralism is a significant arrangement for ensuring food security in the African environment (Marshall and Hildebrand, 2002). The continuous population growth and expansion of cultivated land has led to a substantial confinement of grazing areas, making the movement of herds difficult and significantly reducing fodder supply for herds (Turner et al., 2005; Dongmo et al., 2012). Competition over resources has increased, conflicts between farmers and pastoralists have become more frequent and resources are threatened (Benjaminsen and Ba, 2009; Weber and Horst, 2011).

Transhumance is the periodic movement of herdsmen with their livestock which founds in many countries of the world. Pakistan is also including in those countries where transhumance is practiced. The people of village Utlā migrate seasonally with their livestock to high up pastures due to severity of weather and ban on grass cutting and grazing in the village. They spend nearly six months in the pastures living in temporary

shelter (Kedos) along with their livestock's. When the temperature gets down they return back to their permanent winter houses. This practice is the best example of resource management by indigenous knowledge. There is a traditional pattern system devised by local and is practiced from centuries. There was a time when every household in the village used to practice transhumance. But with modernization slowly and gradually practice is on decline and today only 40 households practice transhumance. Over the past two decades, transhumance pastoralists have settled down massively in nearby villages. Today pastoralists account for a small portion of the population and continue to have few property rights, leading to their continuing marginalization.

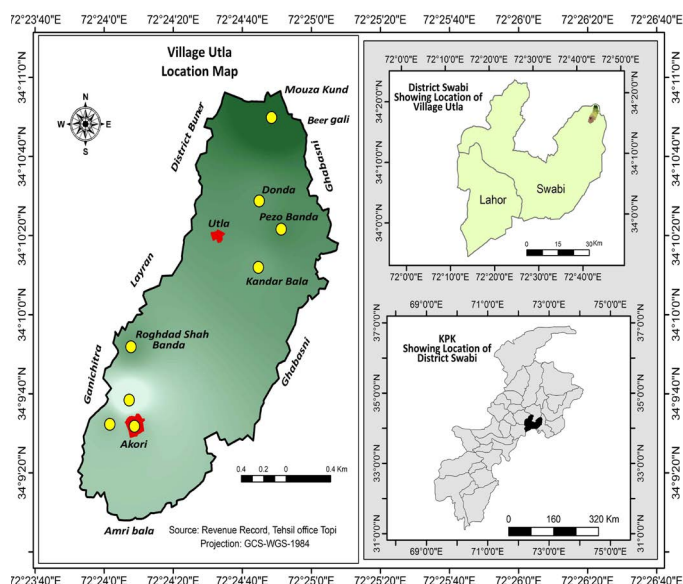
The present research aims not only to study the causes and mechanism of seasonal migration, but also to find out the causes responsible for the gradual decline of this centuries old tradition. Besides it's also aims to bring in light the effects of modernization on transhumance.

Introduction to study area

Village Utlā is the part of union council Ghanachitra in Gadoon area, located in the North- Eastern part of District Swabi at an elevation of 3000-8000 ft from sea level. Toward the North of the village is located 7325ft high Mahaban forest (Mahaban is a Hindi word means great forest) covering an area of 597sq/km (Khalid and Farooq, 2010). Village is bounded on the North and North-West by District Buner, village Layran and Ganichhatra, and toward South by the village Amri bala. While the village Kund, Beergali and Ghabasni, are situated in the East and South-East of Utlā. The Absolute Location of Utlā is 34°09'10" to 34° 10'55" North latitudes and 72°23'55" to 72°25'00" East latitudes. Map 1 shows the location of the study area and Map 2 shows the physiography of the study area. According to the 1998 census, the population of Utlā was 4942 persons with a literacy ratio of 35.8% (GOP, 1998).

Utlā khowar and Sorah khowar (stream) are the two major streams, both these streams originate from Mahaban and flow towards the south until they combined at Amri bala and join Indus River after crossing the village Bada. The area is mountainous and the soil is mainly derived from the disintegration of rocks. Therefore, the soil is mostly stony and sandy in nature. The climate of village is slightly different

from District Swabi, because of its altitude. From the month of May to September the temperature remains mild. A rapid fall of temperature is recorded from October onwards and January is the coldest month. The maximum rainfall is received in July and August from summer monsoon. There is no meteorological station in Swabi District; therefore, it is not possible to study the temperature and rainfall conditions in detail.



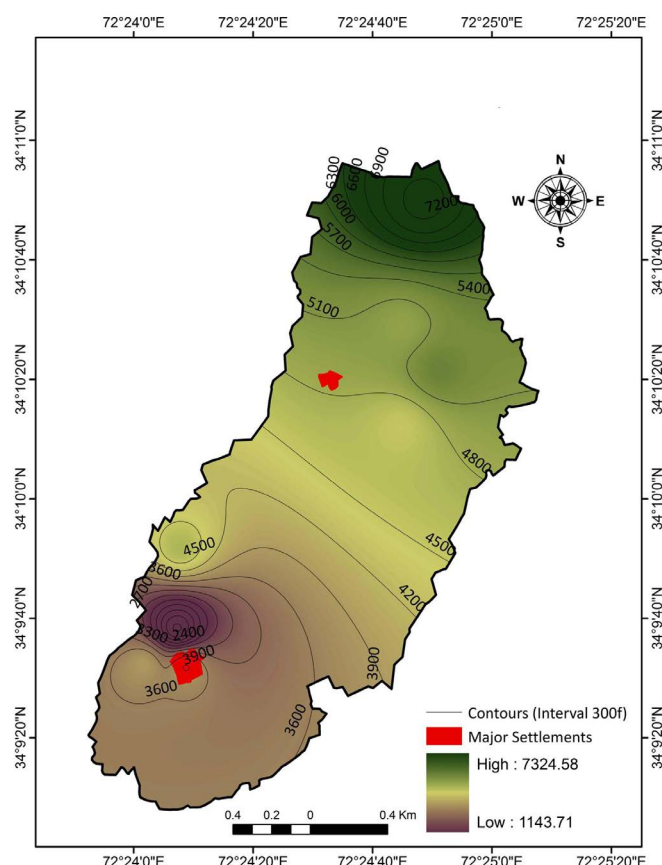
Map 1: The location of the study area.

Data collection

The present study was based on both primary and secondary sources of data, collected from various sources. To study the causes, calendar and pattern of transhumance a questionnaire was devised. The questionnaire includes question on different aspects of transhumance and was mostly filled in the summer pastures, during the month of June and July 2014. The secondary data was collected from revenue office Tehsil Topi, District Swabi. The data collected includes total farm land, cultivated land, uncultivated land and different categories of cultivated and uncultivated land and area under different crops. The data was available from 1977 to 2014 and renders valuable information's on the land use and cropping pattern of study area. According to 1998 census there are 760 households in village Utlā, out of which about 40 household families practice transhumance. A total 40 sample questionnaires were filled from the respondents who practices transhumance. The sample size of 6.31 percent of total household, and 100 % of all the household practicing transhumance.

Transhumance in village Utlā

Village Utlā is typical mountainous agriculture village with a lot of variations in the height of different parts of the village. Agriculture is the main economic activity, followed by livestock rearing in the traditional seasonal transhumant pattern. Agriculture though is the main occupation of the inhabitants, a lack of irrigation water and small landholding are hindering agriculture. According to the revenue record, the total area of the village is 3011.40 acre out of which only 576 acres (19.12 % of the total area) is cultivated while the rest belong to different categories of uncultivated land. A significant feature of land use is the area under *RAKH* (grassland) which accounts for 2097 acre (70% of total area). According to revenue record *RAKH* is grassland located close to the village (Table 1 and Figure 1).



Map 2: Altitudinal variation/physiography of village Utlā

Results and Discussion

Schedule of seasonal migration

There are two groups who practice the seasonal migration, one the local inhabitants and second those who live in the vicinity of the village and move seasonally to Mahaban pastures. These people are locally known as *AGAAR* (Herder). The main

Table 1: Village Utlā, land use statistics 1977– 2013.

Land use categories	1977-78		1993-94		2010-13	
	Area in acres	% age of cultivated land	Area in acre	% age of cultivated land	Area in acre	% age of cultivated land
Abbi	199.1	33.6	198	33.4	177.7	30.8
Barhi	371.3	62.7	370.9	62.6	372.5	64.7
Mera	22.1	3.7	23.8	4.0	25.8	4.5
Cultivated land	592.5	100	592.7	100	576	100
Banger qadeem	30.1	1.2	31.16	1.9	32.10	1.3
Bana	121.6	5.0	120	4.10	125	5.1
Rakh	2087.7	86.6	2091.1	86.5	2097.9	86.2
Pasture	30.5	1.4	35.1	1.5	37.10	1.5
Not available for cultivation	17.1	0.7	18	0.8	19	0.7
Rakarh	123.2	5.1	123.1	5.2	124.3	5.25
Uncultivated	2410.2	100	2418.6	100	2435.4	100
Total	3002.71		3011.31		3011.4	

Source: Revenue office, tehsil Topi.

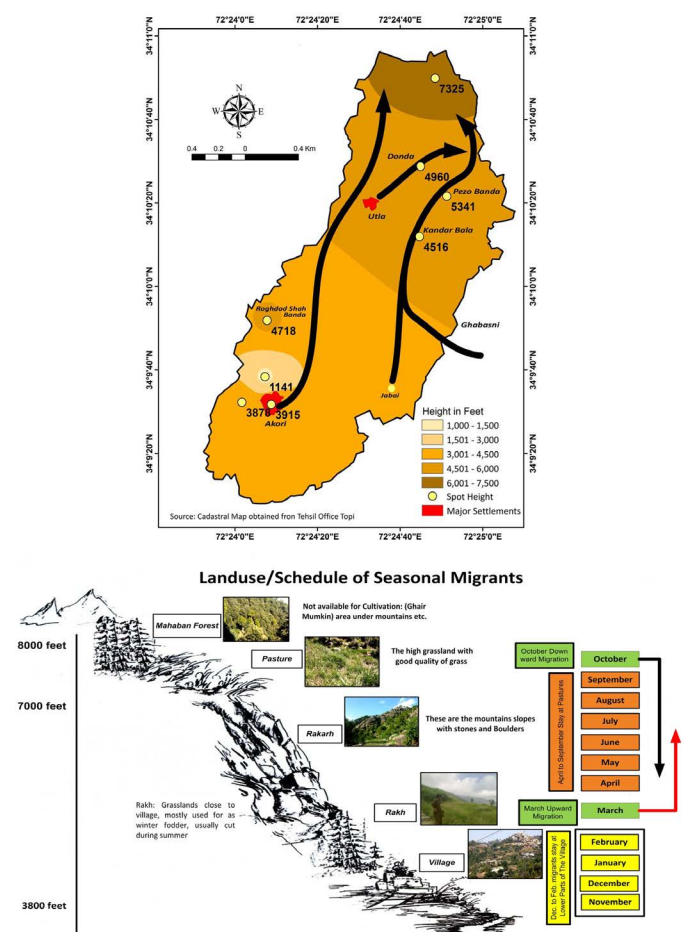


Figure 1: Village Utlā land use types, description and schedule of seasonal migrants.

occupation of *AGAAR* is to keep sheep's and Goats on a commercial basis. These people seasonally migrate to Mahaban with their livestock mostly sheep's, goats, horses, donkey dogs and mules. The mules, horses and donkey are used for carrying their daily uses utensil

and food items. There is no exact date and timing for the up-ward and downward movement of seasonal migrants, but usually, they start moving towards the pastures in March stayed there until end of October and then in November they start moving downward toward the village (Figure 1).

Causes of transhumance (seasonal migration) in village Utlā

The system and schedule devised by the migrants is based on indigenous knowledge and is for the better management of agriculture and pasture resources. Although tall best quality grasses are available close to the village in the form of RAKH, still the herder take their livestock to the high pasture for grazing. During the present study, the question was asked to the seasonal migrants that why they migrate to the high up pastures? The survey results are depicted in Figure 2, reveals the following causes as mentioned by migrants which they think compelled them to move toward high up pastures.

- Availability of fodder (Grasses) at the Pastures
- Ban on the cutting of grasses and grazing of livestock's in the village and availability of fodder (grasses) at the pastures
- Management of agriculture land at pastures
- Refuge from the scorching heat of summer
- Unavailability/decrease of water in the village

Ban on cutting of grass and grazing in the village

This response was favored by 50% of the total respondents and seems to be one of the most important

causes of seasonal migration. According to a locally devised tradition rule, a ban is in effect on the cutting of grasses and grazing of animals close to the village from March to September. The grassland (rakh) is the property of the individual family and the milking animals are freely grazed on these rakh till March, after that the grass is allowed to grow to its maximum and then is cut in a traditional way called *ASHER*. In *ASHER* the farmer invites their neighbors, friends and relative for collective cutting of grasses. At that occasion the musician play local traditional music and at the end usually lunch is served. The harvested grass is than put on the roofs and on trees to get dry. This dry grass is then used as fodder during long cold winter. Winters in the area are long and extremely cold. The snow falls usually start in November and continue till January. Cultivation is not possible and no fresh fodder is available during winters.

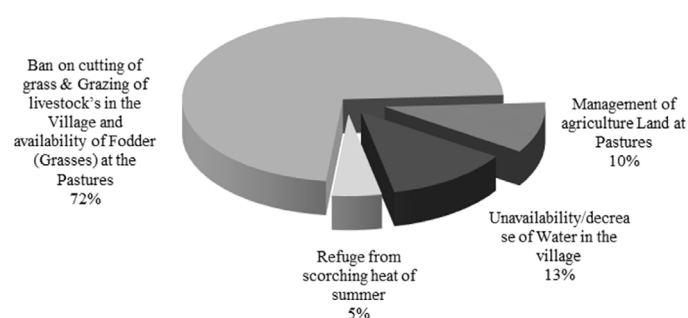


Figure 2: Causes of Transhumance (Seasonal Migration) as %age of respondents.

Management of land at pastures

Some of the seasonal migrant families possess some agricultural land in the pastures. At pasture agriculture activities are restricted to summer cropping only and even this single harvest is not ensured every year. The crops grown are mostly barley and wheat which often used as fodder because of short growing season. The agriculture is also hindered by small holding and Pebbly gravely soil. Four respondents out of total 40, (10 % of total respondents) practice seasonal migration to manage the agricultural land at pastures. They further stated that they take their livestock with them and they are a source of Farm Yard manure to the field.

Refuge from scorching heat of summer

The height of village varies from 1100 ft ASL to 8000 ft ASL. The permanents settlements are mostly located in the areas ranging from 1100 to 2000 ft above sea level. Though the area has pleasant climate as compared to rest of the District, unavailability of

electricity to the major part of the village, increasing construction of pacca (cement) houses and cutting of forest and vegetation in the vicinity of the village is seem to be another reason of seasonal migration. This cause was favored by only 02 respondents (05% of total respondents). These two respondents also added that summers are getting warmer and to escape the heat they migrate to higher up pastures.

Unavailability/decrease of water in the village

Another important reason mentioned by seasonal migrants' unavailability of Water (both irrigation and drinking) in the village during summer season. For 05 respondents this variable supply of water is the main cause they practice season migration. According to these respondents the supply of water is highly variable during summer. The streams and spring which are the main source of water in the village starts drying up toward the end of April till the onset of monsoon in July and August. During peak summer to cope up with this variable supply of water, *WARABANDI* is in practice even for drinking water. Contrary to this enough water is available at the pastures which seem to be an important adding factor for seasonal migration.

Causes of decline in seasonal migration

The changing pattern of transhumance seasonal migration is the result of a combination of changes in economic, social organization, policy, and ecological conditions (Ahmed and Teka, 1999; Getachew, 2001). Seasonal migration is currently declining in Europe (Ruiz and Ruiz, 1986; Liberatori and Penteriani, 2001; Naess, 2013). There used to be a time when almost every household use to move to pasture before the onsets of summers. But today only 40 households out of total 760 households in Utlā practice seasonal migrations. From last two decades the seasonal migration in Utlā has undergone profound transformations. One of the objectives of present research was to analyze the causes of transformation taking place in the seasonal migration. In order to probe the causes responsible, various question were asked. The survey results reveal the following cause for decrease in transhumance:

- Education
- Increasing availability of electricity to the residents
- Decrease in number of livestock
- Availability of milk pack in the market
- Non availability of health facility in the pastures
- Increasing employment
- Increased number of marriages between Utlā

male to female of down country

Children's education

According to respondent's children education play a vital role in decreasing the trend of seasonal migration. Majority of the respondent are planning to settle down in the lower part of the village as they think that migration during summer negatively effecting the education of their children's. Those children who accompany parents to high pastures usually miss the school for almost 06 months and this slowly and gradually lead to the drop out. The survey results reveal that 87% of the children accompany parents during seasonal migration don't go to school at all, while 8% children take leave from school. While 5% of the children though initially admitted in schools but leave school before completing the primary education **Figure 3**.

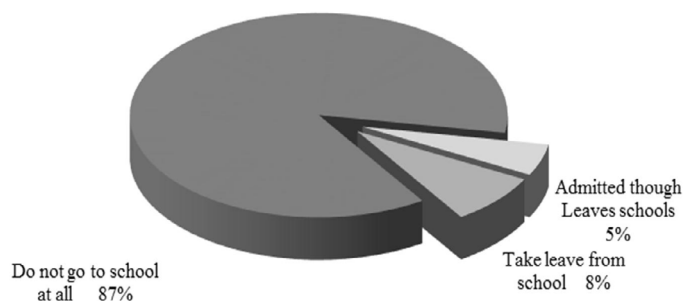


Figure 3: Effect of seasonal migration on respondents children's education as percentage of total children.

Increasing availability of electricity to the residents

Another important factor made responsible by respondents for the decline in seasonal migration is the accessibility to electricity. There used to be no electricity in the village before 1980, so as to avoid the heat of summer coupled with other factors compelled the locals to migrate toward high pastures. According to the respondents today the electricity is available to almost 75% of the inhabitants and people are so used to these modern facilities that they prefer sedentary life.

Decrease in number of livestock and availability of dairy products in the market

Self-sufficiency used to be the prime objective of each and every household as there was no external marketing. Whatever was produced used to be locally consumed. People used to keep livestock for milking and for on-farm activities including ploughing, threshing and Farm Yard manure. Now with the availability of milk pack, use of tractor for ploughing and availability of artificial fertilizer in the market

decrease farmer's reliance of livestock. The respondents unanimously agreed that it's uneconomical to keep a pair of bull just for ploughing which cost more than Rs. 200000. Rather it's more economical to rent a tractor for an hour which hardly cost Rs. 1000. This decrease in number of livestock is one of the major reasons for the decline of transhumance activities.

Increasing employment

Before the construction of present road, the difficulty of communication kept this area isolated from the improvement in agriculture and new techniques. For centuries, village Utla evolved in isolation, as it was cut off from its surrounding. This area was for the first time connected to Topi by a jeepable road in 1967, is now accessible by an all-weather metalled road, completed in 1984 connecting it with Topi and Swabi. The area as whole is experiencing profound changes in the agriculture, the accessibility opened the area for the mechanization of farming and a variety of off-farm employment opportunities. Inaccessibility keeps this region devoid of education and employment opportunities. There were very few off-farm employment. But the road and establishment of Gadoon Industrial Estate open this area for a variety of employment opportunities. These off farms jobs are increasingly causing people to settled down and start a sedentary life.

Increased number of marriages between Utla males to females of down country

One of interesting cause respondent mentioned while answering the question of possible causes of decline trend in transhumance/seasonal migration was increase marriages between local and down country woman's. 45 % respondents were of the opinion that increases mobilization and interaction between locals and outside Utla people causing increasing marriages from outside. The modern women prefer sedentary and settled life over nomadic life and this seem to be an important cause of decline transhumance/seasonal migration.

Unavailability of health facilities at pastures

According to respondent one of the possible causes of decline in seasonal migration is the unavailability of health facilities at pastures. Previously people use to prefer local and homemade herbal medicine but now with increasing dependency on allopathic medicines causing people to stay down in the village. They further added that there use to be headache, flu and

fevers but now there are so many complicated diseases which compelling people to prefer sedentary life. There is only one BHU (Basic Health Unit) and that too is down in the village. The respondents pointed out that often in case of emergency they have to tie their patients to bed to carry them down slope.

Conclusions and Recommendations

Transhumance or seasonal migration is a century old practice in Utlā. This practice is the outcome of the wisdom and knowledge of the local inhabitant. The present study is an attempt to understand the schedule and pattern of transhumance in village Utlā District Swabi. Village Utlā is a mountainous area and transhumance is practicing in the village because of limited agricultural resources and variation in the height. The farmers and herder devised a unique pattern which ensures the sustainability. The system is the result of century's old traditions and customs, this system is at the edge of extension. The present work has been conducted on a local scale and place specific with the intention to describe how rapid human modifications became a major driving force in decreasing the transhumance activities in village Utlā.

The seasonal migrants have their permanent settlement in down village, where they stay from November to March. In early March they start movement toward high pastures where they stay from April to October. In the first week of October they start descending down to their permanent settlement, but from last two decades this system is being challenged by the modernization. A number of factors are responsible for this decline; however, there is an urgent need to preserve this century old practice as this is the best example of natural resource management, the availability of education and health facility in the down permanent settlement new economic activities like transport and business and employment opportunities compelled the people to settle permanently, causing the decline of transhumance. Over the past two decades, transhumance pastoralists have settled down massively in nearby villages. Today pastoralists account for a small portion of the population and continue to have few property rights, leading to their continuing marginalization.

Novelty Statement

The research brings novelty by examining mechanism

of seasonal migration of transhumance pastoralism, and to figure out the causes responsible for the gradual decline of this centuries old tradition.

Author's Contribution

MJN presented the concept and design, did database handling, map making and wrote first draft. ASK wrote literature review and reviewed the manuscript. SA and RS carried out questionnaire survey and Secondary data from revenue office.

Conflict of interest

Authors have declared no conflict of interest.

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