7. The challenges faced by Bakhtiari nomads in local management of pastures in the Tangsayad – Sabzkouh Biosphere reserves, Iran

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Abstract

Humans, now, in the future and for the rest of their lives, need the Earth's natural resources, particularly pastures, as they are the most vital platform for environmental sustainable development and ecological phenomena and the main source of traditional animal husbandry and livestock feeding systems.

Today, several research results are revealing the importance of local knowledge of exploiters such as nomads, who are the main beneficiaries of these pastures, in reviving these areas.

This study aimed to identify challenges facing the traditional system of pasture management by nomads, the policies of the current government and pasture management with existing methods in order to provide recommendations and solutions to combine indigenous and formal knowledge in line with sustainable management of pastures. For this purpose, the Bakhtiari nomads, settled in all areas of Tangsayad – Sabzkouh biosphere reserves in different seasons, have been considered as the population of study.

Bibliographical and field research was carried out. The research was conducted using a combination of qualitative and quantitative data collection techniques (group discussions, focussed groups, semi-structured interviews and structured interviews via a questionnaire). Geographic area of research is the Tangsayad – Sabzkouh biosphere reserve in the provinces of Chaharmahal and Bakhtiari.

Overall, results show that some government policies such as settlement of nomads, issuing rules without prior research in pasture ownership, unsustainable rural development, lack of interest of younger nomadic generations in accepting traditional systems of pasture management and outdated laws are the main challenges ahead of traditional pasture management systems by nomads.

In order to solve the problems in pasture management, it is important to consider favourability of indigenous and formal knowledge on the grounds of improved livelihood of nomad and rural communities, preserving and revitalising indigenous knowledge, reviewing and revocation of conflicting and contradictory laws, laws of land ownership, completion of the audit and issuing of updated documents, freehold pastures and natural resources laws, producing educational content

in the field of indigenous knowledge and enabling the new generation to become familiar with benefits of this knowledge.

7.1. Introduction

7.1.1. Background

Indigenous knowledge is increasingly important to identify sustainable methods of intervention with respect to environmental protection with economic development of local communities (Chandrasekhar et al 2006). Neglect of local knowledge and values of pasture utilisers is considered as a waste of resources, thus it would be appropriate that the researchers associate with different people and development goals in their approach and seek to recognise and integrate indigenous knowledge revision with other knowledge in this area (Niamir 2006; Kilongozi 2005; Osunade 1994; Melvyn et al. 1989; Chandrasekhar et al. 2006).

Iranian nomadic society has certain social systems which, in terms of type or nature and systems of economic, political, cultural or social stratification mentioned in the typology, are not applicable and we can separate its ideal type from other social systems as tribal system. Iranian tribal system prevailing in nomadic society today has lost its development power due to increasing ecological, demographic, technological, economic, social, political and cultural bottlenecks and limitations (Chalabi and Abdollahi 2002).

Iranian nomadic society has a long history and culture. Iran as a developing country has groups of the population in the Zagros forests who live as nomads. Despite the many poor people in rural and tribal communities, they continue to be the holders of natural resources and play an important and crucial role in the stability of ecosystem of Zagros (Adeli et al. 2005) and from the distant past were considered the country's largest livestock producers.

Photo 7.1 Bakhtiari nomads

Natural and climatic factors of Tangsayad - Sabzkouh in heart of Zagros have created specific conditions of biodiversity from the south-west to north-west of Iran. Zagros forest ecosystem has served as winter and summer ecosystems for nomadic herders, which is one of the largest Bakhtiari tribes. Bakhtiari tribes herd in summer and winter rangelands at suitable times.

7.1.2. Migration management in Bakhtiari tribe

The migration of nomads has had a fundamental role in grazing management on summer and winter grasslands and the feed in the pastures continued to be maintained at a high level as long as nomadic livestock was removed during summer or winter when these grasslands could have a break. Even with the possibility of farmers violating and entering into pastures, the nomads would protect their pasture by assigning guards.

The route and duration of migration tribes in any home on the migration route was devised intelligently so that they first entered the summer pasture when the plants were fully mature. If the readiness of the pasture was not confirmed by investigators of the tribe, the tribe delayed its arrival to the summer pasture by renting excess rural pastures or wheat fields in the countryside.

Migration management in the Bakhtiari tribe is one of the management masterpieces of the tribe's organizational structure and is run by sheik and a hierarchical system. Durability of the tribe and pasture management had a high level of discipline such that no unit could continue to move arbitrarily and reach the summer or winter rangelands sooner than the others. Traditional management practices based on the sheik and respect for elders ensured that pastures were allowed to grow and after enough growth was achieved, migration command was issued for the next year. Today, it is understandable that after the dissolution of the traditional administrative system and tribal hierarchy and non-replacement of new functional entity, great and irreparable damage has befallen the pastures (Amir Ahmadian 2004).

Over the year, Bakhtiari tribes migrate twice: they are called 'spring migration' and 'autumn migration'. Spring migration is from winter rangelands "qishlaq" to summer rangelands "yaylak" and autumn migration is from summer rangelands to winter rangeland grounds. The duration of migration of nomadic tribes is different. Migration routes fluctuate from one day to one month and up to 45 days in depending upon the near and distant winter and summer places. In Bakhtiari, migration is mostly "vertical migration". This means that movement is from the plains to the highlands in summer rangelands and movement from elevated regions to the plains in winter rangelands. This kind of migration is the most common form. Sometimes in between nomadic families, migration around the villages is "horizontal migration" and it is conducted over a short period of time (Amir Ahmadian 2004).

Autumn migration usually begins in early October or late September. The date of migration depends on two factors: weather conditions and vegetation. If the forage in rangelands is naturally finished sooner, or due to drought, the summer pastures are poor, migration starts early. Also in the summer when the air gets cold early, nomadic families are forced to migrate. Spring migration as well as migration in autumn depends on natural or social factors. Sometimes, due to lack of agreement with the villagers, surrounding tribes, and conflict over pasture and grazing rights and other issues, migration occurs sooner (Amir Ahmadian 2004).

When the nomads are in the summer or winter rangelands, they do short and limited migrations between winter and summer rangelands for access to forage for livestock which is called "movement". These movements are mostly for pasture rather than for using water resources due to lack of water. During migration in early summer, when mountains still have snow and the earth is wet, and pasture plants have not yet flowered, pasture livestock are not allowed to enter the pasture. When livestock enters pastures where plants have not yet flowered and are wet, they just trample them and eat them and the reproductive power of the plant and the earth is reduced, leading to destruction of the pasture (Amir Ahmadian 2004).

Unfortunately, after the collapse of the tribe, and the destruction of its traditional and control system and framework, none of the other tribes follow the law because there are no ranks and government. To reach the summer grazing fields early, they migrate prematurely and to obtain earlier and therefore lower costs and higher profits, they overtake each other and here begins the degradation of pastures. This leads to the disaster of the floods, now due to downhill slopes and degradation of steep mountain pastures, damaging villages and cities (Amir Ahmadian 2004).

7.1.3. Indigenous pasture management of Bakhtiari nomads

Bakhtiari nomadic tribes as well as other nomads in Iran, have had native solutions for grazing and pasture management which helped the conservation and sustainable use of pastures in their possession during migration. In the following, we refer to pasture and grazing indigenous management strategies of Iranian nomadic tribes.

Grazing and pasture indigenous management strategies include: seed planting, intermittent grazing, herd diversity, segmentation, pastures, adjusting the number of livestock (Amiri Ardakani and Emadi 2003); use of supplementary feed (Shah-Hosseini 2001; Amiri Ardakani and Emadi 2003), evaluation of the pasture and migration (Safinezhad 1996; Amiri Ardakani and Emadi 2003), guarding and protection (Farhadi 1998; Amiri Ardakani and Emadi 2003; Shah Hosseini 2001), private property and the right to graze, estimation of the pasture condition, the separation of livestock and herd (Shah-Hosseini 2001; Amiri Ardakani and Emadi 2003).

Popzan and Afsharzade's study (2010) on indigenous pasture management mechanisms show that in indigenous pasture management of Kalhor tribe, nomads have divided pastures based on grazing system (open and close grazing), the deployment season (spring, fall and winter feeding), and kind of pasture (intact and eaten pastures). Previously untouched pastures are called 'intact pastures' locally called ana khoard. On the other hand untouched pastures after grazing are called 'eaten pastures' locally called khoarda. 'Millennium' meadows are able to feed 1000 livestock, 'half millennium' pastures can feed 500 livestock and the quartiles are capable of feeding 250 livestock.

The slope of the ground between south and north pastures and pastures between the southern and northern are referred to as navro.

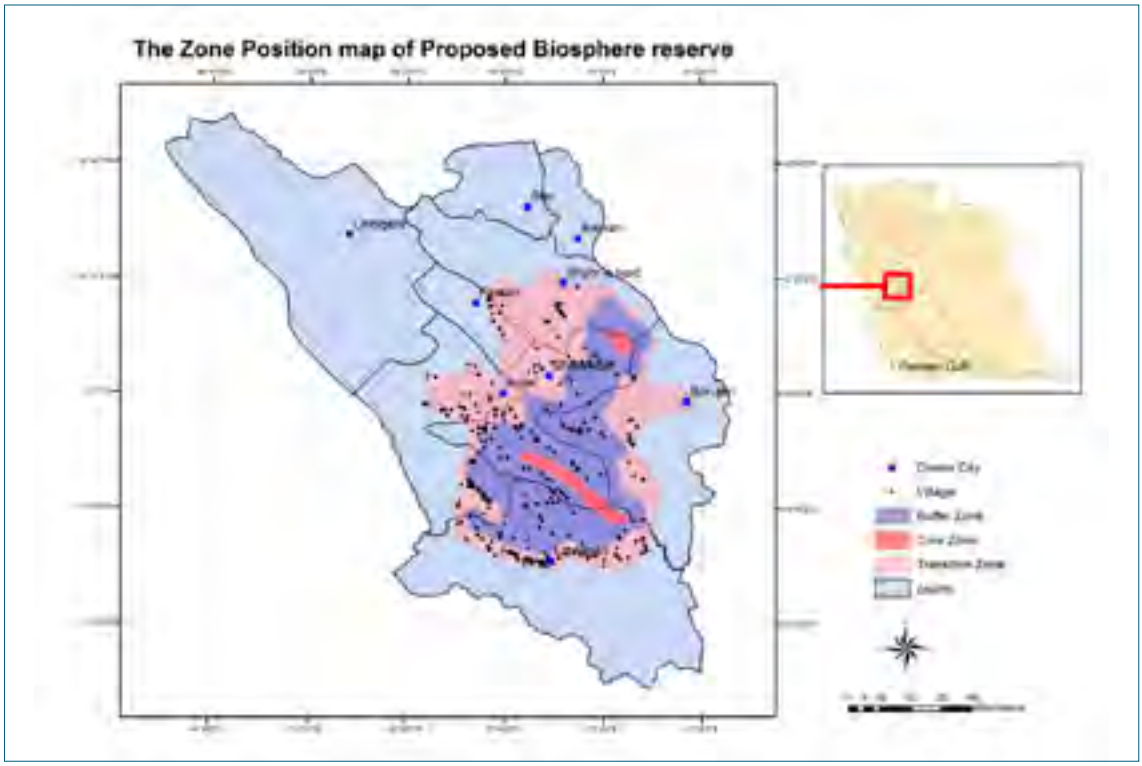
Popzan and Afsharzade (2010) also consider that indigenous pasture management mechanism includes migration, assessment of pasture, pasture segmentation, rotation, delayed grazing, pasture leasing and protection; and livestock management includes herd diversity, separating livestock, livestock moderation and the use of manual feeding.

Nomadic pasture management system has faced challenges during its long history due to imposed policies at economic, social and political levels of nomadic society. Investigating factors effective in creation of such challenges against this traditional system and analysing solutions and strategies can lead to sustainable management of pastures in pasture exploitation system.

7.2. Methodology

This article relies on other research achievements with regard to the Bakhtiari nomads of Tangsayad - Sabzkouh Biosphere and seeks to deal with the question of the extent and direction of unsustainable rural development. Settlement of nomads and policies imposed by the government and its laws have changed the traditional system of pasture and grazing management of nomads. With an area of 532 thousand hectares, Tangsayad - Sabzkouh biosphere reserve covers more than a third of Chaharmahal and Bakhtiari and its major mountain pastures are in the range of Bakhtiari nomads summer pasture areas. More than 20 families from different Haft Lang Bakhtiari

tribes were considered as the sample. In order to get further information, Bakhtiari tribal elders referred by the Chaharmahal and Bakhtiari nomad administration, and some informants who were introduced by the department were also interviewed. The elites were mostly from Babadi and Durak Bab tribes.



Managment planning of Tange soyad- Sabzkouh Biosphere reserve, behetash pardaz Behrooz CO, 2015

Figure 7.1 The zone position map of Tangsayad-Sabzkouh Biosphere reserve

To conduct this study about the life and pastures of tribes, more than 10 facilitators who were veterinary doctoral students were present in the area and at the end of each day, they analysed discussions and observations and devised the next day's plan. Furthermore, 5 focussed groups consisting of 9 members were formed and group discussion was conducted and data analysed using content analysis method. In addition, for higher confidence level, more than 50 people were sampled randomly and data was collected through questionnaires and interviews. Regarding the role of nomads' settlement in traditional grassland exploitation system, Zia Tavana and Tavakoli (2007) research results are used.

7.3. Results

7.3.1. The role of government policy in the settlement of nomads and rural unsustainable development, and challenges in indigenous pasture management of nomads

Zia Tavana and Tavakoli's (2007) research findings in Chelgerd and Bazoft region of Chaharmahal and Bakhtiari province in terms of nomads' settlement policies suggest that in the current situation, due to insufficient loans granted by the agricultural bank, the tribes inevitably have had to sell all or part of their animals. Reduction of livestock numbers may be useful in reduction of pasture damage but we must observe to what extent qualitative indicators such as method of

exploitation and factors such as early pasture intensification, prolonged stay of livestock in the pasture and loss of livestock mobility in the settlement process have changed. The authors also mention that not only has the settlement led to early entrance of livestock into pastures from settled families but by increasing the competition on this ground, it has also led to hurry in migration to exploitation of summer pastures, thus leading to early grazing. The important point is that in local interviews conducted with nomadic tribes in the biosphere reserve, the nomads noted their disputes with the tribes settled in the ranges. 67% of respondents stated that settled households use pastures before the start of the exploitation season, and when the other families of the tribes of nomads arrive, the pasture is already grazed and due to this early grazing, nomads face problems in feeding their livestock. Migrating nomads believe that settled nomads do not accept past indigenous systems to use pastures and due to the fact that they don't migrate any more, they have replaced lack of winter pastures by overuse of summer pastures so they don't have any commitment to past normative systems.

The authors also observe that when nomads settled, the livestock stay longer in the pastures and the effect of early grazing and increased time spent by livestock in pastures together with spatial limitation resulting from settlement and decreased radius of daily graze, caused increased damage to pastures.

Interview results with migrating nomads show that after decades of nomads' settlement policies having economic, social and cultural consequences for nomads, the government and settled nomads are interested in settlement because they can use pastures and benefit from health and accommodation facilities. This helps them to overcome the dangers of migration and the deterioration of Bakhtiari traditional management structure and lack of commitment to normative management systems of pasture and grazing and also conflicts with rural people but unfortunately so far the package of state support in this regard has not been able to help improve the quality of life of nomads. Results from interviews and facilitating reports show that more than 60 percent of the nomadic tribes that participated in the study population call for settlement with more government support packages and improvement of their livelihoods. On the other hand, some migrating nomads are against this program in its current form. They cite inadequate infrastructure services, livestock losses during housing, lack of skills in other fields of work and therefore lack of income as causes of lack of housing interest. However, statistics show that demand for housing is high among Bakhtiari tribes and this demand and results of research on nomads' settlement show that if the government fails to act on improving and diversifying nomads' livelihood and fails to turn strategic plans about pasture shared management and livelihood improvement into operative plans, Iran will face unsustainable tribal and rural settlements, and, further the destruction of pastures and natural resources.

7.3.2. Rules of natural resources and the challenges ahead in indigenous management of pastures by nomads

Results of the studies show that until 1961, exploitation of pastures was mostly in nomadic system and rural communities in nomad territories had no right on grasslands outside the country's limit. At that time among rural communities, rearing sheep was not very common and this means the exploitation of pastures was limited to communities of nomadic tribes (Bazhyan 2007). After nationalisation of pastures, the ownership of nomads was eliminated and nothing replaced it - that is one of the reasons of pasture deterioration. Nationalising forests and grasslands and land reforms led to land acquisition in tribal communities. Since agriculture was excluded from the coverage of rangeland thus changing pastures into dry lands, it led to land destruction (Papeli Yazdi 1994). Kyanvand (1990) also observes that joint ownership of nomads on the grasslands of 1962 disappeared as a result of direct government intervention: As a result, the nomadic pastures were occupied by villagers, grassland was converted to croplands and orchards and scope of nomads became very limited. The nationalisation of local rangeland reduced management and sustainable exploitation of the indigenous pastures by tribes. Iranian organisation of nomadic

affairs (2005) said that the main conflict between nomads and the government is normative system of nomads with nationalisation of forests and pastures and that nomads feel that the government doesn't care about them.

Nationalisation of forests and lands was in line with reforms of the past king of Iran that was conducted without sufficient information and planning so it left the ownership and management of forests and pastures at the hands of the government. Unfortunately, prolonged struggles between the tribes and the government during the decades of 1930 and 40 provided grounds for rejection of tribal society and the declared nationalisation of pastures in 1962 was the government's last resort stripping the country's political and economic independence of tribes living in their territory (Amir Ahmadian 2004). Unfortunately, sustainability of the nomadic system vanished in the process of modernisation and renewal that was not too deliberate and government intervention at the foundations of ecological and socio-economic relations with rural communities and urban nomads. For example, during the land reform and then with the exception of mechanized land, in many areas, pastures went under the plow and became dry farms (Bakhshande Nosrat 2001; Mousavi Nejad 2001). Outdated rules were also one of the challenges that existed in pasture management and unfortunately the law has many shortcomings and is weak for today's conditions. The last comprehensive law approved for forests and pastures of the country was passed in 1967 and it has been 49 years since.

Beside studies conducted by other researchers, findings of discussions and interviews with migrating nomads in biosphere reserves show that many normative systems of their pastures are assigned for rural and farming development by governmental organizations. And rural people also do farming on their normative systems with the permission of the government. 75% of migrating nomads want the government to stop intervention in pastures.

However, in recent years the government tried to stop the procedure by conducting projects in relation to shared pasture management, pasture insurance and protection.

7.3.3. The reluctance of young nomads to practice indigenous pasture management

Due to the development of technology and communication as well as severe economic challenges in tribes, younger generation tribals do not adhere much to traditional administrative and management systems. Results of interviews and facilitating with nomads show that more than 70% of Bakhtiari young nomads want to sell their livestock and live in cities. Unfortunately, lack of support for nomads and violation of their rights in management has led to increased poverty among them, thus youth are reluctant to commit to management and administrative systems of the tribes but they are trying to provide a rural or urban life. Results of the study show that more than half of the youths are not informed about traditional systems in pasture and grazing management and don't believe in them. Young people of Bakhtiari nomads did not know the importance of indigenous knowledge and traditional practices in the exploitation of pastures and they are also not motivated to use them.

Thus, the educational system must take into account the important need to produce educational content to introduce indigenous knowledge to children and adolescents, especially in tribal areas. Content production in indigenous knowledge can be conducted in line with formal and informal education to allow the young generation to become familiar with traditional skills and systems.

Conclusion

Results of the present study and other research show that the current procedure and challenges ahead of traditional nomadic exploitation system can be damaging for pastures and forests. Therefore, it is necessary to intervene to restore indigenous grasslands management. Shah Vali and Bazhyan (2001) proposed the following for the restoration of indigenous grassland management:

- The revival of local structures of pasture management such as setting the desired operating range, solutions to territorial and ethnic disputes, organized migration, protection of pastures and the appointment of responsible leaders.
- Revival of traditional social institutions of pasture management; these institutions are divided into two official institutions – tribal councils and value institutions – which are essential for the revival of local management.
- Revival of traditional communication such as social customs matters, dispute resolution, selection of council members, handling of administrative affairs, pasture utilisation and division of inheritance between heirs.
- The revival of local management requirements is concerned at the same time with exploitation and protection, as well as revenue for nomads.
- The contradiction between local management of pastures by nomads with applicable laws and regulations and endowments is due to the nature of laws or is related to the implementation of the above mentioned regulations.

In general, in order to revive indigenous pasture management and grazing of nomads, strategies and plans of the government should have a comprehensive insight on past systems of pasture and grazing management based on management and administrative structure of the tribe to fill in the gaps in management systems. As Bazhyan (2007) observes in his article, the realisation of optimal management of livestock depends on how communities determine ways of life of nomadic migration, settlement, semi-nomadic systems, sheep handling and so on. In this case, the objectives of the development plan of nomads can be achieved. Due to the fact that shared strategy of development is based on local conditions, appropriate management strategy for the development of livestock in tribal communities and new methods must be used specific to social and cultural conditions of tribes. Modelling and simulating of pasture management based on livelihood desired by nomads will create situations that can be achieved with the presence of indigenous structures and social institutions.

According to the material, following suggestions are offered to overcome the challenges:

- Improving the livelihood of nomads helps to prevent further destruction of pastures by settled nomads.
- Eradication of poverty of semi-nomadic tribes in winter rangelands, especially by encouraging projects such as grazing, development of technical and vocational schools, creation of plans including strategies that can be done to improve the livelihood of nomads.
- Ownership problems of grasslands by giving pastures to tribes on condition of exploitation in accordance with the principles of land use
- Review of national law and regulations of forest and pasture, land transfer regulations
- Employment in crafts for tribal women and to help improve livelihoods
- Rehabilitation and correction of poor and destroyed pastures with the support and partnership management of nomads and villagers.

- Support packages to help nomads in grazing
- Traditional tribal councils to fill the gap in the administrative and managerial system of nomads.
- To update the country's natural resource laws to solve problems created by conflicting laws
- Educational content for the younger nomad generations to become familiar with indigenous knowledge systems and traditional nomadic systems.

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