

EVOLVING A POLICY ON PASTORALISM IN THE SEMI-ARID STATE OF RAJASTHAN, AND INDIA

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EVOLVING A POLICY ON PASTORALISM IN THE SEMI-ARID STATE OF RAJASTHAN, AND INDIA

G.B.Mukherji^{*}, Jagdeesh Rao[#], Rahul Chaturvedi[#], Pratiti Priyadarshini[#]

Abstract

Pastoralism in India, as in many other parts of the world, is a highly under-valued lifestyle and production system, often misconceived as being an archaic and inefficient, environment unfriendly practice. Policies to support such climate adjusted, resource attuned lifestyles are either absent or not pursued. This paper looks at nomadic pastoralism, sifting through available literature on the subject and through the story of a pastoralist group in the semi-arid state of Rajasthan, in northern India. Highlighting the significance of pastoralism to the livelihoods and State economy, food security, and the social and bio-physical infrastructures, the paper attempts to outline the need for notifying State policies on pastoralism considering five main inter-linked components. These include – (a) strengthening and augmenting the contribution of pastoralism to the economy and food security; (b) securing and protecting the lives and livelihoods of pastoralists and ensuring their rights to dignified and honorable living; (c) securing their rights to forests, land and water resources that are central to their existence; (d) recognizing, collaborating and promoting the role of pastoralists in conservation and management of State's biodiversity and natural resources; and (e) developing collaborative systems for periodic enumeration of pastoralist populations, measuring their economic contributions and supporting mobility.

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1. INTRODUCTION

In a broader sense, pastoralism refers to “any predominantly livestock-based production system that is mainly extensive in nature and uses some form of mobility of livestock” (Hatfield & Davies, 2006) Pastoralism in India is thought to be at least 2000 years old; may be as much as 13000 years old as per the rock inscriptions at Bimbedka, Madhya Pradesh (Mukherji, 2016). As in many other parts of the world, pastoralism in India evolved as a specialized form of natural management, that adapted to climatic uncertainties and marginal landscapes characterized by a limited, variable and unpredictable agro-ecological resource endowment. However, in the absence of reliable and pertinent data it continues to be a highly under-valued lifestyle and production system, often misconceived as being an archaic and inefficient, environment unfriendly practice. It is under-researched and poorly documented. In the absence of a policy focus, neither research nor programmes are designed that promote and support pastoralism as a production system or as a cultural system; or for that matter value the contributions made by pastoralism or even give an estimate of the pastoralist population.

The present paper is an attempt to consolidate the evidences from the various literatures that exist to highlight the significance of pastoralism to the livelihoods and State economy, food security and nutrition, and the social and bio-physical infrastructures and underscores the need for evolving policy on pastoralism. In doing so, we focus specifically on pastoralism in the semi-arid State of Rajasthan, in northern India. The paper is divided in five sections. The first section presents an overview of the pastoralists in Rajasthan and their lifestyle characteristics, attempting to also give an estimate of the pastoralist population in the State. The second section highlights the significance of pastoralism as viable sources of livelihood, in conserving the forests, pastures and State’s biodiversity, in preserving the animal genetic resources and indigenous knowledge, and in improving the social capital across communities. The next section presents an overview of the larger policy environment and the need for evolving policy on pastoralism. In the last section, we attempt to provide a framework and define the objectives and strategies that can help in improving contributions of pastoralism to the State and national GDP and food security, improving access of pastoralists to the various welfare programmes and schemes that they are mostly unable to avail, ensuring their rights to live and pursue livelihoods of their choice and develop collaborative mechanisms to support pastoralism as a way of life and as a production system.

2. PASTORALISM IN RAJASTHAN

Rajasthan is the most densely populated desert in the world and the largest State in India, occupying nearly 10% of the total geographical area of the country. The Aravali hill ranges that intersect the State diagonally from south-west to north-east demarcate the arid part of Rajasthan. The region experiences very erratic and low rainfall (ranging from 100 mm to 1000 mm, decreasing as one move from south-west to north-east). Characterized by extreme climatic uncertainties and a fragile ecosystem, the vast tracts of land that lie between human settlements have been one of the few resources that the local communities residing in these areas have.

Pastoralism in Rajasthan, has evolved not only as an adaptation strategy but also as a predominant land use strategy for people from different castes and communities (from those who rank in the social hierarchy to those who are upper in the caste ladder), by both the landless and landowning classes. Large and small endogamous populations have adapted to relatively distinctive social and ecological niches thereby reducing competition for overlapping resources (Kavoori P. , 2005). Some of the predominant groups with pastoral identity in Rajasthan include the *Raika*, *Gujjar* (in central and eastern Rajasthan), *Jat*, *Sindhi Muslims* (or the *Kaimkhanis* in Jaisalmer), the *Rath Muslims* (in Ganganagar, Hanumangarh), *Gairi* (in Udaipur area) and in some cases even the *Rajputs* (in Jaisalmer).

Estimating the population of pastoralists is difficult as there is no official database that records population who are on move. Further, unlike the pastoralists in other parts of the world such as Africa and Middle East, pastoralists in Rajasthan do not comprise members of a special social or ethnic group but are spatially and socially integrated into the existing caste system and agrarian land use strategies. Some of the available estimates suggest that:

- a. Around 400 thousand households can be categorized as pastoralists (Please see Box 1: Estimating Pastoralists Population in Rajasthan). These figures are drawn based on understanding livestock keeping systems across Rajasthan (Ilse, 2016).

- b. Specifically, among the Raikas it has been estimated that a small proportion of them (less than 1.5 percent or about 25,000 households) are predominantly pastoralists, travelling with and grazing their flock of sheep, goats and a few camels, across States often for as many as 12 months in a year (Mukherji, 2016).

Box 1: Estimating Pastoralists Population in Rajasthan

Sheep – Sheep are exclusively kept in nomadic systems. As per Livestock Census, 2012, the sheep population in the State is 9 million. With an average herd size of 70, it can be estimated that 128,600 families depend on sheep pastoralism.

Camels – All females and males below 3 years of age are kept in nomadic systems. In addition 5% of adult males are also kept in nomadic systems. As per Livestock Census, 2012, the camel population in the State is 320,000. With an average herd size of 20, it can be estimated that 8,000 families depend on camel pastoralism.

Goats – In eastern part of Rajasthan, goats are kept by farmers in small numbers, while in the western Rajasthan these are kept by pastoralists in herds. As per the Livestock Census, 2012, the total goat population in the State is nearly 22 million. Assuming that 50% of these goats are kept by pastoralists with an average herd size of 50, it can be estimated that 220,000 families depend on goat pastoralism.

Cattle – Cattle are kept in nomadic systems in Jalore, Jaisalmer and Sirohi. As per the Livestock Census, 2012, the cattle population in the State is 12 million. Assuming that nearly 20% of the cows are owned by pastoralists, it can be estimated that 46,400 families depend on cattle pastoralism.

Buffaloes – Gujjars around Sariska keep buffaloes in nomadic systems. It can be estimated that around 5,000 families depend on buffalo pastoralism.

Thus, there are about 400,000 pastoralist families in Rajasthan.

Source: Kohler-Rollefson, Deliberations at the Workshop on 'Counting India's Pastoralists', 2016

3. SIGNIFICANCE OF PASTORALISM IN RAJASTHAN

The IUCN (2006) report stated that the value of pastoralism as a production system and as a consumption system is central to the livelihoods and well-being of millions of world's poor, particularly of those dwelling in dryland ecosystems that are faced by extreme climatic uncertainties and issues of food and water scarcity. It is estimated that pastoralism contributes between 8.5% to 20% of the GDP across many countries in dryland regions and provide a wide range of services and products that are nationally and globally valued, such as biodiversity, nutrient cycling and energy flow, inputs into agriculture and are 'irreplaceable' in extensive environments (Hatfield & Davies, 2006).

In the context of Rajasthan:

- Pastoralism contributes significantly to the livelihood and wealth for the State in terms of milk, wool and flesh with no market based inputs. Available estimates suggest that pastoralists in Rajasthan rear 16.36% of India's sheep, 13.32% of India's goats 64.01% of India's camel population. More than four hundred thousand households comprising of different social groups are associated with this production system. Further, it has been estimated that livestock kept under extensive systems and using some form of mobility in the northern State of Rajasthan in India contribute to around 10 million tonnes of milk production per year (the value of which is more than 3 billion USD per year) and 0.1 million tonnes of meat production per year (estimated to be more than 450 thousand USD per year). They also produce vital nutrients such as nitrogen, phosphorus and potassium (worth 16 billion USD per year) that is crucial for enriching the soil health and contributing to food security in the State.
- Pastoralism has evolved as a resilient strategy to address climatic variability, droughts and low availability of water and pasture. Over centuries, pastoralist families have learnt to adapt their lifestyle and movement so as to seek the best sustainable options in the face of unpredictable vagaries of weather. Unlike agriculture, their lifestyle is more resilient to extremes of weather changes and fluctuations. Social scientists, therefore believe that such a lifestyle is best suited to offer food related options to the populations and survive for more centuries, if allowed to do so through benevolent State policies.
- As a production system, pastoralism has evolved a complex social-ecological system that has brought different users in contact with each other in ways that necessitate the institution of cooperative mechanisms. Pastoralism is therefore, a medium for strengthening the social infrastructure apart from supporting livelihoods of farmers, livestock keepers and sustaining food security.
- Pastoralists contribute significantly in the management of animal and plant genetic resources and are the creators and custodians of breeds such as *Nari*, *Rathi*, *Tharparkar*, *Nagori* and *Kankrej* cattle, *Boti*, *Jaisalmeri*, *Marwari*, *Nali*, *Magra*, *Chokala* and *Bhagli* sheep, *Marwari* and *Sirohi* goats, *Mewari*, *Marwari*, *Malvi*, *Bikaneri* and *Jaisalmeri* camels, that are particularly hardy and well suited to harsh conditions.
- Pastoralists have shown resilient grazing practices through a combination of approaches, developing complementarities between different production systems and finding new niches, thereby playing a crucial role in conserving the forests, *gauchar*, *oran* and other such land resources. Studies indicate that pastoralism also critical to the survival of wildlife, particularly the carrion-eating birds like vultures that are often seen around herder camps (Gadikar, 2015).

- Pastoralism as a way of life is a core part of the State's rich culture and heritage. Pastoralists have rich repositories of folk songs and stories associated with livestock and the landscapes, and have their own languages and traditions, passed on from generation to generation.

4. THE POLICY ENVIRONMENT AND NEED FOR EVOLVING POLICIES ON PASTORALISM

The National Commission for Denotified, Nomadic and Semi-Nomadic Tribes highlighted in its report in 2008 that nomadic groups are amongst the most 'disadvantaged and vulnerable groups....who somehow escaped the attention of our Constitution makers and thus got deprived of the Constitutional support unlike the Scheduled Castes and Scheduled Tribes'. In the absence of policy focus, pastoralists are often bereft of the fundamental rights to dignified and honorable living, to pursue livelihood option of their choice, the right to education and health, and the right to protection from violence. Most often welfare programmes and schemes are designed for sedentary populations and pastoralists are often unable to gain access to education, health and jobs which other disadvantaged and marginalized sections of the State are able to take advantage as they are settled and have permanent addresses or proof of residence and property ownership certificates.

Conservation policies are designed on assumptions that see pastoralism and grazing as the cause for degradation, disregarding the significant role it has in conserving and preserving the biodiversity. Restrictions on grazing in forests and diversion of pasture lands and 'wastelands' for 'productive uses', agricultural expansion and intensification, increasing proliferation of invasive species and rapid disappearances of certain superior grass genetic resources have resulted in very limited spaces for grazing, thereby neglecting and depriving the pastoralists of their rights to resources that they have traditionally accessed and used.

Most of the programmes and schemes have largely failed to recognize and value the significance of pastoralism as a source of livelihood or of the indigenous knowledge possessed by pastoralists on natural resource management. Programmes on cross breeding and 'upgrading' by hybridization of the local sheep breeds with exotic breeds for instance, have led to loss of the valuable genetic resources that the local breeds possessed. Such efforts fail to recognize that mobility is a specialized adaptation that takes opportunistic advantage of spatio-temporal variations in levels of production across ecological conditions.

There is thus, a need for evolving policies that promotes and supports pastoralism and pastoralists who contribute significantly to the State and national economies, to the rich cultural heritage, the social fabric and the preservation of biodiversity and local ecosystems.

5. OUTLINE FOR EVOLVING POLICY ON PASTORALISM

Over the last decade or so few legislations and policies have been framed (both nationally and internationally) that appreciate the knowledge and contributions made by pastoralists particularly in relation to breeds and breeding, recognize their rights to resources, and realize the need to secure, protect and improve the lives, livelihoods and rights of pastoralists. These include the Biological Diversity Act, 2002, the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, the National Policy for Farmers (2007) at the national level, and the Convention on Biological Diversity, the Rio Declaration, the Interlaken Declaration on Animal Genetic Resources, the Global Plan of Action for Animal Genetic Resources. Taking leads from these initiatives we have made an attempt to define the Policy objectives and outline the specific propositions for achieving the objectives.

The broader objectives of Policy on Pastoralism could be defined as:

- 5.1 Strengthening and augmenting the contribution of pastoralism to the State and national GDP and food security.
- 5.2 Securing and protecting the lives, livelihoods and rights of pastoralists and designing specific programmes aimed at promoting the welfare of these groups.
- 5.3 Strengthening the legal rights established under national and international conventions and/or laws to secure access to forests, land and water resources.
- 5.4 Recognizing and promoting the role of pastoralists in conservation and management of the State's biodiversity and natural resources.
- 5.5 Developing systems in collaboration between pastoralists and government departments to periodically enumerate nomadic herding population, measure their economic contribution, facilitate inter-district / State coordination for their safe movement, and access to welfare rights across borders.

Proposition 1: Building an enabling environment, infrastructure and market systems to appreciate contribution of nomadic herding to the State Gross Domestic Product (GDP) and food security and promote it as a lucrative livelihood option

Recognizing that the economic, environment and climate friendly contribution of this way of production estimated to be of the order of more than 190 billion thousand USD per year for the State of Rajasthan alone, it is desirable that the State encourages the highlighting of its continuance through appreciation and

recognition while at the same time restricting competing policies from other Sectors that directly and/or indirectly adversely affects its growth and continuance. Specifically, the State could focus on the following:

1.1 Recognition, appreciation and awareness of the economic, cultural and ecological contribution of pastoralism and way of production

- Support in undertaking studies, periodic surveys and establish systems to capture the economic contributions of this production system.
- Support in undertaking media awareness programmes to highlight the culture, lifestyle and indigenous knowledge of the pastoralist groups such that the rich heritage being carried by these groups is acknowledged and valued even in the fast changing world.
- Highlight the value of pastoralism for sustainability of crop production systems and building Green Economy.
- Develop mechanisms through which farmers promoting penning can access organic certification schemes.
- Explore possibilities of visionary or innovative programmes like acknowledgement and payment for ecosystem services, plant and animal biodiversity conservation.

1.2 Improving economic opportunities, infrastructure, information systems and services to promote pastoralism

- Provide incentives to programmes and schemes that include herders in producing, branding and marketing 'Free Range Protein', through selected outlets and over the Internet, so that livestock product consumers can substantially support continuance of the lifestyle of these groups.
- Support and facilitate the designing and operation of special programmes and events wherein, tourists can travel with the *dera* members to experience the pastoralist way of life.
- Facilitate designing of appropriate insurance cover that are tailored to serve the pastoralists and provide them special support in times of serious illness, high mortality of animals due to adverse climatic conditions, or illness that is contagious, or during thefts, accidents and predations.
- Strengthen the medical veterinary institutions and disease monitoring and surveillance mechanisms along the monitoring routes to support nomadic herders and their livestock.
- Establish livestock markets (including e-markets) to help nomadic herders / producers get fair price and certification.
- Enhance skills of nomadic herders around processing, value addition, accessing information technology, health care, rearing and access to legal services.

Proposition 2: Securing and protecting the lives and livelihoods of pastoralists and ensure their rights to dignified and honorable living

As highlighted in the Report of the National Commission for Denotified, Nomadic and Semi-Nomadic Tribes (2008), pastoralists are amongst the most disadvantaged and vulnerable groups and ‘with the passage of time, they are in distress, and are finding it difficult to continue their traditional occupation’. Recognizing pastoralists as vulnerable groups and the need to ensure their rights to dignified and honorable living, the right to pursue a livelihood option of their choice, the right to education and health, and the right to protection from violence, it is desirable that the State takes effective steps to:

- Support in organizing programmes for pastoralists and for all those who are likely to come in contact with them, to improve awareness of the legal rights of these groups, of the institutions established to access their rights and of the processes for securing these rights.
- Support in developing an interface between the pastoralists and State and develop mechanisms to improve participation and representation of pastoralist men and women in the governance and decision making processes.
- Ensure their enrolment in all national and state welfare entitlement programmes especially the Public Distribution System, various insurance especially for the girl child and pension schemes, mobile dispensaries for veterinary care, credit and banking services.
- Establish a mobile communication network with leaders of pastoralist groups that can help in conveying various welfare, development, market, and weather related information and messages, including and especially on the holding of facilitation camps.
- Support NGOs and other agencies to launch ‘Teach in Tents’ programmes to enhance skills of promising youths from every *dera* in functional literacy, preventive health, maternal and child care etc.
- In tune with a recommendation in the Report of the National Commission for Denotified Tribes, Nomadic, and Semi-Nomadic Tribes (2008) run residential schools for children of pastoral communities in areas that are located on the migratory routes of these communities and provide access to existing schools.

Proposition 3: Securing the rights of pastoralists on forests, land and water resources

The pastoralists have traditionally grazed their herds in the forests, and in the *gauchar*, *oran* and ‘wastelands’. Exclusion of pastoralists and diversion of these lands for private or non-communitarian uses threatens the very existence of these communities and the co-evolved ecological systems of these biodiversity rich areas that have been developed through generations of complex interplay between livestock, livestock keepers and the local ecosystem. It is desirable that the State strengthens the legal

rights established under national and international conventions and/or laws to secure access to forests, land and water resources and allow them the space to grow, continue and survive with their movement based productive lifestyle. Specifically, it could focus on the following:

3.1 Recognize the legal rights of pastoralists to forests, common lands and water bodies they have traditionally accessed and used

- The State should ensure effective implementation of the provisions pertaining to the rights and duties in the Forest Rights Act (2006), the National Policy for Farmers (2007), and Biological Diversity Act (2002).
- Restore the traditional grazing rights and camping rights of pastoralists in respect of forest areas and in those areas earmarked for grazing purposes in village common lands.
- Formalize entitlements (including issue of permanent grazing cards) for traditional pastoralists / herders to enable free access to notified or demarcated grazing sites and migration routes.
- Concurrently, encourage that the rights settled under the aforesaid Acts are followed up through programmes that would restore the habitat quality and improve availability local grass, biomass and water.
- Encourage community based documentation of indigenous livestock breeds and preparation of Biocultural Protocols which will help to protect the intellectual property rights of the local communities conserving these livestock breeds.

3.2 Conservation of common lands accessed by pastoralists and prevent them from diversion

- Take strong measures to protect and conserve the common lands and water bodies that have been on the migratory routes of the pastoralists, prevent these from privatization or diversion to non-communitarian uses.
 - Ensure inclusion of pastoralists in decision making processes and obtain prior informed consent before any decision is taken that affects their traditional way of life or access to resources.
- a. Recognize the role of customary institutions such as *dera* as evolved by nomadic herders in institutional functions such as that of conflict prevention and resolution, facilitation of interactions between pastoralists and other interest groups including farmers, management of land use and mobility; build on these institutions whilst also challenge them to address issues of gender balance, equity and social justice within these groups.

Proposition 4: Ensuring inclusion of nomadic herders in natural resource management programmes

Lack of appreciation of knowledge of pastoralists of the local ecosystems, breeds and breeding, and local treatment systems of livestock, have led to their exclusion from natural resource management programmes. Such an approach has not only been a loss for the pastoralists, but perhaps a greater loss for

the State. The State, as stated in the Interlaken Declaration and the Global Plan of Action for Animal Genetic Resources, recognizes pastoralists as ‘guardians of biodiversity’ and as ‘creators of breeds and stewards of domestic animal diversity’. Recognizing the need to involve pastoralists in all local natural resource management programs, including village forest committees and joint forest management, watershed development programmes and Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), it is desirable that the State focuses on:

4.1 Co-management of forests, common lands and water bodies by the government departments and pastoralists

- Support pastoralists in becoming travelling ambassadors of selective social and area development programmes, especially on animal welfare, open space development, plantation, afforestation, watch and ward.
- Promote co-management of *gauchar*, *oran* and ‘wastelands’ traditionally accessed by pastoralists through controlled, grazing i.e. zoning, timing, planting of fodder trees and grasses, natural manuring; creating water harvesting structures under wasteland and watershed development programmes; establishing wayside fodder banks on pay and carry basis, and other innovative measures etc.
- Jointly nurture and manage the open forests through measures like the spread of plants that need softening through the animal gut before germination, spread of seeds prior to and during early monsoon through sacks with small holes tied to the neck of animals or, by feeding seeds that need to be propagated the night before to animals before allowing these to graze in forest areas, using animals to consolidate soil, nurturing the growth of grass, controlling excessive growth of grasses that spread fires; stopping advance of invasive, thorny species into forests, etc.

4.2 Prior consent benefit sharing of pastoralists

- Coordinate with the National / State Biodiversity Authority to launch a special programme for supporting pastoralists in preparing Bio-cultural Protocols and in setting up Biodiversity Management Committees under the local bodies.
- Ensure ‘prior informed consent (according to customary law) before any decision is taken that affect their breed diversity and associated traditional knowledge for research or for commercial purposes, and further ensure that they receive a fair and equitable share of the benefits arising from the utilization of their breeds and traditional knowledge according to mutually agreed terms’, as highlighted in the Raika Biocultural Protocol and Convention on Biological Diversity.

Proposition 5: Developing collaborative systems for periodic enumeration of pastoralist populations, measuring their economic contributions and supporting mobility

One of the biggest gaps that presently exist is lack of data and evidence of the estimates on the population of pastoralists or the contributions made by pastoralists to the State GDPs. It is desirable that the State adopts a participatory approach to develop systems for periodic enumeration of pastoralist populations and measuring their economic contributions. Further, it could facilitate inter-district / State coordination for their safe movement, and access to welfare rights across borders. Specifically, the State could:

- Support in undertaking periodic surveys for estimating the population of pastoralists.
- Support studies and research in Universities and Research Institutions to study the practice of transhumance and find out its contribution to the State GDPs and relevance to the maintenance of sustainable ecosystems, livelihoods, valuation.
- Set up Grievance Redressing Structures along the migratory routes in every district they pass through within the State to timely address the grievances of the herders. Mechanisms to link up with adjoining States would also be established to find solutions to problems that herders may be repeatedly facing in their jurisdiction.
- Develop a cadre of para-legal workers in areas along the migratory routes that can help the pastoralists in getting required legal support.
- Strengthen systems and skills at Gram Panchayat for disease monitoring and surveillance to improve delivery of veterinary health services and reduce economic loss due to morbidity and mortality.
- Develop mechanisms to ensure their access to welfare rights across borders.

6. CONCLUSION

There is an immense knowledge gap that one needs to bridge to comprehend and appreciate the unique relationships that pastoralists share with their animals and with the lands or of the value of pastoralism as a production system and as a way of life. This knowledge gap has resulted in mindsets that disregard and lack understanding of – (a) mobility as a specialized adaptation strategy, (b) the indigenous knowledge nurtured by pastoralists from generation to generation, (c) the pastoral governance systems and, (d) the contributions of pastoralism to food and nutritional security, management of plant and animal genetic resources, conservation of natural resources, to the rich cultural heritage, and to the State and national economies. In the absence of policy focus, pastoralists constitute one of the most politically marginalized, disadvantaged and vulnerable groups very often deprived of even the most fundamental rights. This paper is an attempt to bring in focus the need for creating an enabling policy environment and provides a framework and policy options that could help in promoting and supporting pastoralism and pastoralists.

References

- Davies, H. a. (2006). *Global Review of the Economics of Pastoralism*. Nairobi: IUCN.
- Gadikar. (2015, January 19). Vultures find new home at Gandhisagar Sanctuary in MP. (B. K. Jha, Interviewer)
- Hatfield, & Davies. (2006). *Global Review of the Economics of Pastoralism*. Nairobi: IUCN.
- Kavoori. (1999). *Pastoralism in Expansion: The Transhuming Herders of Western Rajasthan*. OUP India.
- Kavoori, P. (2005). Pastoral Underdevelopment and the Developmental State: Or why the Government Has Given Up on the Pastoralists of Rajasthan? *Geography Research Forum* , 28-42.
- Mukherji. (2016). *Fading Lifestyle, Shrinking Commons*. FES.
- National Commission for Denotified Nomadic and Semi-Nomadic Tribes, M. o. (2008). New Delhi: Ministry of Social Justice & Empowerment, Government of India.
- Sharma, Kohler-Rollefson, & Morton. (2003). *Pastoralism in India: A Scoping Study*. Retrieved from <http://r4d.dfid.gov.uk/pdf/outputs/zc0181b.pdf>
- The Biological Diversity Act, 2002
- The Biological Diversity Rules, 2004
- National Policy for Farmers, 2007
- The Raika Bio-cultural Protocol, 2009
- The Interlaken Declaration on Animal Genetic Resource
- The Global Plan of Action for Animal Genetic Resources
- Convention on Biological Diversity
- The Rio Declaration



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