Journal of Arid Environments xxx (2017) 1–10

Contents lists available at ScienceDirect

Journal of Arid Environments

journal homepage: www.elsevier.com/locate/jaridenv

Purdah, purse and patriarchy: The position of women in the Raika shepherd community in Rajasthan (India)

Ilse Köhler-Rollefson

League for Pastoral Peoples and Endogenous Livestock Development, Germany

ARTICLE INFO

Article history:
Received 4 June 2016
Received in revised form
7 August 2017
Accepted 13 September 2017
Available online xxx

Keywords:
Sheep
Pastoralism
Nomadism
Purdah
Ecofeminism
Rabari/Rebari

ABSTRACT

Pastoralist women are perceived as doubly disadvantaged, due to gender inequality and their low status as pastoralists. Thus, development organizations are adopting gender-specific approaches to improve the specific position of female pastoralists. This paper examines this issue with respect to the Raika (Rabari), the largest nomadic pastoral community of Western India, using an ecofeminist theoretical framework.

Because Raika women observe purdah, there is an outward impression that men play the dominant role in sheep production, but in reality nomadic shepherding is a family operation and dependent in equal parts on the contribution of women and men. A series of interviews and group discussions revealed that women often prefer being on migration to staying in the villages because of lower workloads, nevertheless, they are concerned about security issues and the dangers of nomadism.

Raika women increasingly express their resistance to traditional customs by refusing to consummate marriages with husbands to whom they have been betrothed in childhood. Very often the reason for the refusal is that they do not want a husband following the traditional pastoralist livelihood, preferring an urban way of life. The gradual decline of Rajasthan's sheep population over the last fifteen years may be due in part to women's refusal to engage in shepherding. It is suggested that this issue needs to be addressed by instating pro-pastoralist policies that benefit pastoralist families at large rather than gender-specific measures.

1. Introduction

Pastoralist women are often described as being “doubly marginalized” or in a “double bind”, due to gender inequality and because they are pastoralists (e.g. Eneyew and Mengistu, 2013; Kipuri and Ridgewell, 2008). They are frequently depicted as especially vulnerable and as victims of male decisions. In addition, current climate change has imposed additional burdens upon them, forcing them to walk longer distances to obtain water and to spend more hours collecting firewood (Mushi, 2013; UNCCD, 2007). In order to address these issues, development interventions in the livestock sector often seek to adopt an explicit gender focus and promote approaches such as, “securing women's access to livestock assets”, “increasing access to livestock technologies and services”, “integrating gender and poverty indicators in monitoring, evaluation and impact assessment” (e.g. Gurung, 2010; ILRI n.d.; Rota and Sperandini, 2010a,b; Rota et al., 2010). However, are these approaches really what pastoralist women want and need? Will they be able to improve and make a difference to the economic lot and social status of pastoralist women?

The purpose of this paper is to analyze the assumptions that underlie project interventions of the major development organizations by looking at a particular pastoralist community in India, the Raika (also known as Rebari) shepherds of Rajasthan. It examines gender relations in the community, describes the gender allocation of tasks in both sedentary and nomadic sheep production, looks into the attitude of women towards continuing a pastoralist way of life, and finally analyzes the results from an ecofeminist perspective.

2. Ecofeminism as a theoretical framework

The term “ecofeminism” was first used by Francoise D'Eaubonne in 1974 and grew out of the environmental movement in the 1970s in which women played an important role. Ecofeminism posits a connection between patriarchy, science and the subjugation of nature and women. The concept was elaborated by Maria Mies and Vandana Shiva in their classic, recently republished work “Ecofeminism” (Mies and Shiva, 2014). Their key postulate is that

E-mail address: ilse@pastoralpeoples.org.

https://doi.org/10.1016/j.jaridenv.2017.09.010
0140-1963/

the liberation of women and the preservation of life on the planet cannot be separated nor achieved independently. Ecofeminism sees the global development paradigm as destroying diversity, both cultural and biological, and women as the main victims of this process by severing their bond with the land and destroying their subsistence economy. They are especially critical of conventional male research which they describe as reductionist, leading to the commodification of seeds, land and water and the dominance of corporates over people. One of the examples for reductionist science is the agricultural research that led to the Green Revolution resulting in high yields of grain, at the expense of erosion, water depletion, and poisoning of the soil. Instead the ecofeminists advocate a subsistence perspective which is based on the necessities of life, and seek to situate production and consumption within the context of regeneration. They promote rebuilding ecological cycles instead of applying technological fixes and believe that women are the ones that can, and should, nurture the planet back to health.

Mies and Shiva (2014) reject the cultural relativism of postmodernism as it implies that violence and patriarchal institutions, such as the dowry and the caste system, are acceptable because they are cultural expressions. Mies (1983) is a strong proponent of a feminist research paradigm, rejecting the concept of value free research and replacing it with "conscious partiality" which is achieved through partial identification with the research objects. She also calls for replacing 'the view from above' with 'a view from below' and to replace 'spectator knowledge' with active participation in actions, movements and struggles.

Ecofeminism has been much criticized for being ahistorical, ignoring hierarchies among women and for seeing the end of patriarchy and of ecological destruction as inseparable. Nevertheless, "ecofeminism" has been chosen as a theoretical framework for analyzing the situation of Raika women shepherds because the theoretical concepts were shaped to a significant extent by the peoples' movements in India and though often applied to the Green Revolution have never been applied to its equivalent in the livestock sector, the "Livestock Revolution". In Asia, the latter model promotes high yielding breeds requiring equally high inputs in terms of concentrated feed, controlled environments and veterinary care with the goal of producing affordable animal protein for the rapidly increasing demand by the growing middle class in Asia. This is the paradigm that both central and state governments have adopted and the economic and political context in which Raika women are operating.

3. Existing literature on the role of women in animal husbandry

In pastoralist societies, livestock production has traditionally been a family operation, with labour allocated according to gender (Flintan, 2008; Horowitz et al., 1992; Joekes and Pointing, 1991; Jowkar et al., 1991). Women's control and ownership of livestock and their products vary between and within regions. In many societies, women are responsible for small stock such as goats, sheep and poultry, as well as for young and sick animals kept at the homestead. They are rarely in charge of managing large stock, although there are exceptions; for instance in transhumant systems in the Andes of Latin America women take care of camelids. Women are frequently involved in milk production, although not all women control the sale of milk and its products (Bravo-Baumann, 2000).

Many observations indicate that abandonment of the nomadic way of life and sedentarization impact women negatively due to loss of livestock or increased control of men over products such as milk and the income generated. Women then may have a reduced workload but lose influence and control over family resources. For instance, among the Maasai in Tanzania, the commercialization of livestock production and extension activities involved only men, leading to new power constellations that increased male control over livestock and contributed to the subordination of women (Hodgson, 1999). Among the Galole Orma in Kenya, the transition from a subsistence dairy economy to an emphasis on commercial beef production also undermined the economic position of women (Ensminger, 1984). In other cases, when men leave the pastoral way of life to seek employment in the cities, women continue to herd livestock taking care of all the chores themselves (Azhar-Hewitt, 1999). This trend is referred to as "feminization of agriculture" (FAO, 2012), implying bigger workloads for women.

Specifically, with respect to India, various studies about the role of smallholder and tribal women in livestock production conclude that women are in charge of taking care of young and newborn animals and mainly handle the feeding of animals while chores such as watering, milking and treating sick animals are taken care of by women and men on an equal basis (Ghotge and Ramdas, 2002; Rangnekar, 1994, 1998). For India's pastoralist societies no such studies are available, with the exception of some very general observations of pastoral communities in Northern Gujarat. In these cases, livestock management is shared more evenly between men and women than among adivasi (members of the aboriginal tribal peoples) and farming communities (Rangnekar, 1994). Neither are there any specific studies of gender relations among the various pastoralist groups in India. We know that in some communities, such as the Gaddi sheep nomads of Himachal Pradesh (Wagner, 2013) and the Rajput shepherds of Rajasthan, women do not participate in migration but stay behind in the villages (Kavoori, 1999). In contrast, among the Van Gujjar buffalo nomads of Uttranchal, the entire family joins in the seasonal migration to the alpine pastures (Benanav, 2015). The same applies to the pig nomads of Odisha (Sahu, 2012).

This study aims at enhancing our understanding of the specific role of women in a major nomadic shepherding group, by providing details about their workloads, attitudes and significance in upholding this economically important livestock production system.

4. Context

4.1. Geographical

Rajasthan, situated in the west of the country, is India's second largest state, extending over 342,000 square kilometers. The state is divided into three distinct geographical zones. In the west is the Thar Desert that extends along the border with Pakistan, in the east there is a more humid plain that merges with the Deccan Plateau. These two discrete regions are separated by the Aravalli hill range that dissects the state from northeast to southwest. Average annual rainfall in the Thar Desert ranges from 100 mm in the far west to 450 mm at the edge of the Aravallis. Due to this low rainfall and the frequent occurrence of droughts, livestock keeping has always been the backbone of the rural economy. More than 80% of Rajasthan's rural families keep livestock in their households. The contribution of the animal husbandry sector to the GDP of the State has been estimated to be around 9.16%. Rajasthan is India's state with the largest output of livestock and livestock products, producing 10% of the milk, 35% of the wool and 10% of the meat in the country. Nationwide, it ranks first in wool production, first in sale of live meat animals (an estimated 40,000 goat, sheep & buffalo are sold each day), first in producing approximately 12% of its milk from goats and ranks second in per capita availability of milk as well as in milk production (Government of Rajasthan, n.d.). About 35% of the income of small and marginal farmers comes from dairy and animal

Please cite this article in press as: Köhler-Rollefson, I., Purdah, purse and patriarchy: The position of women in the Raika shepherd community in Rajasthan (India), Journal of Arid Environments (2017), https://doi.org/10.1016/j.jaridenv.2017.09.010

husbandry. In arid areas the contribution is as high as 50%. There are an estimated 400,000 families depending on pastoralism in Rajasthan (Köhler-Rollefson, 2016a).

The data presented in this paper are derived from the "Godwar" area which is composed of Bali and Desuri tehsils (administrative units) of Pali district, as well as parts of Sirohi and Jalore districts of Rajasthan. Godwar is located at the ecotone between the forested Aravalli Hills and the flat scrub desert. Rainfall is between 400 and 700 mm annually, falling in the three months of the rainy season (July, August, September). While the forest is managed by the Rajasthan Forest Department as Kumbhalgarh Wildlife Sanctuary, the plain area is used agriculturally for the cultivation of non-irrigated and irrigated crops including *bajra* (pearl millet), *jowar* (millet), mustard, wheat, cotton, maize, sesame, chick pea, *guar*, groundnut and various pulses. Irrigation by means of tube-wells increased in the 1990s, but has receded due to falling groundwater levels.

4.2. Sociocultural: The Raika/Rebari

The Raika represent the largest pastoral caste in western India (Agrawal, 1993) and are distributed predominantly in the states of Rajasthan and Gujarat. They have been the subject of in-depth research from various angles, including religious (Srivastava, 1997), decision making institutions (Agrawal, 1999), the camel pastoral system and economy (Köhler-Rollefson, 1992, 1995, 1996), ecology (Flöter, 2002), sheep husbandry and ethnoveterinary medicine (Geerlings, 2001, 2004), indigenous knowledge (Köhler-Rollefson, 1997; Köhler-Rollefson et al., 1999; Köhler-Rollefson and Rathore, 2004), political ecology (Robbins, 2004), sheep migration (Prevot, 2010), camel milk production (Albrecht, 2004), the role of networks in the transmission of Traditional Ecological Knowledge (Salpeteur et al., 2016) and overviews of their general situation (Merelli, 2009-2010; Sbriccoli, 2004-2005; Sharma, 2005).

The Raika are Hindus and one of 36 distinct endogamous caste communities in the study area. Although assumed to represent the largest pastoral group of Western India, there are no accurate population estimates. According to statements by community leaders there were around 200,000 Raika families in 1991. Taking into account population growth and number of children per family, we can assume that there are presently well over one million Raika in Rajasthan. The Raika of Rajasthan are divided into two endogamous groups, the Maru Raika and the Godwar Raika. These differ in their dress, jewelry and in some of their social practices as well as marriage and death rituals. The Maru Raika traditionally had an identity as expert camel breeders, while the Godwar Raika were associated with sheep breeding. These attributes however do not, or no longer, hold up to scrutiny. The majority of Maru Raika now keep sheep, while some of the Godwar Raika raise camels (Srivastava, 1997).

The Raika of Godwar are largely landless. Only 45% of them own small pieces of agricultural land, mostly used for the cultivation of wheat or maize (Geerlings, 2001). They depend entirely on various forms of common property resources to fulfill the nutritional requirements of their herds. These include village grazing grounds (*gochar*), land protected by temples (*oran*), fallow land, and forest. Since sheep pastoralism is integrated with crop cultivation, these different resources are used at different times of the year in a seasonal cycle.

This community, which is regarded as extremely conservative, was long known for its low literacy levels, with hardly any girls attending schools, but this situation is changing. In a survey conducted in 2008, 64% of boys and 31% of girls attended school (Rollefson, 2009). The attitude of the Raika towards education is very ambiguous. Literacy is now regarded as essential, but even a limited amount of schooling alienates young Raika from the herding profession. On the other hand, income from herding is much better than from most employment. The reason why young people seek non-traditional employment is not in the hope of having a higher income, but rather to avoid the stigma of backwardness as well as the problems and dangers that are associated with going on migration and finding grazing for livestock. Currently, an estimated 80% of Raika have abandoned livestock keeping altogether, due to its reputation as being backward, the decreasing availability of grazing and the continuous conflicts with accessing pastures. They are pursuing urban livelihoods, usually as menial labourers. Only a tiny minority is in professional positions while the vast majority works in restaurants, tea-stalls, sweet-shops and other types of shops in big cities. There they work 16 h work days, have no place to sleep, and live under horrendous hygienic conditions that often lead to serious illnesses. However, when the young men come home for brief visits, they usually do not complain, but project a rosy picture of life in the city perpetuating the myth that life is better there (Rollefson, 2009).

In the past, the relationship with their animals diffused every aspect of the lives of the Raika and was the foundation of their culture, which put a prime on ensuring the welfare of animals and the long-term sustainability of their system. Regarded as communal heritage, female animals – sheep and camels – were never sold to anybody outside the community, they were only passed on from one generation to the next, being divided equally between sons and a few gifted to daughters at the time of marriage. Milk was not sold, but given away for free. There was a societal rule against the construction of permanent houses as mobility was regarded essential for the health of the herds as well as the environment. The Raika had extensive ethnoveterinary knowledge, distinguishing between a large number of diseases and resorting to a wide range of plant based remedies and even surgical interventions to treat them (Geerlings, 2001; Köhler-Rollefson, 1997; Köhler-Rollefson et al., 1999). Their knowledge about animal breeding was equally impressive. They selected male breeding rams according to nine criteria and kept mental records of their animals' pedigrees. In addition to sheep, the community also bred other types of animals and is credited with creating several distinct livestock breeds, including Marwari and Boti sheep, Sirohi goat, Nari cattle and several camel breeds (Köhler-Rollefson and Rathore, 2004). They knew about the nutritional value of the "36" forage plants that their animals ate, and were able to tell from the taste of camel milk on which plants the animal had browsed. Their ability to track camels was legendary and they could identify individual camels on the basis of their foot prints.

Traditionally, the Raika occupied a respectable position in the middle or upper middle stratum of the complex caste system and were highly respected by the Rajput rulers as reliable messengers or chaperones for their daughters (Srivastava, 1997). There was enough grazing land for them to never have to worry where to take their animals, but this situation has changed entirely. Today, making a living as a pastoralist has become a very complex proposition; not only is it difficult to access grazing areas, but livestock keeping has come to be regarded as a backward activity. Government officials and scientists have a deeply ingrained negative view of the traditional way or culture of livestock keeping, as its opportunistic approach of making use of variable vegetation does not correspond to the scientific notions of livestock production with fixed rations and in sedentary systems that culminate in the "Livestock Revolution". Government activities in the livestock sector focus on promoting exotic breeds or cross-breeds by means of artificial insemination (Köhler-Rollefson and Rathore, 2004).

In an effort to counter these negative perceptions and to provide

Please cite this article in press as: Köhler-Rollefson, I., Purdah, purse and patriarchy: The position of women in the Raika shepherd community in Rajasthan (India), Journal of Arid Environments (2017), https://doi.org/10.1016/j.jaridenv.2017.09.010

evidence for their role in the conservation of biological diversity and as guardians of a number of livestock breeds, with the assistance of two NGOs, the Raika, have compiled a Community Bio-cultural Protocol. This document records these ecological services and also refers to the national and international legal frameworks, notably the United Nation Convention on Biological Diversity (CBD), that support the rights of the Raika over their (genetic) resources and their right to steward and share the benefits from them (Köhler-Rollefson et al., 2012).

4.3. Macro-economic context

According to the last government livestock census which is conducted every five years, there were about 9 million sheep in Rajasthan in 2012, down from around 11 million in 2007 and more than 14 million in 1997. Thus, there is a clear decrease of the state's sheep population and this is likely due to traditional shepherding communities, including the Raika, giving up the profession as a result of the struggle for grazing resources. The majority of sheep in Rajasthan (estimated 80%) are still managed in long distance migratory systems in which groups of shepherd families collectively migrate for eight to nine months of the year to adjoining states, including Punjab, Haryana, Madhya Pradesh and Gujarat (Kavoori, 1999). When the rains begin, they return to their home villages in Rajasthan for three or four months.

Historically, sheep pastoralism was mainly oriented at wool production, with some of the local sheep breeds producing high quality carpet wool. But due to a burgeoning demand for mutton and a declining world market for wool, the Raika and other Indian pastoralists have adapted to this new context and their production system is now geared towards supplying meat. About 20 years ago, at the beginning of this research, meat production was still a contentious issue that caused embarrassment to the community because it went against their traditions and beliefs, and was not willingly admitted. However, attitudes have changed. As Hindus, the Raika themselves are basically vegetarian and eat meat only on the rare occasion of sacrificial killings. They process sheep milk into ghee (clarified butter), but the yields are generally negligible. Dung is usually traded for grain with sedentary farmers. Besides being an enormously productive means of producing meat, sheep provide other important agro-ecological services by generating organic manure and depositing this directly on the fields. This saves the country huge amounts of foreign currency and mitigates greenhouse gas emissions. Unfortunately this role of nomadic sheep husbandry, and of Indian pastoralism in general, has been practically ignored by scientists.

For the Raika many aspects of sheep husbandry are influenced by religious beliefs; for instance shearing is a sacred communal function and animals born on certain days in the moon cycle are devoted to God, and neither they nor their offspring can ever be sold.

4.4. Livestock policy

In India, pastoralism is generally overlooked by policy makers and there are no pastoralist specific policies in place. The National Livestock Policy (GoI, 2013) refers only to farmers and does not include the word pastoralism. There are no official statistics about the number of pastoralists, as they do not fit into the official concept of livestock production which is along the lines of the "Livestock Revolution". Recently, a pan-Indian group of field researchers produced an estimate that more than 70% of India's meat and more than 50% of its milk are produced in extensive grazing systems (Köhler-Rollefson, 2016b). Furthermore, there is the colonial legacy of looking at nomads as criminal tribes or, at the very best, as practicing an outdated and unproductive way of livestock keeping. For this reason there is a total absence of administrative recognition and support, and the situation of most pastoralists is becoming increasingly precarious, despite their continuing major importance as providers of meat, milk, manure and draught power.

5. Methodology

The data presented here were collected over a period of 25 years, starting in 1991 with a fellowship to study the socioeconomics of camel husbandry. In an act of "conscious partiality", this eventually led to the setting up of the NGO Lokhit Pashu-PalakSansthan (LPPS) which seeks to support the Raika and other pastoralists in their struggle. A series of action research projects conducted by this NGO provided the opportunity to witness actions and behaviour of women during development projects that were supposed to empower them. In the course of time, close friendships with around 10 Raika families developed and much information was casually gained, without particular research intent. In addition, about a dozen foreign students were guided in conducting semi-structured interviews about ethnoveterinary medicine, sheep breeding and the perspective of young people among sedentary Raika (e.g. Geerlings, 2001; Rollefson, 2009). Over the 25 years of casual research, major changes were observed in the educational status of women. In the early 1990s, literacy among women was virtually zero and only in exceptional cases did Raika girls go to school. Presently, more than 50% of girls attend school, at least for a few years. However, as soon, as they reach their mid-teens, they usually leave school and engage in local daily wage-labour. Women who are allowed by their families to take up regular employment are exceedingly rare (less than 1%), because it is not considered proper.

A further source of information derives from a number of group discussions that were held in the second half of 2014 with migratory Raika, both while they were on migration, as well as during their stay in the villages. The aim was to understand the economic output of sheep nomadism and to collect quotes from practicing pastoralists for a three-country research project on drylands, supported by the International Institute of Environment and Development (Krätli, 2015).

6. Raika women: no choice in marriage but power behind the scenes

Because Raika women observe purdah, there is an outward impression that men play the dominant role in the society. This is true with respect to the outward representation of the community as well as in the internal judicial system. But with regards to the economic base of the community women have an equal role, as nomadic shepherding is a family operation and is dependent on the contribution of both women and men, with women handling family finances.

6.1. Purdah, but control of the purse

The position of women in Raika society must be understood against the backdrop and within the context of the *purdah* system that prevails in Hindu society in general, and is especially deeply ingrained in Rajasthan. In the *purdah* system, women and men operate in entirely separate realms. Women are either not to be seen in public or, if they are, wear a veil that covers their face (*gungat*). They do not speak, nor sit on chairs in the presence of their men as this is considered disrespectful. This behaviour changes when they are visiting their native family and village (*pir*), or move outside the orbit of their in-laws: in such contexts they

Please cite this article in press as: Köhler-Rollefson, I., Purdah, purse and patriarchy: The position of women in the Raika shepherd community in Rajasthan (India), Journal of Arid Environments (2017), https://doi.org/10.1016/j.jaridenv.2017.09.010

pull up their veils and speak freely.

Rigid following of the *purdah* system is a mark of high status in Rajasthan, thus high caste Rajput women traditionally never ventured into public and were confined to a life indoors, in women quarters.[1] In the presence of their husbands or in-laws, Raika women keep their faces veiled and do not speak or join any conversation with outsiders while their husbands or in-laws are present. They are not allowed to sit on the floor mat that is spread out during meetings or whenever several men get together. At the most, when their husband is of a quiet nature and not able to communicate his family's issues or problems well, women are allowed to speak to other Raika men from a distance, and in a low voice, with their face covered.

Raika women are quite visible in the rural landscape as well as in market towns such as Sadri. Nevertheless, they can never be seen on their own, always moving around in small groups. Only in urgent situations, such as a visit to the doctor, can they be seen in the company of a man, usually their brother or son, rarely their husband. Married Raika women can easily be identified among Rajasthan's rural caste mosaic by their distinctive attire and jewelry. They wear wide swinging skirts, plastic bangles that cover both lower and upper arms, a red veil and adorn themselves with heavy silver jewelry around their ankles.

The position of a Raika woman changes throughout her lifetime. As a young girl she is expected to work hard, performing household chores, such as sweeping, taking care of younger siblings and of animals, making tea, collecting firewood, cleaning the pens, and work in wage labour. After the start of her married life, she gradually spends greater amounts of time at her in-laws' house. Here too she is expected to work hard and to serve and cater to all of her husband's relatives. She is not supposed to talk to anybody who is her elder and has to follow the orders of her mother-in-law. She cannot even talk to her husband or sit next to him, in the presence of elders. She eats after everybody else has eaten. With the birth of her first child her status improves; at this time she goes back to her parental house. Her position reaches its peak after her first son is married as now she can give orders to both her son and her daughter-in-law. Once she is widowed, the situation changes again and she now becomes dependent on her sons and daughters-in-law. Still today, this situation remains unchanged.

Since Raika women do not speak in the presence of their men, and are therefore difficult to engage with by an outsider, there is the outward impression that they are powerless and suppressed. However, the demure and silent behaviour in the presence of their husbands is deceiving. Raika women are generally acknowledged as the power behind the scenes. This is reflected in the proverb "Raika men are as straight as a cow, but Raika women are as cunning as a fox". Whereas Raika men often cannot distinguish between different bills or add up amounts, women are often described as the "family finance ministers", as they are the ones who manage and understand money. Raika women purchase all goods, including the clothes of their husbands and are acknowledged as good bargainers. Since the men are usually grazing the herds during the day, it is often the women who interact with the traders and middlemen who come to purchase animals. Another traditional woman's chore is to manage and sell manure to the farming communities.

A Rajasthan based NGO working specifically with the Raika community spent many years trying to implement a gender-balanced approach, involving women in meetings, training programmes and exposure tours. After some time it was possible to talk to women extensively while their husbands were absent and busy with herding animals. However, it proved impossible to get women to attend meetings, even if exclusively for them. For one, most men did not allow them to attend, in addition there was also an attitude among women that "herding is a family business, it's enough if one of us – husband – goes and attends the meeting." [2] Notably, (sedentary) Raika women also had no interest in joining self-help saving groups which are extremely popular with women of other castes, as such groups rid them of the need to take loans from money-lenders. This is possibly because Raika women have cash in their hands or can easily raise cash by selling some of their animals.

6.2. Marriage: no option for choice in a patriarchal system

Although seemingly equal partners as relates to "professional" economic tasks, social repression of Raika women is clearly evident with regard to marriage customs. As is the case throughout traditional Hindu society all marriages in Raika society are arranged by parents and/or close relatives. Usually at a very young age. The ceremony that confirms the agreement between the families is called *viva*. There is a tradition of "mass-marriages" in which all unmarried girls of a village are betrothed at the same time, with girls ranging in age from a few months to eighteen years or so. However, the marriage is not consummated at that time and before the couple starts living together, there is another ceremony called *ana* or *muklava*. This takes place when the girl is around twenty years old.

Contrary to the situation in higher castes, among the Raika it is the family of the bridegroom that is burdened with high expenditure and has to pay a brideprice. Alternatively, the groom has to work in the family of his wife for seven years without pay, an arrangement called *ghar-jamai*. In order to avoid such situations, it is common practice that families arrange to exchange daughters between them. This practice is called *atta-satta*. It puts families that have more sons than daughters at a disadvantage, since it means they have to often pay substantial amounts of money – in the range of 100,000 to 150,000 Indian Rupees. When families cannot afford this, it is difficult for them to marry off their sons. Inter-caste marriages are strictly prohibited and always result in out-casting of the entire family such that they are rare.

The on-going patriarchal practice of child marriage causes a great degree of turbulence in the society, as there are frequent cases of girls who resist moving into their in-laws house and starting married life. This often happens especially if the husband is following the traditional shepherding occupation, rather than working in the town. In such cases, it is the duty of the girl's parents to coerce her to move in with her in-laws. If that does not happen,

[1] For the lower castes, the rules are not as strict as women cannot afford to stay at home but have to contribute to livelihoods (Patel, 1994; Sharma, 2005).

[2] One exception is a woman who is known for her skills as a traditional animal healer and as a midwife. Because of her outgoing nature and ability to articulate problems, she was asked to join the board of the NGO. The position provided her with the opportunity to travel to several places in Rajasthan and even to Delhi. During a meeting with a Minister of State who headed the Prime Minister's Office, she cast off her traditional female role of keeping quiet when men speak and concisely articulated the problems of her community in accessing grazing land. As a consequence she was selected by the NGO to represent her community during a UN level conference in Switzerland. This was possible because her husband had no objections and because a close male relative agreed to come as chaperone. Her outstanding ability to communicate across language and cultural barriers and to cope with unfamiliar surroundings resulted in further invitations, again at UN level. With the author as her translator, she subsequently travelled to Kenya to share experiences with pastoralist communities there, making her a minor celebrity. However on return to Rajasthan, many Raika men were annoyed at her newly found self-confidence and rhetorical ability, telling her to shut up and sit quietly. Over the years, some of them gradually came to accept her as a community leader, especially after she made a strong speech in a public altercation with the local Forest Department about grazing rights.

Please cite this article in press as: Köhler-Rollefson, I., Purdah, purse and patriarchy: The position of women in the Raika shepherd community in Rajasthan (India), Journal of Arid Environments (2017), https://doi.org/10.1016/j.jaridenv.2017.09.010

then the caste *panchayat* (council of elders) is called in to resolve the issue.

Caste *panchayats* are basically assemblies of older men no longer active in livestock herding that uphold the social and behavioural standards within the community. They punish transgressions against the norms with substantial fines and, in extreme cases, "outcasting". When a girl does not follow through with a marriage agreed upon in her childhood, the caste *panchayat* will first impose a substantial fine on her family, and if that is not being paid, the family will be out-casted. As long as the family is outcasted, none of her siblings can get married either. Families who are outcasts are prohibited from any social interactions with the rest of the community; they cannot participate in any social events, and will not be re-admitted until they have paid a large fine and hosted a meal for the entire community.

A recent case of a marriage dispute illustrate the paternalistic attitude prevalent in Raika society. The girl had a college education, but her marriage was arranged according to the *atta-satta* principle in exchange for another girl. However when time came to consummate the marriage and move in with her husband, her in-laws refused to accept her, on the grounds of not wanting an educated (*parhi-likhi*) girl, but an illiterate one (*anparh*). The case is now being dealt with by the caste *panchayat*.

6.3. Sheep husbandry: women and men are equal partners

The roles and workloads of women are different depending on whether Raika families practice sedentary (village-based) or migratory sheep herding. In non-migratory families, girls from the age of about 12–13 have to join in daily wage labour in construction, road-building or crop harvest, in addition to their sheep husbandry related tasks.

6.3.1. Sedentary sheep husbandry: women as nurturers

Interviews were conducted with 52 Raika men and seven women in the Godwar area, concerning the gender-related distribution of tasks in sedentary Raika shepherding families (Geerlings, 2001).[3] The gender imbalance among the interviewees resulted from the refusal of women to be interviewed or from the fact that it was considered inappropriate for the woman rather than the man of the house to provide information.

The data gathered indicate that it is usually men who take the flocks on their daily grazing rounds. Women care for newborn and young animals, who are kept in pens near the house while their mothers graze. When the animals are old enough they too will go to pasture with the herd. The women also care for the animals that are ill, but do not accompany animals who are grazing. Men always have the main responsibility of herding the flocks, but in 13% of the cases women also contributed to this chore.

In 58% of all households interviewed milking was viewed as the responsibility of men. In 42% of the interviewed families, women were mainly responsible for milking, while in 18% ofthese households men and women shared the task. In 91% of the cases, women were in charge of processing the milk into ghee and buttermilk, while in 17% if these families men contributed to this task.

Geerlings (2001:77) concluded that "the sheep husbandry system of the Raikas should not be seen as a male dominated enterprise but more as a system dependent on labour inputs of all members of the family. … children often help their family in all related tasks. But because most of them also go to school (in contrast to their mothers and fathers, only 3 of the 59 respondent ever went to school) their labour input is less than that of their adult family members. However, since the majority of the respondents were adult males it might be that the labour input of children is underestimated, as was the fact with female labour in Raika women."

Looking at this information from an ecofeminist perspective, we can note that women indeed play a nurturing role by looking primarily after the new-born and young animals and by processing milk for household consumption, while men are more engaged in the primary production of sheep rearing. Both chores are equally important and cannot be performed in isolation from each other - they are components of an indigenous production system that seeks to optimally utilize biodiverse biomass for food production.

6.3.2. Nomadic sheep production: peril and pleasure

The majority of sheep in the study area are managed in nomadic systems. With this mode of production comes a large set of challenges but also big rewards.

The nomadic herds only stay in Godwar during the rainy season, from July to October. In October/November their Raika owners move southwards towards the Mewar area of Rajasthan and the Malva area of Madhya Pradesh to utilize the residues in harvested fields as well as common property resources. For security purposes and mutual support during the migration, they organise into large herding groups that are composed of 8–15 families called *dera*. A *dera* will own a total of around 3000–4000 sheep. There are an estimated 40 *deras* in the two tehsils (Bali and Desuri) that compose the study area, amounting to around 140,000 ewes (Köhler-Rollefson et al., 2014).

Each *dera* is headed by a *patel*, also called *numberdar* in other parts of Rajasthan (Agrawal, 1999). The *patel* is always a man and elected every year between migrations. His election is based on his experience, his contacts and his impartiality. He makes all the decision with respect to when to move, where to move and where to stay overnight. It is his duty to liaise with land owners or any authorities necessary. Although being *patel* is not a paid position, it brings status and prestige; the *patel's* expenditure for travelling and meeting with people is shared by the entire group. Being a *patel* carries a lot of responsibility and requires the ability to resolve conflicts within the group and between the group and outsiders. It requires contact with land owners and knowledge about the area and its grazing opportunities, with good *patels* always scouting for new grazing opportunities (Köhler-Rollefson et al., 2014).

The composition of a *dera* changes from year to year and it is not clear until just before departure which *dera* a family will join or who will be the *patel*. For the most part, a *patel* will choose his relatives to be in his *dera* before allowing anybody else to join. Before a *patel* will allow a non-relative into his *dera* he will first find out the background and reputation of the person, which *dera* they were previous with, and whether there was any trouble. Even small children, including babies in arms, are taken on migration. They enjoy the company of the animals. Elder children are useful helpers with daily chores, but in general they are sent to school in the home village where they are staying with relatives.

Migration is a challenging task, and hostile and unpleasant interactions with officials from the Forest Department, the police and farmers are part of the routine. The Raika encounter continuous problems. For example, it is quite frequent that their animals get killed in road accidents because highways have been built on their migratory routes. Often there are altercations with land owners worried about their crops, especially early on in the migration season when harvest has not been completed. In addition, theft of sheep by organized gangs that attack at night, is a regular occurrence. If such incidents occur, the Raika rarely seek, and even more rarely receive, any support from police and local administrators.

[3] The data by Geerlings for her master's thesis at the University of Wageningen were collected under the authors supervision and guidance.

Please cite this article in press as: Köhler-Rollefson, I., Purdah, purse and patriarchy: The position of women in the Raika shepherd community in Rajasthan (India), Journal of Arid Environments (2017), https://doi.org/10.1016/j.jaridenv.2017.09.010

Migration is also physically demanding. With the exception of small children who are placed onto camels' backs together with the household equipment, all members of the herding group walk the entire distance. The *dera* uses camels and/or donkeys to transport utensils, bedding, small children and newborn animals. When it moves it does so in a characteristic fashion. The camels are in front, followed by donkeys in a throng, then the individual family flocks, and finally the lambs in separate groups.

Women usually lead the camels, often carrying some of the cooking equipment on their heads. Since the Raika do not use tents or any other kind of mobile habitations, migration means not having any shelter and being exposed to sun or rain throughout the day or night. All the cooking has to be done in the open.

The members of the *dera* stay together during the eight months of the whole migratory cycle. A *dera* does everything collectively and all tasks and responsibilities are strictly assigned. It is a collective with a regular routine that is the same everywhere. The individual family units that compose the *dera* are called *dolri*. A *dolri* is signified by a *charpoy* (string bed) on which the possessions of the family are stacked (bedding, cooking utensils, supplies). Each *dolri* represents a family and is always managed by a woman who takes care of cooking food, washing clothes, carrying water, and loading and unloading the burden animals when the camp is moved. The woman is not necessarily married to the man; father-daughter teams are frequent; and sometimes a *dolri* can be composed of a man and his sister-in-law, if family circumstances demand such an arrangement. The *dolris* are set up in a wide circle and always have the same position to each other in every encampment. At night, sheep are within the circle and form a ring around the *dolris*. The women sleep inside the circle while the men stay at the periphery to guard against thieves.

Almost all families hire one or two *guals* (hired herders) who help them take care of the flock and who usually own a small number of sheep themselves. The *gual* is usually a bachelor who never brings along a family, therefore he needs to be taken care of by the woman of the *dolri* as well, who is responsible for cooking his food and washing his clothes.

The men take the flocks out for the first round of grazing before or at sunrise. During this time, the lambs are retained at the camp where they are looped together in long lines. The women do not need to get up at this stage, they can sleep in for a while, but then have to prepare breakfast. They churn sheep milk from the night before into butter and make flat breads on makeshift stoves out of metal that they set up using as a wind break their string-beds that are also used as a storage platform. While they cook, they also supervise small children and lambs.

At around 10 a.m. the men and the sheep return. Reuniting the ewes with their lambs is a process that takes much time and goes along with vocal communication between ewes and lambs as they try to identify each other. It requires the intervention of the shepherds who carry around the bleating lambs to match them with their mothers.

The men then have breakfast or rather a full meal. If the *dera* moves camp, then the women start packing up all the belongings and, with the help of the men, start loading it onto the backs of the camels and donkeys – a chore that takes about two hours. If the camp stays in place, the men go out again for the main grazing at around 1 p.m. The women clean up the dishes, bring water in clay pots from the nearest well, take baths, and lop some tree branches as feed for the lambs, but also have some leisure time, can rest, talk, and play with the children. The men return after sunset, and again the ewes have to be united with their lambs. There is dinner, then the men take turns as night watch men to prevent attempts at theft.

Many of the women and girls interviewed at different stages of this research stated that they prefer going on migration to staying in the village throughout the year because they perceive the work load as lower. For instance, Manju (14 years old) said "*I prefer to be on migration to staying behind in the village. There I have to work much harder … get up early before sunset to get water and cook food, then from 8 a.m.- 6* p.m. *I have to go for labour in house construction or fields, and afterwards work in the house again*."

In contrast, Kanya Raika, the wife of a *patel*, about 48 years old, expressed her sentiments as follows: "*I have been born on migration. There is no grazing and water in Marwar. This is the only work we know. So we have to keep wandering from one place. I have 6 sons and one daughter. My daughter has already two children. Three of my sons are working in Pune as labourers, other three are studying in school. They don't like this work. We are only two. When we are tired and fatigued then we will stop this. We are not unhappy, but there is always so much work. Getting water, loading the camels, unloading them and sometimes the camels are not good and throw off everything. In the night the thieves come by motorcycle. They take 8–10 lambs at a time*."

When asked why they don't switch to sedentary sheep raising, Dailibai (age around 55) explains: "*Our sheep do not allow us. After the rains have stopped, they urge us to move and we cannot keep them in the village any longer, we have to follow them.*" She concedes that "*it is safer to stay in the villages, but then there are also huge problems, with the forest being closed to us and wild animals, such as leopards and crocodiles, increasing and preying on our animals*."

Giving up shepherding is not considered an option. "*Our sheep are our life. Without them we will starve. We are sad without animals*". This is the unanimous opinion of Raika women over the age of around 40. A life in the city is unimaginable among this age group. "*Our sons go there, but they don't tell us how they feel. Some of them would prefer to herd sheep, because working as labourer is too hard"* a group of about six Raika women agreed among themselves. They did not know of any Raika women that have made the transition from sheep breeding to a life without animals.

Women of all ages appreciate the comparatively lower work load during migration because the men take the sheep out early and they themselves can sleep until 8 a.m. By contrast, while in the villages, they have to get up at 5 in the morning, make food, take care of sheep and if unmarried, from 8 a.m. onwards also work as daily wage labourers until 6 p.m. After that they have to cook the evening meal. Thus, on migration, they have more leisure, although the days on which they are moving and have to pack everything onto the camels are arduous. They are grateful if they can stay in the same place for several days.

We can say that migration, labour and responsibilities are distributed along classic patriarchal lines, with women nurturing young animals and small children and taking care of cooking, fetching water and washing clothes, while men are in charge of security, negotiating with outsiders and "productive activities" (grazing).

7. Significance of nomadic system for food security

There is a general consensus among the Raika that the output of the migratory system is significantly higher per sheep than the sedentary herding system. This is attributed to the healthier condition of the animals when they stay out in the open and not in pens where they have high parasite burdens. Community leader Dailibai echoes the sentiments often stated by men: "*The income is so much better because the animals are healthier when they keep moving instead of having to stay in the same –often dirty – pen every night. The sheep grow quicker and male lambs from nomadic systems sell for double the price than those raised in villages, for Rs. 4000–5000 Rs, rather than Rs. 1500 to 2000.*"

The products include meat, manure, and milk, while these days

Please cite this article in press as: Köhler-Rollefson, I., Purdah, purse and patriarchy: The position of women in the Raika shepherd community in Rajasthan (India), Journal of Arid Environments (2017), https://doi.org/10.1016/j.jaridenv.2017.09.010

wool has become almost worthless. Production rate varies from year to year, depending on rainfall and on disease prevalence. It is very difficult to obtain estimates from shepherds about the population structure of their herds and about the number of male lambs sold per year, as they say there is too much variability between years.

The first output, lambing, occurs at about 1.5 years of age after a pregnancy of five months. The ewes then lactate for four months. The rate of loss due to abortions and diseases is quite high. In a good year, there may be up to 70 lambs born into a herd of 100 sheep. Of these, 20–30 die due to various causes. Only the male lambs are sold, the females are kept for replacement and to increase herd size. This means that there is a crop of 20–25 saleable lambs per 100 ewes. Based on a total sheep population of Rajasthan at around 9 million head, we can conclude that around two million ram lambs are produced and sold each year. Assuming an average price of Rs 2000 (equivalent to 28 Euro at mid-2015 exchange rates), we arrive at an income of 28 million Euro for the sale of sheep for meat by pastoralists in Rajasthan. Calculating an average live weight of 11 kg per lamb this would translate into 22 million kg⁴. All of this would have been produced by making use of "waste" or excess biomass that would otherwise not be utilized. The demand for mutton is so high, that buyers follow the shepherds on their migration and come to their villages during the rainy season.

The second major (or equally important) output of the system is manure which makes it possible for the owner of the fields on which the Raika flocks stay, to reduce or avoid purchase of urea and other chemical fertilizers. Here it is not just the reduction in costs to the farmer that counts, but, according to local farmers, the fact that artificial fertilizer is harmful to soils in the long term and makes them hard to work. In contrast, manure improves soil quality in a sustainable way. A herd of 100 animals produces one trolley of manure per month which is sold at rates between 1000 and 2000 Rs. However, this situation only holds for the sedentary phase of the yearly cycle. While on migration, the flocks move so the manure is deposited directly on the fields of farmers at night. Most farmers pay about 100–150 Rs per night for penning animals on their field, either in cash or in the form of food. The amount of chemical fertilizer that is saved by means of nomadic shepherding systems in India was recently calculated for the state of Karnataka by Athani et al. (2015) who concluded that the state's 64 million sheep provide Rs 14.68 billion worth of fertilizer annually.

8. Ecology and commerce can be combined!

The migratory Raika sheep production system provides an example of indigenous technologies deemed as backward and unproductive by the predominant scientific and development paradigm (Shiva, 1989). This certainly describes the attitude of the government towards pastoralism.

The Raika women's intimate knowledge of nature and of livestock concurs with the ecofeminist argument that women are the "guardians" of biodiversity and of food production in harmony with nature. But this knowledge is not restricted to Raika women, it is knowledge owned by both Raika women and men: the entire sheep production system is a way of producing food in harmony with nature rather than against it. Together, both Raika men and women produce food in a way that nurtures the soil and exemplifies regenerative food production as envisioned by Mies and Shiva (2014).

[4] This is a conservative estimate. The Rajasthan Development report from 2006 estimated that there were 200,000 shepherds in the state and 3million sheep slaughtered per year resulting in 33 million Kg of mutton.

The Raika sheep production system is characterized by an almost total absence of modern technologies, with the exception of mobile phones which are owned both by women and men but are often out of operation because of the lack of battery charging opportunities. But the absence of technologies is also the strength of the system and one would be hard pressed to imagine any technologies that could improve the lot of the Raika, as they are practicing a biological way of production that seeks to capitalize on variability and makes use of dispersed and unpredictable resources through mobility. This mode of production is achieved by the Raika through the use of their observational powers to gauge the nutritional needs of their animals, judge the availability of grazing resources and seek to align the two through mobility and arrangements with farm owners. The sheep and goats that they keep are not the high-yielding varieties promoted by the government, but hardy and resilient breeds characterized by the ability to walk long distances and endure feed shortages.

In other countries, pastoralists use trucks to transport their animals between summer and winter grazing areas. However, this approach would not be appropriate in the context of the Raika from Godwar because there are no long distances to overcome, and their system is based on accessing cultivated land as soon as it becomes available after the harvest, requiring frequent short-distance movements.

We infer that it is the lack of technologies and the underlying principle of opportunism and variability that has prevented the Raika (and other) sheep pastoral systems of India from being appreciated and recognized by scientists and policy makers. Notably, they do not conform to the notion of livestock production that was imbued in the Indian system during colonial times: orderly farms with enclosed pastures and stables in which high-yielding usually exotic livestock breeds are fed with calculated rations, leading to predictable growth rates. Even more so, the Raika do not conform to the "Livestock Revolution" that seeks to maximize livestock production along the lines of the Green Revolution with hybrid animals that require high inputs in terms of protein-rich feed and protection from climatic extremes.

Technologies - with the exception of solar panels to recharge their mobiles- are not the answer to the increasing pressure and security problems of the migratory Raika. Instead, official recognition and acknowledgment of their important role in national and global food security is essential. They need land use plans that actively retain space for them in the crop cycle, that ensure access to common pool resources and that secure their migratory routes. They require the protection of the police and of administrators. Moreover, they would benefit from mobile human and veterinary health services. The hardships faced are not gender-specific, they concern men, women and children equally. However, they act to discourage even those Raika women who basically enjoy and appreciate the traditional way of life. These suggested interventions, ones that go beyond technological fixes, require a fundamental change in attitude.

The ecofeminist perspective sees a dichotomy between subsistence and commercial economies, and basically derogates any kind of commodification and commercialism. However, as noted above, Raika sheep pastoralism is commercial and produces commodities that render India the largest exporter of sheep and goat meat worldwide thereby contributing to the food security of many countries in Asia and the Middle East. These commodities are produced in an ecologically harmonious manner, without any of the usual environmental costs that occur in food production, even contributing inputs to crop cultivation. The irony is that this is not being recognized by the agricultural establishment which is instead aiming for the western model of industrial livestock production with its known negative impacts on the environment.

Please cite this article in press as: Köhler-Rollefson, I., Purdah, purse and patriarchy: The position of women in the Raika shepherd community in Rajasthan (India), Journal of Arid Environments (2017), https://doi.org/10.1016/j.jaridenv.2017.09.010

With respect to the question of patriarchy, we have to on the one hand acknowledge that Raika women live in a patriarchal system in so far as the society is ruled by *panchayats* which are assemblies of old conservative men that strictly enforce arranged childhood marriages and draconically punish and eventually expel any family that does not adhere to these rules.

On the other hand, unlike in other patriarchal and pastoral systems, Raika women actively manage and largely control the family income. We cannot say that they are negatively impacted by commercialization, in fact they benefit from it. Raika sheep nomadism was always predominantly commercial venture, although previously oriented towards wool rather than meat production. As the Raika are vegetarians, subsistence was never the main focus of their production system, although dairy products are important food items on migration and cereals are often obtained from farmers in exchange for manure. Because of this commercialization, Raika women always have cash on hand and therefore have no need to participate in self-help savings groups which are popular among other rural women.

Can the liberation of women and of "Mother Earth" only be achieved simultaneously? In the Raika case we do not see a linkage between liberation from patriarchal marriage traditions and official support for pastoralism. The two are unrelated. The former struggle is happening within Raika society and going on independently from that related to migratory sheep pastoralism. If however, the official attitude towards pastoralism would change to a supportive stance, Raika women would have the freedom to decide between a pastoralist and a non-pastoralist way of life, without their decision being influenced by fears concerning their security.

9. Conclusions: development interventions and the role of Raika pastoralist women in food security

The question posed at the beginning of this paper was whether gender-focused interventions as promoted by major development agencies such as "securing women's access to livestock assets", "increasing access to livestock technologies and services", "integrating gender and poverty indicators in monitoring, evaluation and impact assessment", are what pastoralist women need and want (e.g. Gurung, 2010; ILRI n.d.; Rota and Sperandini, 2010a,b; Rota et al., 2010).

Women in Raika society are "oppressed" by western standards, having little control over their choice of husband and thereby over their future, but this is in line with the general position of women in traditional Hindu society, and not something specific to their pastoralist existence. An increasing number of young Raika women reject the husbands selected for them, and a frequent reason for this is that they would prefer a life in the city. They use all the agency they have at hand to achieve a way of life in line with their preferences; so far they seem to be rarely successful in revolting against their parents' arrangements, but eventually the dams will break.

However, we note that Raika pastoralist women, despite being caught up in an extremely patriarchal system, neither request, nor would benefit, from gender-focused interventions since they share the same concerns and worries as the men. For women who are actively engaged in nomadic pastoralism the greatest concern is for the overall security of their families while on migration. In principle, many of them prefer the nomadic way of life to settlement in the villages because of the relatively lower workloads while on migration. Their hardships derive from the overall pressures that the pastoralist way of life is under, due to lack of recognition and support by policy makers. For the Raika. policies such as securing of migratory routes, support en route by police and district administrators, and official recognition of the value of pastoralism would be regarded as more important than any gender-specific measures.

Similar sentiments were expressed in the Declaration that was issued by the Global Gathering of Pastoralist Women held in Mera, India in 2010 in which four Raika women participated. This elaborate 23 point statement puts more emphasis on the general recognition of pastoralists' rights than specifically on those of women (Rota et al., 2010). Firstly, it recommends the recognition of the essential role of pastoralists in global environmental sustainability, including the conservation of biodiversity, mitigation of climate change and combating desertification. Secondly, it endorses equal rights for pastoralist women and the need to recognize their key role in society, including the work of women pastoralists as a valid profession and as a fundamental component of pastoralism. The remaining points refer to the recognition of pastoralist mobility as a fundamental right, ensured access to resources, including traditional grazing lands and the protection of the rights of pastoralists and of security in nomadic areas including the enforcement of laws that guarantee the safety of women.

Among the Raika of Rajasthan, shepherding is teamwork, and in contrast to the situation reported for some other pastoral groups in India, the participation of women is regarded as absolutely essential during sheep migration. The nuclear units (*dolri*) in the herding conglomerates always contain at least one woman. For the Raika men in the study area, it is inconceivable to go on migration without women to take care of the cooking, fetching water, looking after the lambs during daytime and packing household equipment onto camels and donkeys when moving camp. Essentially, the absence of women willing to go on migration is often the tipping point for discontinuing nomadic sheep husbandry.

Sheep production and export is a major foreign currency earner for India and supplies mutton to many countries, especially in the Middle East. Sheep nomadism also makes a major contribution to maintaining agricultural soil fertility. Although nomadic sheep husbandry is profitable for families, Rajasthan's sheep population has been in decline since 2002. The attitude of women towards the shepherding profession and the desire of many Raika women for urban based livelihoods is a major factor in this decline. Policy makers interested in maintaining or expanding India's position as the world's largest exporter of sheep and goat meat would be well advised to maintain or re-create space for nomadic shepherding in the landscape and implement measures that reduce the current insecurities and dangers of the profession. That would be a major factor in increasing the attraction of nomadic pastoralism for Raika women who are a key factor, or even the lynchpin in maintaining family-based sheep production.

Acknowledgments

I would like to express my gratitude towards Hanwant Singh for making this research possible and especially for providing insights into the functioning of the Raika caste *panchayat*. Jagdish Paliwal was helpful in interviewing *patels* and Mrs. Dailibai Raika, board member of LPPS, was invaluable in establishing contacts with Raika women. I am very grateful to Ellen Geerlings and Aisha Rollefson for the diligent execution of their research projects, leading to the theses that have been quoted. Fieldwork was supported by Misereor and the Ford Foundation, while a short term study was undertaken under the aegis of the International Institute of Environment and Development (IIED). I am also appreciative of the efforts of the two editors of this special issue to help me shape this paper into an appropriate form.

References

Agrawal, A., 1993. Mobility and cooperation among nomadic shepherds: the case of

the *Raikas*. Hum. Ecol. 21 (3), 261–279.
Agrawal, A., 1999. Greener Pastures: Politics, Markets and Community Among a Migrant Pastoral People. Oxford University Press, New Delhi.
Albrecht, C., 2004. The Old World Camel as Productive Farm animal. Thesis. University of Göttingen.
Athani, B., Krishna, G., Kuruba, N., 2015. The significance of nomadic pastoralism for sustaining soil fertility in Northern Karnataka. In: Paper Presented at the International Grasslands Conference in New-Delhi, 20-23 November, 2015.
Azhar-Hewitt, F., 1999. Women of the high pastures and the global economy: reflections on the impacts of modernization in the Hushe Valley of the Karakorum, Northern Pakistan. Mt. Res. Dev. 19 (2), 141–151. Available at: https://www.jstor.org/stable/3674255?seq=1#page_scan_tab_contents.
Benanav, M., 2015. Himalaya Bound. Harper Collins, Delhi.
Bravo-Baumann, H., 2000. Gender and Livestock: a Winning Pair. Capitalisation of Experiences on Livestock Projects and Gender. Swiss Development Cooperation, Bern. Available at: http://www.fao.org/WAIRDOCS/LEAD/X6106E/x6106e01.htm.
Eneyew, A., Mengistu, S., 2013. Double marginalized livelihoods: invisible gender inequality in pastoral societies. Societies 3, 104–116.
Ensminger, Jean, 1984. Theoretical perspectives on pastoral women: feminist critiques. Nomadic Peoples 16, 59–71.
FAO, 2012. Invisible Guardians Invisible Guardians - Women Manage Livestock Diversity. FAO Animal Production and Health Paper 174. FAO, Rome.
Flintan, F., 2008. Empowering Women in Pastoral Societies. Report for the International Union for Conservation of Nature Ethiopia. IUCN, Addis Abada. www.iucn.org/wisp/resources/?3627/report-womens-empowerment-in-pastoral-societies.
Flöter, D., 2002. Konflikt zwischen Schutz und Nutzung der natürlichen Vegetation: Darstellung, Analyse und Ansätze zur Lösung am Beispiel einer Region im westlichen Rajasthan. VDM Verlag Dr. Müller, Saarbrücken.
Geerlings, E., 2001. Sheep Husbandry and Ethnoveterinary Knowledge of Raika Sheep Pastoralists in Rajasthan, India. MSc thesis. Environmental Sciences, Wageningen University, The Netherlands.
Geerlings, E., 2004. The black sheep of Rajasthan. Seedling. www.grain.org/es/article/entries/436-the-black-sheep-of-rajasthan.
Ghotge, N., Ramdas, S., 2002. Women and livestock: creating space and opportunities. LEISA Mag. 18 (4), 16–17.
Government of India, 2013. National Livestock Policy. Ministry of Agriculture Department of Animal Husbandry, Dairying & Fisheries.
Government of Rajasthan, n.d. State Livestock Development Policy, Government of Rajasthan. http://animalhusbandry.rajasthan.gov.in/StateLiveStockPolicy/state_LS_dev_policy.pdf).
Gurung, J.D., 2010. Gender and Desertification: Expanding Roles for Women to Restore Dryland Areas. Report for IFAD. IFAD, Rome. www.ifad.org/pub/gender/desert/gender_desert.pdf.
Hodgson, D.L., 1999. Pastoralism, patriarchy and history: changing gender relations among Maasai of Tanganyika, 1890–1940. J. Afr. Hist. 40, 41–65. Cambridge University Press, Cambridge.
Horowitz, M., Jowkar, F., UNIFEM, 1992. Pastoral Women and Change in Africa, the Middle East and Central Asia. IDA Working Paper No. 91. Institute of Development Anthropology, Binghamton NY.
ILRI. n.d. Empowering Women through Livestock. http://www.ilri.org/node/132.
Joekes, S., Pointing, J., 1991. Women in Pastoral Societies in East and West Africa. Drylands Network Programme. Issues Paper 28. IIED (International institute for Environment and Development), London, p. 30.
Jowkar, F., Horowitz, M.M., Naslund, C., Horowitz, S., 1991. Gender Relations of Pastoral and Agropastoral Production. A Bibliography with Annotations. UNIFEM and UNDP, Institute for Development Anthropology, New York.
Kavoori, P., 1999. Pastoralism in Expansion: the Transhuming Herders of Western Rajasthan. Oxford University Press, New Delhi.
Kipuri, K., Ridgewell, A., 2008. A Double Bind: the Exclusion of Pastoralist Women in the East and Horn of Africa. Report for Minority Rights Group International (MRG). MRG, London. www.minorityrights.org/download.php?id=593.
Köhler-Rollefson, I., 1992. The Raika dromedary breeders of Rajasthan: a pastoral system under crisis. Nomadic Peoples 30, 74–83.
Köhler-Rollefson, I., 1995. Rajasthan's camel pastoralists and NGOs: the view from the bottom. In: Stiles, D. (Ed.), Social Aspects of Sustainable Dryland Management. John Wiley & Sons, Chichester, pp. 115–128.
Köhler-Rollefson, I., 1996. Kamelkultur und Kamelhaltung bei den indischen Raika. Ein Beitrag zum interkulturellen Vergleich von Mensch-Tier-Beziehungen. Habilitationsschrift, LMU München.
Köhler-Rollefson, I., 1997. Zwischen Brenneisen und Antibiotika. Zur Bedeutung der Ethnotiermedizin. Forschung. Mitteilungen der DFG 1:24–26. (English translation: Between Burning irons and Antibiotics published in Reports of the DFG 2-3/97:4-6).
Köhler-Rollefson, I. 2016a. Workshop "Counting India's Pastoralists". Paper presented at the Kullu Workshop on Counting India's pastoralists, Kullu (India), 13-16 May, 2016.
Köhler-Rollefson, I., 2016b. The Kullu Call for the recognition of the importance of Common Pool Resources and pastoralism for India's livestock sector. In: Paper Presented at the Stakeholder Consultation on the Role of Pastoralism in the Future of India's Livestock Sector, Held in Delhi, 14-15 December, 2017.
Köhler-Rollefson, I., Rathore, H.S., Rathore, S., 1999. Traditional animal health services: a case study from the Godwar area in Rajasthan. in Ethnoveterinary Medicine. Alternatives for livestock development. In: Proceedings of an International Conference Held in Pune, India, 4-6 November, 1997. BAIF Development Research Foundation, Pune, India, pp. 162–170.
Köhler-Rollefson, I., Rathore, H.S., 2004. Indigenous versus official knowledge, concepts, and institutions:Raika pastoralists and the outside world. Nomadic Peoples 8 (2), 150–167.
Köhler-Rollefson, I., Kakar, A.R., Mathias, E., Rathore, H.S., Wanyama, J., 2012. Biocultural community protocols: tools for securing the assets of livestock keepers. In: Biodiversity and Culture: Exploring Community Protocols, Rights and Consent, vol. 65. PLA, pp. 109–118.
Köhler-Rollefson, I., Rathore, H.S., Raika, D., Paliwal, J., 2014. Documentation and Quantification of a Long Distance Migratory Sheep Husbandry System in Southern Rajasthan (Pali District), India.
Krätli, S., 2015. Valuing Variability. IIED, London.
Merelli, S., 2009-2010. Le strategieterritorialidellacomunità Raika: unarispostaallacrisidelsistemaagropastorale in Rajasthan. In: Tesi di LaureaSpecialistica, corso di laurea in ScienzePolitiche, studiAfroasiatici. Universitàdeglistudi di Pavia a.a. 2009/2010.
Mies, M., 1983. Towards a methodology for feminist research. In: Bowles, G., Duelli Klein, R. (Eds.), Theories of Women's Studies. Routledge and Kegan Paul, London, pp. 117–140.
Mies, M., Shiva, V., 2014. Ecofeminism. Zed Books, London and New Jersey.
Mushi, V., 2013. Women pastoralists and climate change impacts in Kilosa district, Tanzania. In: Mulinge, M.M., Getu, M. (Eds.), Impacts of Climate Change and Variability on Pastoralist Women in Sub-saharan Africa. OSSREA and Fountain Publishers, Kampala, pp. 155–185.
Patel, T., 1994. Fertility Behaviour. Population and Society in a Rajasthan Village. Oxford University Press, Delhi.
Prevot, S., 2010. Les ÉleveursRaikaenInde. Nomadesd'aujourd'hui? l'Harmattan, Paris.
Rangnekar, S., 1994. Women Pastoralists, Indigenous Knowledge and Livestock Production in Northern Gujarat. A Collection of Papers from Gujarat and Rajasthan. ODI, London, pp. 15–16.
Rangnekar, S., 1998. Women in livestock production in developing countries. In: International Conference on Sustainable Animal Production, Hisar, India, 24–27 November.
Robbins, P. 2004. Pastoralists inside-out: the contradictory conceptual geography of Rajasthan's raika. Nomadic Peoples new series, vol. 8, no. 2, Special Issue: Whither South Asian Pastoralism?, pp. 136–149.
Rollefson, A., 2009. Ein Leben ohne Herde? Eine Studie über die Zukunft des traditionellen Hirtenberufes der Raika. Diplomarbeit. Geographishes Institut, Ruprechts-Karl Universität, Heidelberg.
Rota, A., Sperandini, S., 2010a. Gender and Livestock. Livestock Thematic Papers: Tools for Project Design. IFAD, Rome. www.ifad.org/lrkm/factsheet/genderlivestock.pdf.
Rota, A., Sperandini, S., 2010b. Livestock and Pastoralists. Livestock Thematic Papers: Tools for Project Design. IFAD, Rome. www.ifad.org/lrkm/factsheet/pastoralists.pdf.
Rota, A., et al., 2010. Livestock Thematic Papers: Tools for Project Design, Various Authors. IFAD, Rome. www.ifad.org/lrkm/index.htm.
Sahu, B., 2012. Pigs, the Protein Pot of the Poor. Innovate Orissa Initiative, Bhubaneshwar.
Salpeteur, M., Patel, H.R., Molina, J.L., Balbo, A.L., Rubio-Campillo, X., Reyes-García, V., Madella, M., 2016. Comigrants and friends: informal networks and the transmission of traditional ecological knowledge among seminomadic pastoralists of Gujarat, India. Ecol. Soc. 21 (2), 20. https://doi.org/10.5751/ES-08332-210220.
Sbriccoli, T., 2004-2005. I Raika/Rabari.Una castapastorale dell' India del Nord. Thesis. University of Siena.
Sharma, P., 2005. Tribal Society in a Flux (An Anthropo-sociological Study of Raika). PanchsheelPrakashan, Jaipur.
Shiva, V., 1989. Staying Alive: Women, Ecology and Development. Zed Books, London.
Srivastava, V., 1997. Religious Renunciation of a Pastoral People. Oxford University Press, New Delhi.
United Nations Convention to Combat Desertification (UNCCD), 2007. Women Pastoralists: Preserving Traditional Knowledge: Facing Modern Challenges. United Nations, Bonn.
Wagner, A., 2013. The Gaddi beyond Pastoralism. Making Space in the Indian Himalayas. Berghahn Books, New York.

Please cite this article in press as: Köhler-Rollefson, I., Purdah, purse and patriarchy: The position of women in the Raika shepherd community in Rajasthan (India), Journal of Arid Environments (2017), https://doi.org/10.1016/j.jaridenv.2017.09.010